

Issues on SPL Disposal

Smelter Plant,
Nalco, Odisha, India

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SPL generation in NALCO.....

Generation of SPL per pot : 55-60 MT

Quantity of SPL lying at Smelter Plant : approx 65000 MT
(including landfill)

Annual quantity for disposal : approx 4500-5000 MT

Present disposal practise : secured landfill as per the guidelines
of CPCB

Initiatives taken by NALCO for implementing a sustainable solution

- During the yr 2005 : Techno economic feasibility study carried out for selection of a suitable technology for setting up of a SPL treatment plant based on dry technology .
- It was observed that the technologies are highly cost intensive
- In 2012, M/S Regain had visited Smelter Plant and shared the technological details.
- R&D dept have developed bench scale processes for detoxification and recovery of fluoride & Na values from the carbon portion of SPL.
- Studies have been carried out to establish the fact that minimal portion of carbon portion if blended properly with coal can be utilised in power plants and minimal portion of refractory portion if blended properly with raw mix of cement plant can be utilised for clinker production.
- Action initiated to dispose SPL

Major Issues involved

- Non availability of a cost effective technology for SPL treatment and disposal
- Regulations involved for transportation of the material to outside parties and storage of this material at their sites.
- Reservations shown by other industries for acceptance of this material ,it being hazardous and heterogeneous in nature.
- Very high cost for co processing in cement industries

Issues relating to Incineration in Power Plant

- Grindability & combustibility of SPL w.r.t powdered coal
- Proportional mixing & blending modalities
- Emission issues involved

Status as on date

- In Hazardous Waste Authorisation issued to Smelter, carbon portion of SPL can be co-incinerated in our Captive Power Plant (CPP).
- CPCB, approval is necessary to conduct a trial run in Power Plant to gainfully use SPL before full fledged incineration .
- NALCO applied to CPCB in 2012 & permission awaited..
- Application for permission to conduct trial on use of cathode residue in Boilers of CPP in Nov.2012 submitted to OSPCB, Bhubaneswar and permission awaited.

Issues associated with Co processing in Cement Plant...

- Segregation of aluminium metal, carbon material and refractory material needs to be done. Material need to be blended properly.
- Detoxification may be necessary to reduce OH&S impact before use. Very high cost for detoxification with the available technology.
- Issues related to transportation of SPL
- High cost charged by cement industries.

NALCO's views on the issue

- Disposal of SPL through cement plant is to be encouraged.
- Till an alternate /viable technology is available for treatment/ disposal of SPL ,industry may be allowed to continue the disposal practice of storing SPL in secured landfills.

THANK YOU