

Metpro Group Asia **Catalyst-Trial 01**



Results and Relevant **Information**

ANNEXURE 01

(REDUCTION AS A RESULT OF USING CHINCO IN TRIAL 1)

CRITERIUM	% IMPROVEMENT
SO _x	20.6%
Boiler Efficiency	0.77%
Steam to Coal Ratio	4.23%
Average Coal Savings per Day (24 hour)	97.8 tons

ANNEXURE 02

(REDUCTION AS A RESULT OF USING CHINCO IN TRIAL 1)

CRITERIUM	BEFORE TRIAL	DURING TRIAL	% IMPROVEMENT
BOILER EFFFECIENCY	90.53%	91.52%	1.10%
FUMING TEMP	111.95%	110.89%	0.95%
CARBON IN FINE ASH	4.71%	3.28%	30.40%
CARBON IN BOTTOM ASH	5.07%	3.29%	35.11%
POWER/COAL (Kg/kwH)	330.56%	317.02%	4.10%
COAL CONSUMPTION	1 131.28%	1 036.18%	8.40%
STEAM / COAL RATIO	6.47%	6.89%	6.09%

ANNEXURE 03

(COST SAVING AS A RESULT OF USING CHINCO IN TRIAL 1)

Assumption that Boiler runs 335 days per year

Coal per year on one Boiler = 964 800 ton
Cost of coal @ R550.00 = 530 640 000.00 RMB

Product per year on one Boiler = 192 960 Kg

During trial savings on coal

Coal saved on one Boiler per year = 32495 ton
Cost of coal @ R550.00 = 17872250.00 RMB

Net savings

1. Cost of product @ R100.00/Kg = 19 296 000.00 RMB

No savings = -1 423 750.00 RMB

2. Cost of product @ R70.00/Kg = 13 507 200.00 RMB

Savings = 4 365 050.00 RMB

3. Cost of product @ R60.00/Kg = 11 577 600.00 RMB

Savings = 6 294 650.00 RMB

4. Cost of product @ R50.00/Kg = 9 648 000.00 RMB

Savings = 8 224 250.00 RMB

ANNEXURE 04

(COST SAVING AS A RESULT OF USING CHINCO IN TRIAL 1)

Carbon in Ash Savings on Fine Ash - Hunan Coal Fired Power Station

3 338 ton coal used per day per boiler
Ash to coal ratio is assumed @ 0.3 ton/ton =1 001 ton ash per day
Assume coal price of R550.00 / ton.

Without Catalyst

Carbon in ash is 5.53% of 1001 ton ash = 55.36 ton coal/day

With Catalyst

Carbon in ash is 3.87% of 1001 ton ash = 38.74 ton coal/day
There for savings with Catalyst = 55.36 – 38.74
= 16.62 tons coal/day

@ R550 per ton coal = R550.00 x 16.62
= R9 141.00 per/day
@ 92% utilization = R9 141.00 x 336
= R3 071 376.00 per year
Saving per Boiler = **R3 071 376.00 per year**

Carbon in ash savings on Bottom ash – Hunan Coal Fired Power Station

Without Catalyst

Carbon in ash is 5.07% of 1001 ton ash = 50.75 ton coal/day

With Catalyst

Carbon in ash is 3.29% of 1001 ton ash = 32.94 ton coal/day
There for savings with Catalyst = 50.75 – 32.94
= 17.81 tons coal/day

@R550 per ton of coal = R550 x 17.81
= R9795.50 per/day
@ 92% utilization = R9795.50 X 336
= R3291288.00 per year
Savings per Boiler = **R3291288.00 per year**

Therefore savings on Fine and Bottom ash = R6 362 664.00 per year