



14th KAIZEN CONFERENCE

KAIZEN IDEA - SHEET

Senior Manager Level Kaizen

Activity	KK	JH	QM	PM	SHE	OTPM	DM	ET
Loss No./ Step								
Result Area	P	Q	C	D	S	M		



GUWAHATI REFINERY

IOCL

Plant : Guwahati Refinery, Assam Machine : Catalyst Regenerator

Kaizen theme : To reduce Catalyst loss from INDMAX Unit Idea : Design modification of components of Catalyst Regenerator

Problem/Before Improvement : High catalyst loss from INDMAX Unit **Countermeasure / After Improvement** Design Modification in Cyclone Dipleg and Air grid

700 kg/day (Before)

Operating cost ↑
P ↓ Q ↓ C ↑

Environmental Issues
S ↓ M ↓

200 kg/day (After)

Air Grid: Single Diameter → Dual diameter

Dipleg diameter: Reduced 13" → 8"

Operating cost ↓
P ↑ Q ↑ C ↓

Environment
\$ ↑ M ↑

Bench mark	Catalyst Loss@ 700 Kg per day
Target	Catalyst Loss@ 200 Kg per day
Kaizen start	
Kaizen Finish	

Team members	Designation
D. K. Barua	ESM
Y. Rama Sudhakar	SPNE
D. Mahaveer Surana	PSE
T.C. Thakuria	MLE

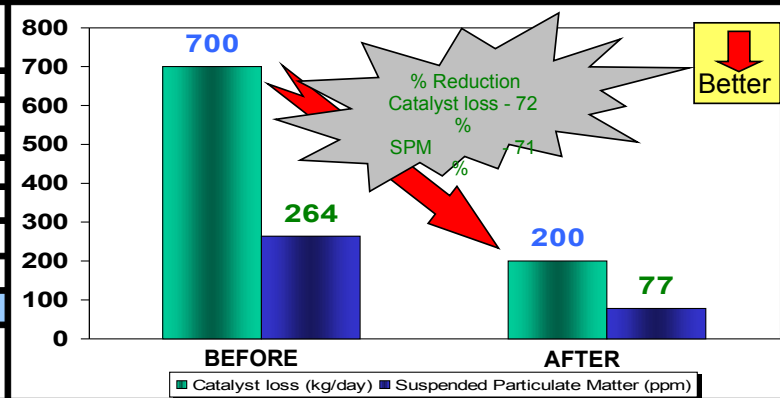
Benefits:

- Catalyst loss reduction by 72 %.
- Operating cost reduction by Rs. 3.3 crores per annum.
- SPM reduction from stack by 71 %.
- SPM meeting Environmental Norms of 100 ppm.
- Healthy working environment for Employees.

Analysis : Why ? - Why ? Analysis

High catalyst loss	
Why ?	Why ?
Excess fines generation	Poor efficiency of cyclones
Why ? ↓	Why ? ↓
Higher velocity of air	Improper catalyst flow
Why ? ↓	Why ? ↓
Lower diameter of nozzles	Direct entrainment of air
Why ? ↓	Why ? ↓
Improper design of air grid	Lower catalyst flux
Why ? ↓	Why ? ↓
Root cause	
1. Higher catalyst fine generation from air grid.	
2. Low catalyst flux from dipleg due to large diameter.	

Results



Scope & plan for Horizontal Deployment

S no	M/c	Target dat	Responsibility	Status