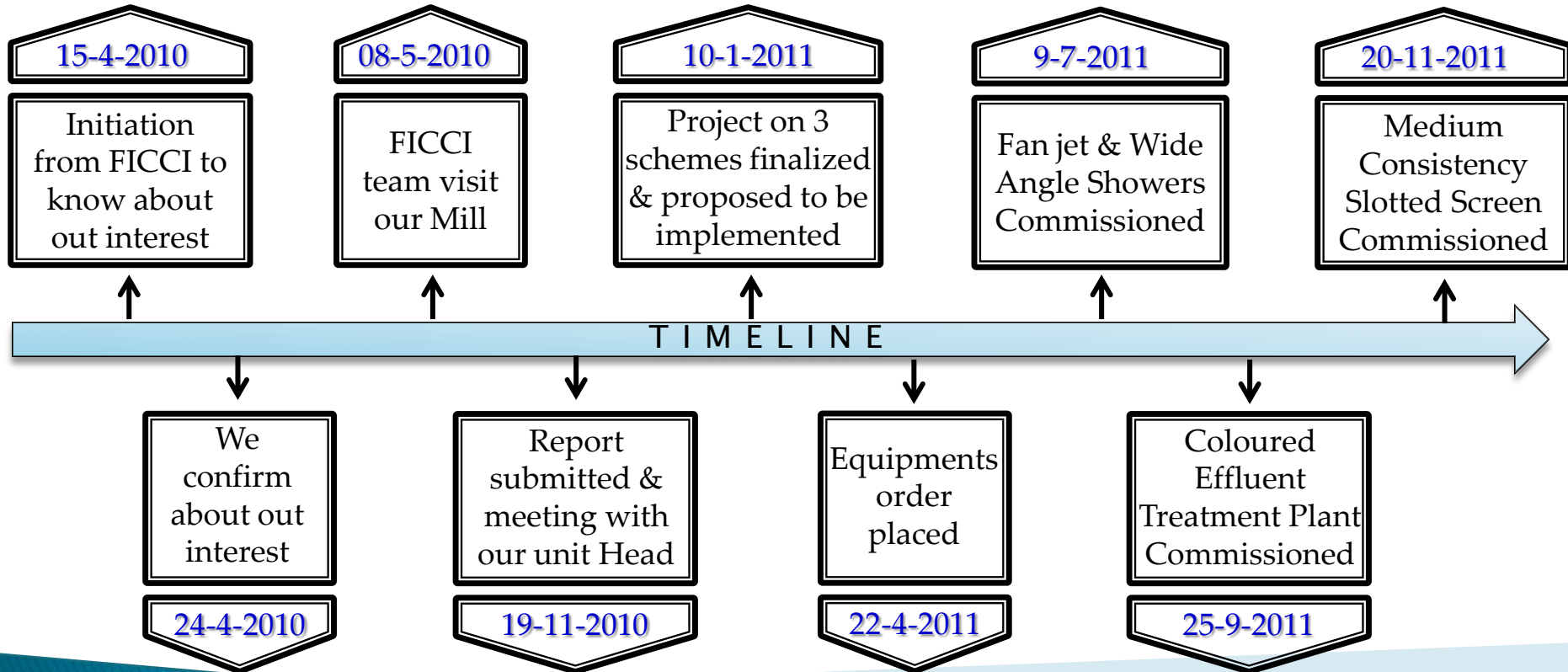


FICCI- WWF PROJECT ON

Pilot Interventions in Pulp & Paper Sector to Implement Water & Waste Water Management Best Practices

Timeline of Events



Advantages From New Showers

- Wide Angle Showers Water Cons \longrightarrow 7M³/Hr
- Fan Jet Showers Water Cons \longrightarrow 5M³/Hr
- Hole Showers Water Consumption \longrightarrow 10M³/Hr

In Each Machine

2 Nos. of Showers Replaced

Water Saving $(10 \times 2 - 7 - 5) = 8\text{M}^3/\text{Hr}$

From 3 Paper Machines

Water Savings $(8 \times 3 \times 20 \text{ Hr/day}) = 480 \text{ KL/day}$

Advantages From Mid Cy. Slotted Screen

1. Earlier Slotted Screen was in operation with 1.0% Cy Pulp
2. New Screen – Inlet Pulp Cy : 2.0% + 0.5%
3. Pulp Flow : 50 T/day
 - a. Water Required for dilution = $50000/10 - 50000/25$
= $5000 - 2000 = 3000$ KL/day*
 - b. Water Required for dilution for New Screen
= $50000/15 - 50000/25$
= $3333 - 2000 = 1333$ KL/day
Water less consumption = $3000 - 1333 = 1667$ KL/day

**Here 1000 KL/day – Fresh Water used to consume for dilution i.e. stopped totally*

Mid Con. Slotted Screen Benefits

1. Water Savings : 1000 KL/day
2. Energy Savings : Approx 500/ Kwh/day
3. Process Operation time reduced by 2-3 Hr/day
4. Nos. of accessories equipments operation stopped : 4
(Like Small Turbo, Feed Pump, B/W Pump & Chest Agitator)
5. Easy in operating of the equipment & no major problem

Coloured Effluent Treatment Plant Advantages

Issue: Severe problem encountered from the pollution department due to coloured water discharge from ETP since no major system adopted was earlier.

Action Taken: With the installation/development of Coloured Effluent Treatment Plant total coloured effluent is treated, given retention time & finally mixed with main effluent for further processing in ETP.

Result: No major problem is there. A long outstanding typical problem has been solved.

Treated Waste Water & Use For Irrigation

As a part of reuse of water for productive use, the combined mill effluent/waste water is treated by adopting conventional activated sludge process & treated water is discharge into EKLA NALA. The same treated water is used 80 - 100% for irrigation purposes. Nearly 80 - 100% waste water is utilized by farmers to raise two good crops annually around the mill in an area of 100 acres of Land. The crops grown are paddy, wheat straw, sugar cane, some of the progressive farmers have switched over to grow eucalyptus plantation with this waste water. The treated waste water impact for agricultural product is excellent.

Water Savings - How

Back Water showers have been provided in different equipments like Decker Thickener, Vibrating Screen, Potcher Washing Drums, Cylinder Press etc from our own resources.

Total Back Water Recycling = 1500 KL/day

Earlier totally fresh water used to be consumed for this purposes

Therefore total water savings:

1. From Paper Machines	480 KL/day
2. From New Slotted Screen	1000 KL/day
3. By Replacing B/W Shower	<u>1500 KL/day</u>
Total Water Saving	<u>2980 KL/day</u>

A. Avg. Water consumption before project implementation	6000 KL/day
B. Avg. Water consumption after project implementation	<u>3000 KL/day</u>
Water Saving	3000 KL/day

Water Consumption Before Project Implementation: 75 KL/T

Water Consumption After Project Implementation: 30 - 35 KL/T

Conclusion

FICCI - WWF Pilot project proved beneficial for M/s Sangal Papers Ltd. We were able to reduce the water consumption by 50% in our total processes.

Further we can reduce the fresh water consumption if treated effluent water can be reused after some tertiary treatment for which certain investment has to be made. This might result in an approximate water saving of 1000 KL/day!!!