

CII - Sohrabji Godrej Green Business Centre, National Award for

"Excellence in Water Management –2008"

Presentation By

Kankroli Tyre Plant (KTP)

A UNIT OF

JK TYRE & INDUSTRIES LIMITED

(TS-16949 , ISO-9001 & ISO-14001 Plant)



WELCOME

Team Members

Mr. DR Pai

Mr. A K Pamecha

Mr. MP Sharma

Special Guidance

Mr. A K Makkar (Unit Head)



KANKROLI TYRE PLANT

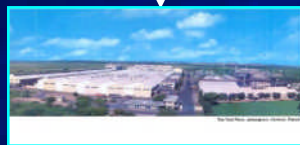
Slide No. 1

UNIT PROFILE

JK TYRE AND INDUSTRIES



Banmore (MP)



Kankroli (Rajasthan)



Vikrant Tyres, Mysore

KANKROLI TYRE PLANT

- Established at Kankroli - 1976
- Initial capacity – 55 Ton/ Day,
- Current capacity – 210 Ton/ Day
- Water Demand – 1200m³ (Max)

KTP – MISSION

KANKROLI TYRE PLANT

TO BE

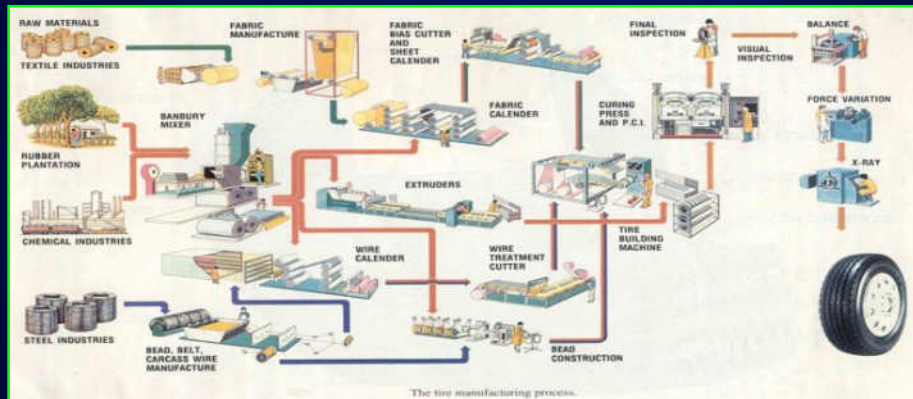
ZERO LEAK PLANT



KANKROLI TYRE PLANT

Slide No. 2

PROCESS OUTLINE



During manufacturing, we use Compressed Air, Steam, Water & Oil at various applications of processes.

At KTP we thought for a consolidate policy and program for identification and correction of leaks, Zero Drain and Water Process efficiency improvement, Zero Leak mission was started in Jun-2008



Slide No. 3

Industry Benchmark



Data Source : CII Study, Conducted by : Forbes Marshal

Future Plans to **"BETTER THE BEST"**



Slide No. 4

WATER CONSERVATION STRATEGIES

1. Work for ZERO Discharge
2. Develop Hydrophobia for water in unwanted places
3. Eliminate all open drains
4. Optimize and load cooling towers to their 100% capacity to reduce evaporation losses
5. Reduce evaporative cooling to the extent possible.
6. Explore radiator / air cooling
7. Recover / remove heat to the extent possible from water before sending it to cooling tower
8. Eliminate Flash losses in steam usage
9. Identify wastage and eliminate them.
10. Deploy concepts of Multiple recycling / recovery and reuse



KANKROLI TYRE PLANT

Slide No. 5

Initiatives

- Ø Prize for water efficient family block (8 quarters).
- Ø Prize for every received suggestion, 15 Nos/month Accepted suggestions, Every implemented suggestion for water conservation / Leak
- Ø Solar Water Heater For Canteen
- Ø Solar Water heater for Carbon area Workmen bath
- Ø Water conservation by recycled water for Air Washer in Plant
- Ø FRP Sheets for abundant daylight utilization
- Ø Push cock water tapings.
- Ø District Level Children Poster competition
- Ø Steering committee formed comprising of Unit Head, BU/SSU Heads, Asset Managers & Workmen.
- Ø Health Check up & Medical add to surrounding residing.



KANKROLI TYRE PLANT

Slide No. 6

E.M.S. INITIATIVES AT KTP

- Ø Discharge Elimination
- Ø Leakage Elimination
- Ø Air Emission Reduction
- Ø Effluent Discharge Reduction
- Ø Adoption of clean Processes
- Ø Energy Conservation
- Ø Optimization of Fuels and Oils
- Ø Recycling, recovery and reuse
- Ø Process Waste reduction
- Ø Enhancing Green Belt
- Ø Resource Conservation



KANKROLI TYRE PLANT

Slide No. 7

Water Conservation Efforts



KANKROLI TYRE PLANT

Slide No. 8

Water Conservation Projects By Employees

A THEMES

Projects Implemented	Team
Maintaining ZERO Discharge	MCS
Employees awareness improvement programmes	MCS
Push cock in place of normal tapes	MCS
Toilet flush water volume reduction	MCS
Twin type Toilet flush water t	MCS
Use of back wash water in A	MCS
Boiler blow-down reduction b	MCS
control of DM Water	MCS
Cooling towers elimination an	MCS
reduction	MCS
Drain corrections and mainta	MCS
ins drains dry	MCS

B THEMES

Projects Implemented	Team
Close looping of all cooling water lines	MCS
Recovery Increase in plant & colony waste water & recycling	MCS
Trench water recovery	MCS
Improve steam condensate recovery	MCS
Rain water harvesting using natural	MCS
Rain water harvesting using Plant	MCS
Use of radiator cooling (AFC) in	MCS
Cooling tower reconstruction for	MCS
ACILOL Chemical spraying in neig	MCS
famous Lake RAJSA MA ND for ev	MCS

C THEMES

Projects Implemented	Team
Employee involvement through specific suggestions for water conservation	Workmen & Staff
Drinking water supply pressure reduction	Workmen & Staff
Reduction in number of water taps	Workmen & Staff
24x7 Leak monitoring system	Workmen & Staff
Use of back wash water for Floor & Road cleaning	Workmen & Staff
Water for Steam duct on in boiler de-aerator by way of pre-heating using waste heat	Workmen & Staff
Use of Flash steam instead of leaving in open atmosphere	Workmen & Staff
Stop fresh water usage in coal spray by use of back-wash water	Workmen & Staff
Use of auto stop valves with time for stopping water circulation in idle lines	Workmen & Staff
Ferrules insertion for water conservation	Workmen & Staff
Stoppage of feed cond circulation pumps in certain places	Workmen & Staff



Slide No. 9

SUSTAINING : LEAK FREE PLANT

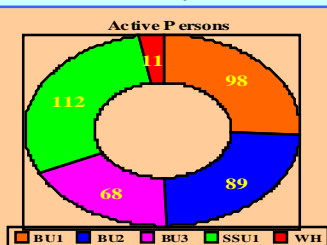
Awareness Among People Leakage is Direct Loss of Resources

goki kuhcplust scprk/ku ,
c<r k nrRknu [kqkj gr keul
dgr dchj l qkshbz k/ks ,
oKi i kuh dsl c fey dWks
goki kuhdk ughd hZely
gj l e; dsfy;s;sgsvueky!

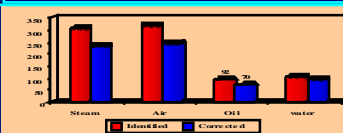
COST OF LEAK:

AIR@6KG/CM2 IN 3/8PIPE=Rs:2.60/Min

OIL=ONE DROP/PER Day =Rs.6.85



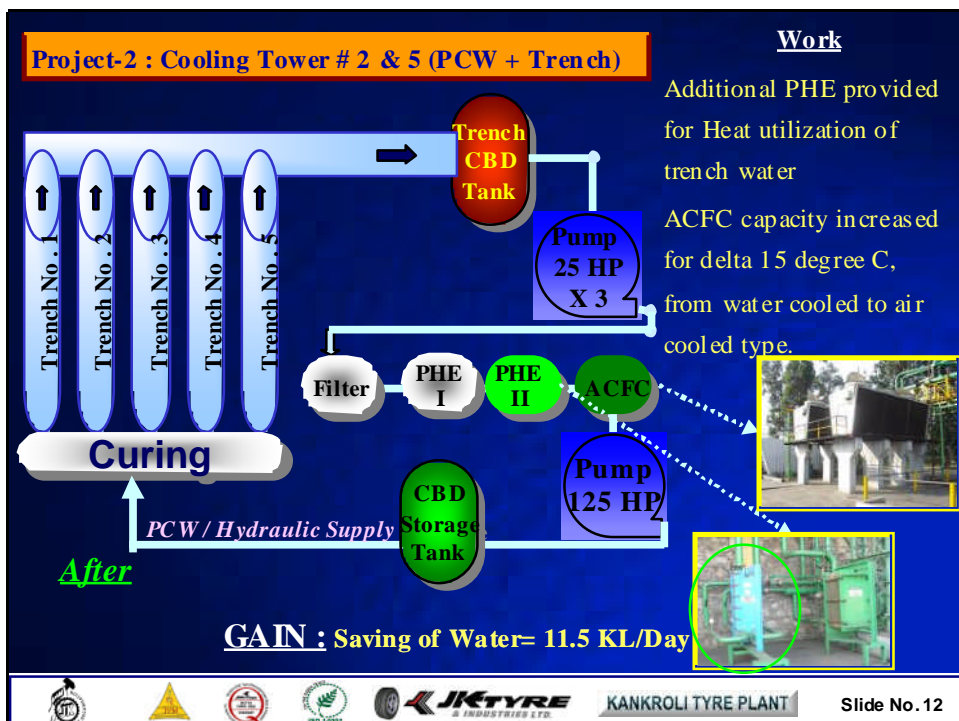
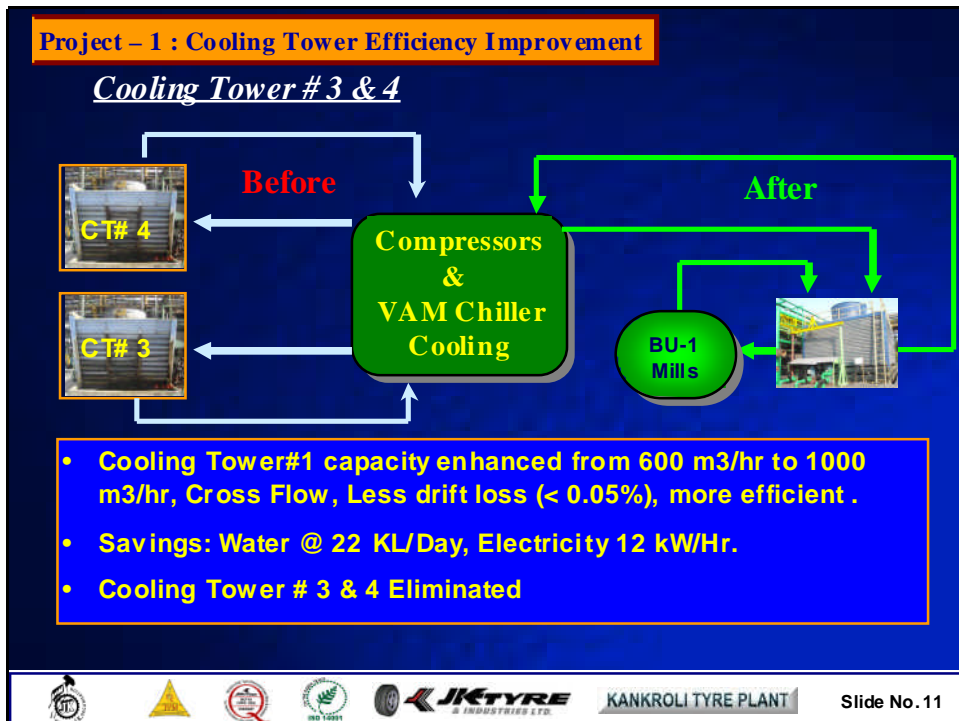
- NEW TAG DESIGNED FOR THIS MISSION.
- THE TAG HAS 3 FOLDS:
- 1ST FOLD TO TIE ON LEAK
- 2ND TO CORRECTING AGENCY
- 3RD FOR REGISTRATION / MONITORING
- ANY PERSON CAN IDENTIFY ANY LEAK AT ANY PLACE.



Area	Identified	Corrected	% Correction
BU1	208	173	83%
BU2	173	146	84%
BU3	363	259	71%
Warehouse	4	4	100%
Utility	86	73	85%
Grand Total	834	655	79%



Slide No. 10

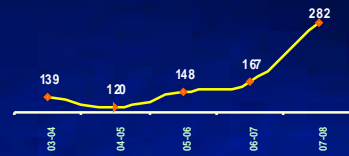


Project – 3 : Sewage Treatment Plant

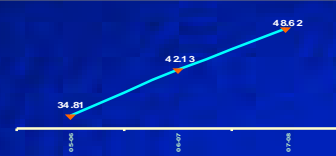
Key Action Taken

1. STP installed to treat water for recycling to process
2. Repair and providing of bottom lining to prevent seepage from tanks.
- 3 Treat and recycle plant domestic waste water for process use. 5 Canteen & domestic plant waste diverted to STP.

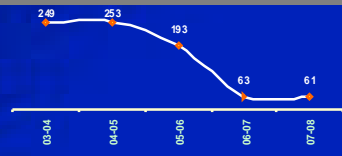
Water Recycled to Process KL/Day



Recycling Yield in %



Trade Effluent Generation



KANKROLI TYRE PLANT

Slide No. 13

Ongoing Project : Curing Main Trench Leak Correction

We are correcting all the headers / return lines of 135 m long curing main trench for leak, heat insulation and floor for easy identification and maintenance of all the pipe lines.

It will help us to save water up-to 50KL/Day.

BEFORE

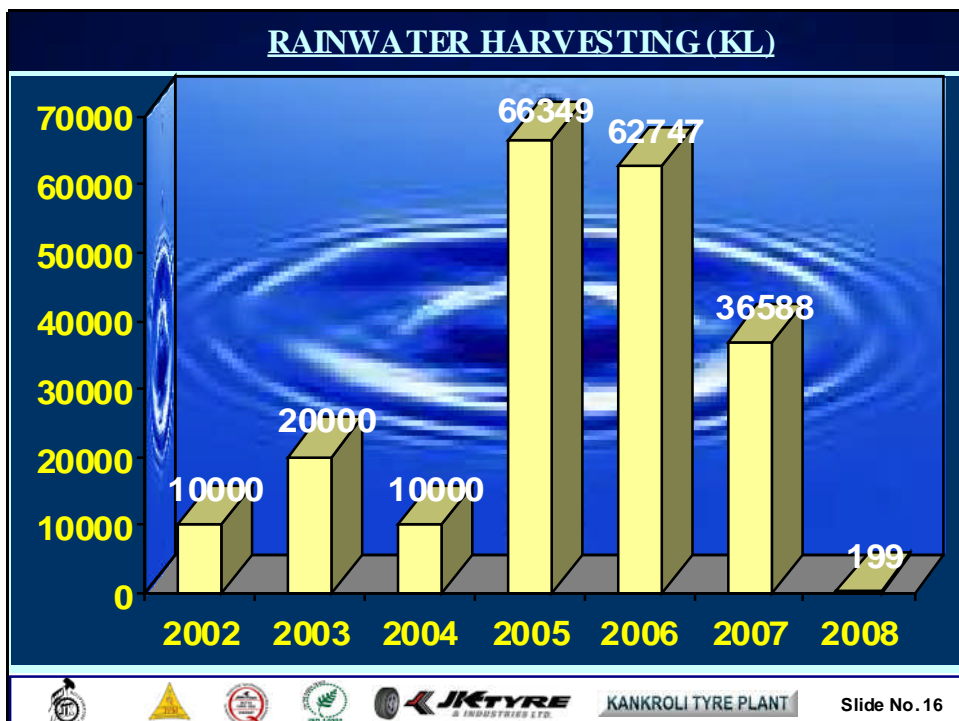
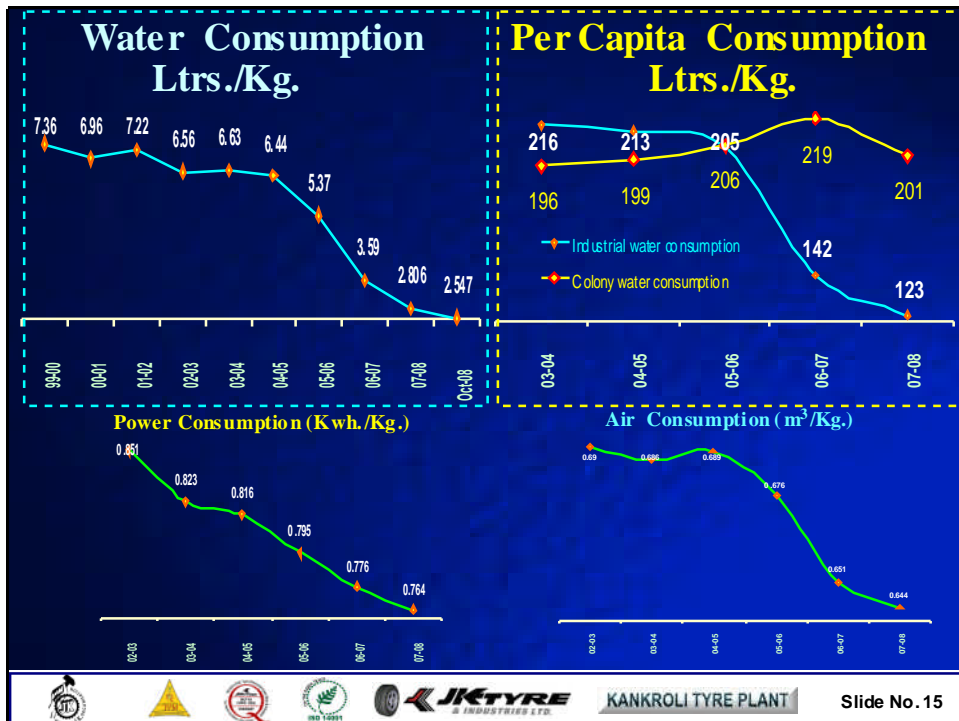


AFTER

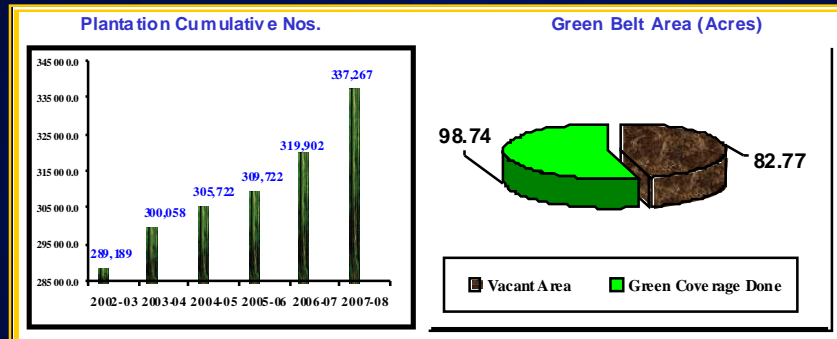


KANKROLI TYRE PLANT

Slide No. 14



ENVIRONMENTAL IMPROVEMENTS



Key Actions Taken

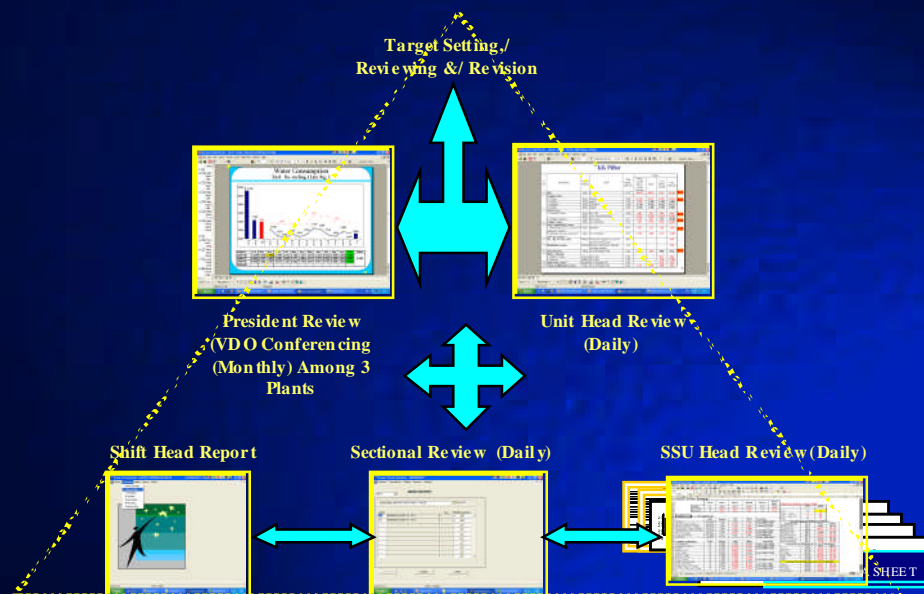
- Regular plantation at the rate of more than 10000 trees per year
- 85-90% survival rate
- The region suffering from acute water shortage
- Scanty rainfall for several consecutive years in past.
- About 45-50% of land area as green area,.
- A special greening drive in the adjacent areas for one Lac plantation.



KANKROLI TYRE PLANT

Slide No. 17

MONITORING AND REPORTING SYSTEM



KANKROLI TYRE PLANT

Slide No. 18



FUTURE ACTIONS

- Waste Heat recovery from Screw Compressors for Boiler FD Fan
- Screw Compressors I.p.o. Reciprocating Compressors
- Energy & Water efficient mono pumps over VT pumps
- Steam consumption reduction in Tyre Curing – Operation 1.99 kg/kg
- Colony roof water collection.
- Further condensate recovery.
- More Air cooled m/cs.
- Insulation of drinking water lines for loss reduction
- Use of recycled water for Steam Generation.
- Using municipal waste water for clear water generation.
- Improving rain water tanks.
- Cooling tower restructuring for efficiency improvement
- Nitrogen Curing inplace of Hot Water.

THANKS

KANKROLI TYRE PLANT

Slide No. 20