



6th KAIZEN CONFERENCE

KAIZEN IDEA - SHEET

Activity	KK	JH	QM	PM	OTPM	DM	ET
Loss No./ Step	14						
Result Area	P	Q	C	D	S	M	



Plant : OHCU, Panipat Refinery

Machine : Make-up Gas Compressor

Kaizen Theme :

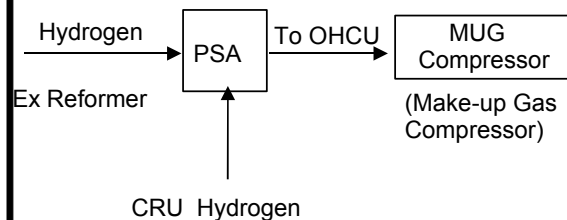
Increasing Hydrogen Availability to make-up Gas Compressor in OHCU

Idea :

To explore alternate source of Hydrogen Availability

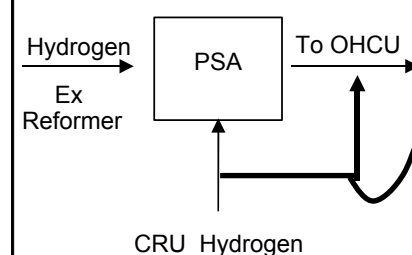
Problem/present status :

OHCU T'put gets limited due to limitation in Hydrogen availability



Countermeasure :

1. Use excess H2 available at CRU Unit burnt as fuel.
2. Fabricate a line for routing excess CRU hydrogen to OHCU by passing PSA



Bench mark

Existing OHCU T'put- 224 M3/hr

Target

Achieve 12 % increase in OHCU T'put

Kaizen start

12th December, 2004

Kaizen Finish

2nd January, 2005

Team members

- | | |
|----------------------|----------------|
| 1. S.Sarkar - Leader | 6. M.R.S.Babji |
| 2. Sunil Yadav | 7. P.Sengupta |
| 3. P.J.Singh | 8. J.Mehra |
| 4. D.Chauhan | |
| 5. B.K.Singh | |

Benefits:

Total savings / Year : Rs. 33.3 cr.

Gross margin of Design T'put of 224 m³/ hr -Rs 96 lacs/day

Gross margin of Additional T'put of 30 m³/ hr - Rs 12 lacs/day

Increase in margin per year - Rs 12 x 333 = Rs 3996 lacs

(Assuming 333 days operation)

Deduct cost of oil burnt in place of CCRU off gas - Rs 2 lacs/day

cost per year - 2x333 =666 lacs

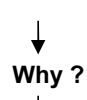
Net margin / yr 3996 - 666 = Rs.3330 lacs.

Analysis :

Bottle-neck for increasing OHCU T'put



Limitation in Hydrgen Availability from Hydrogen Unit

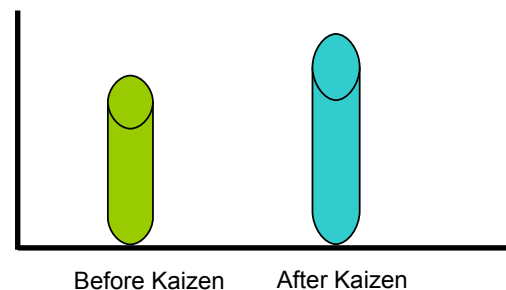


No Availability of Hydrogen beyond the design capacity of PSA (Pressure Swing Adsorption)

Results :

OHCU T'put increased by ~ 30 m³/hr (12%) due to additional 6000 Nm³/hr of Hydrogen from CRU

OHCU T'put



Scope & plan for Horizontal Deployment

S no	M/c	Target dat	Responsibility	Status
1	DHDS	April '05	PNM (DHDS)	Completed



Output (m ³ /hr)	Margin / Day (Rs. Lacs)	Remarks
235	96	Design case
30	12.26	Increment

Profit = Rs 12 lacs / day

