

Spent Pot Liner- Generation

Hindalco Smelters: Renukoot, Mahan, Aditya & Hirakud

Plant	Capacity -KT	SPL MT- FY16	SPL MT- FY20	SPL MT- FY25
Renukoot	401	6021	6021	6021
Hirakud	200	4035	3000	3000
Aditya	360	2610	5400	5400
Mahan	360	5400	5400	5400

Note- (1) 15kg SPL generation per ton of aluminium production
 (2) It may vary based on actual metal production

Spent Pot Liner- Current practices

Current Practices- Renukoot

- Spent Pot Liner (SPL) Reprocessed in cryolite recovery plant at Renukoot
- Recovered cryolite recycled in pots

Current Practices - Hirakud

- Spent Pot liner disposed off in secured landfill at Hirakud
- SPL -stored in over ground covered shed for future recycling - Hirakud
- Small Quantity is being disposed off by Subhra Chemicals, Authorized reprocessor at Hirakud

Current Practices – Aditya and Mahan

- No generation yet.
- Agreement with TSDF being finalized
- Option of co processing in Cement kiln

Hindalco Objective- SPL will be Co processed in cement kiln, involves inter –state movement of hazardous waste.

Spent Pot Liner- Challenges and Barriers

SPL- Challenges

- SPL is a mixed hazardous waste including first cut carbonaceous materials and second cut refractories
- SPL disposal is the challenge
- Limited time (3 Month) allowed for storage of SPL (Hazardous waste) within plant premises.
- Limitation of cryolite recovery in new plant as this requires alumina refinery
- Limited Utilization of SPL

SPL- Barriers and Issues

- Trans boundary movement of SPL (Hazardous waste Handling Rules)
- Handling Issues- (Required Size from Cement Industries)
- Regulatory consideration in co processing of SPL in Cement Kiln
- Disposal cost of SPL in Cement Kiln

Spent Pot Liner- Co processing in Cement Kiln

Opportunities

- SPL (1st cut and 2nd cut) to be used as fuel supplement with raw materials additives properties.
- SPL contain ~ 15% fluoride , fluoride is mineralizer and substitute fluorspar
- SPL contain ~ 30% carbon , calorific value ranges from 3000-5000 Kcal
- SPL contains ~ 15% sodium , can be beneficial if operating with high sulfur containing fuels.

Hindalco Initiatives

- Hirakud plant took initiatives to use SPL in cement kiln.
- Aditya Plant also approached cement plant for co processing of SPL in cement kiln.