

INDO-US WORKING GROUP MEETING ON COAL

PRESENTATION

on

COAL FINES RECOVERY

BY

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PRESENT SCENARIO

- **Indian coals being difficult to wash, need crushing to lower sizes for optimum recovery.**
- **This gives rise to generation of fines (below 0.5mm size) about 10-15% of total feed size.**
- **Initially, a number of Washeries in BCCL were not provided with means of upgradation of Fines.**
- **With deterioration in quality of Fines and growing need of environmental pollution control, Froth Flotation was incorporated in most of the Washeries.**
- **Fines treatment & its efficient recovery in our Washeries still remains a difficult area.**



NEED FOR EFFICIENT RECOVERY OF FINES

- **In view of stringent quality as well as economic & environmental considerations, the existing Fine Coal Circuits need to be improved for optimum recovery of Fines.**
- **Hence there is need for efficient & cost effective technologies for upgradation of Fines and dewatering of Concentrates & Tailings.**



NEED FOR EFFICIENT RECOVERY OF FINES

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- **Effective beneficiation of Fine Coal leads to :**
 - **Recovery of good quality of fines which enhances the coking propensity of Coal.**
 - **Cost benefit & conservation of the scarce Coking Coal.**
 - **Reducing environmental pollution.**

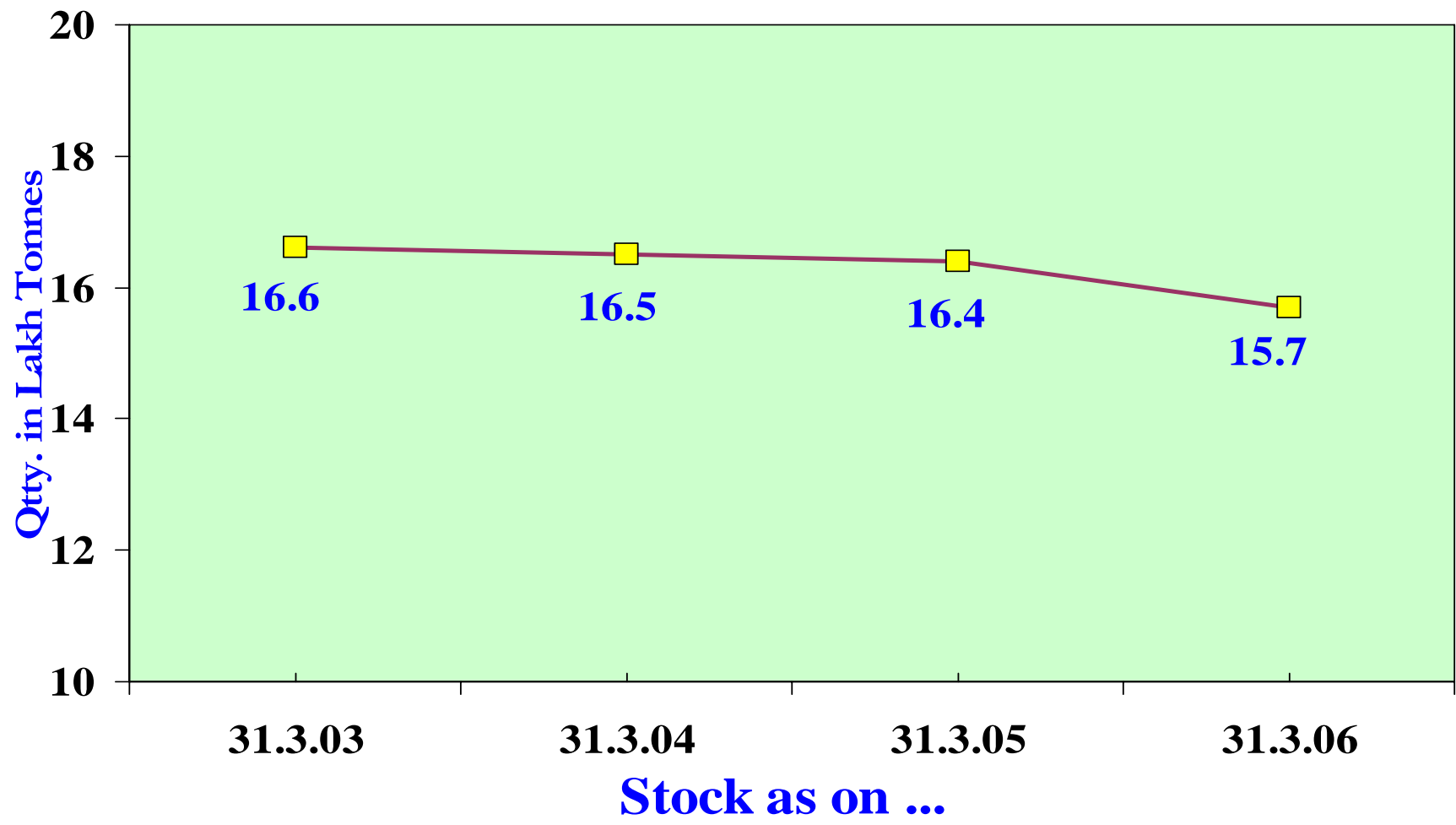
COAL FINES RECOVERY SYSTEM IN BCCL WASHERIES

- **All Washeries are equipped with Fines Coal Recovery System.**
- **As a result all the Washeries are being operated in Closed Water Circuit.**

WASHERY	OPERATING PROCESS	CAP. (tph)
DUGDA	Froth Flotation, Disc Filter, Dewatering Screens	100
BHOJUDIHI	Froth Flotation, Drum Filter, HF Screens	100
PATHERDIHI	Water Only Cyclones, Dewatering Screens	50
SUDAMDIHI	Froth Flotation, Disc Filter, Dewatering Screens	60
MOONIDIHI	Water Only Cyclones, Dewatering Screens	100
MOHUDA	Hydro Cyclones, Dewatering Screens	20
MADHUBAN	Froth Flotation , Disc Filter, Dewatering Screens	100



STOCK OF SLURRY IN BCCL WASHERIES



DUMPED SLURRY REWASHING PLANT AT BCCL WASHERIES

- **About 1.6 mt of Fine Coal (Slurry)/Tailings has accumulated in various Washeries of BCCL over past period.**
- **Dump Slurry treatment Plant has been set up at Dugda, Bhojudih and Sudamdih Washeries for rewashing of fines.**
- **This has resulted in the liquidation of stock as well as generation of additional revenue by way of value addition.**

NEED FOR MODERNIZATION

- **Though all the Washeries are equipped with Coal Fines Recovery System it needs technological updating with efficient and cost effective system for optimum performance. A new F.F. Plant has been added in Bhojudih Washery.**
- **For beneficiation of Fines latest technologies like Column Flotation, Micro Cell, Multi Gravity Separation, Spirals etc. may be adopted.**
- **The conventional Disc Filters used for Dewatering have become obsolete and need replacement by solid/screen bowl centrifuges, Drum Filters, Belt Filter Press etc. which have high recovery efficiency.**

REVIVAL SCHEMES

- In the Revival Plan of BCCL Washeries, modernization of Fine Coal Circuits has been taken as thrust area. Various schemes envisaged are:
- Refurbishing of existing equipment & System.
 - Installation of High Frequency Screens for Tailings recovery.
 - Replacement of old worn-out Water-Only Cyclones with latest ones.
 - Process Control and Instrumentation.
 - Introduction of New Technology:
 - ❖ Spiral Concentrator & Mozley Cyclone at Moonidih Washery.
 - ❖ Belt Filter Press at Sudamdih Washery



ASSISTANCE REQUIRED

- Experience of US in these areas may be explored to improve Fine Coal Recovery system in our Washeries
- Long term agreement for interaction, transfer of technology and supply of equipment needed

THANK YOU

