E-Comet (910)

TAURUS 2214 - 22 Tons GVW

REAR DUMPER (25 Tons)

Stallion 4x4 Mk.III

New Gen 2518-H

Inter Century- Luxura

"CII - Excellence in Water Management –2008"

ASHOK LEYLAND
HOSUR - 1

HINDUJA GROUP

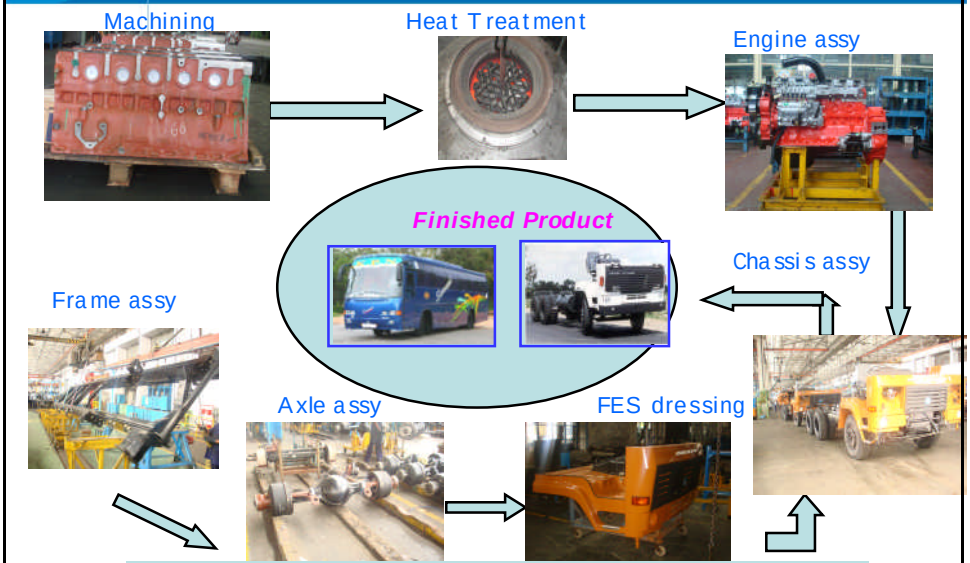
Company Profile

- *Spread of the Plant : 102.4 Acres.*
- *Built up area : 164 592 sq.mtr.*
- *Plant & Machinery : Rs. 645 Cr.*
- *Production Level/Day : 300 Engines & 44 Veh.*
- *Connected Load : 31924 Kva.*
- *Captive Power : 8750 Kva.*
- *Man power : 2740.*
- *Trees : 1850 nos.*

"Every drop of water counts"

HINDUJA GROUP

Manufacturing Process



"Many drops of water will lead to a Ocean"

Water Management Structure

- *Unit Head*
- *Divisional Heads*
- *Utility Manager & Dept Managers*
- *Shop Representatives*
- *CFTs/SGAs*

"Save every drop & save the Globe"

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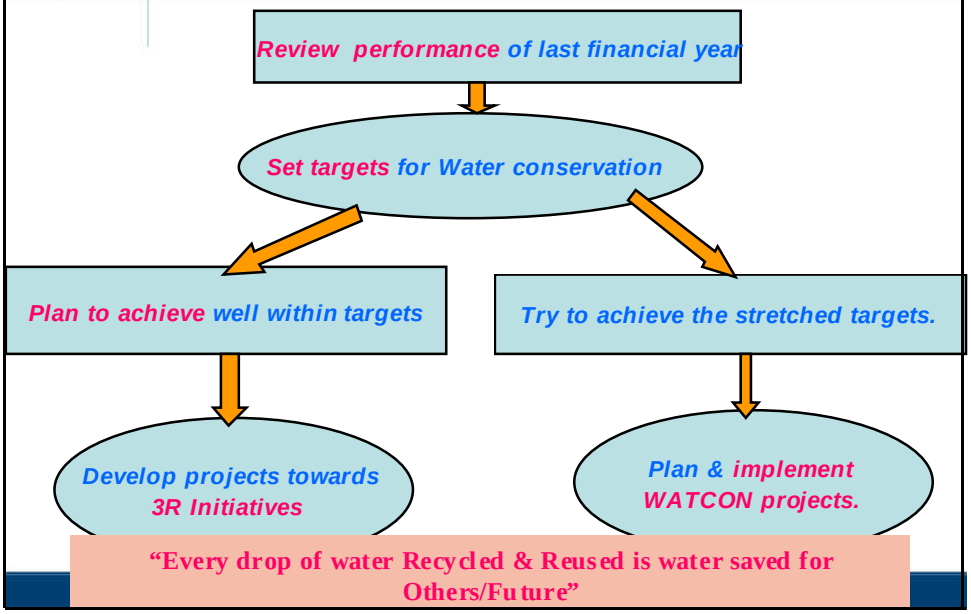
Water Management Planning



"Every drop of water Recycled & Reused is water saved for Others/Future"

Water Management Policy

Mission :

To become the "Best water efficient unit among the automobile industries".

To meet the above objective by:

§ Scientific approach towards water management.

§ Metering of water consumption at micro level.

§ Identify projects on 3R –Reduce, Reuse & Recycle of water.

§ Encourage suggestions & initiatives taken by our employees towards water conservation.

"Avoid runoff of water .The wastage is 30%"

HINDUJA GROUP

Energy Conservation & Employee Involvement.

Ø *Monthly One day "Awareness Training Program on Water / Energy Conservation".*

Ø *Water conservation initiatives are shared by Utilities team with participants.*

Ø *Need for water conservation & monitoring systems are explained.*

Ø *SGAs(Small Group Activities) & CFTs(Cross Function*

Ø *Suggestions from employees are encouraged.*

"Availability of Pure Water Scarce"

HINDUJA GROUP

Specific Planned Step for Futurity Preservation of Environment

v *AL –H1 is a signatory for* ***MSG – "Aim at Growth but Sustain Ecology".***

v *MSG –* ***"To promote Resource Conservation without compromising High end accelerated Growth".***

v *Ten Natural Commandments (Focus points) are:*

(1) Specific Energy & Water reduction (2 –6%).

(2) Waste Redcution (2 –6%).

(3) Renewable energy increase (2 –10%)

(4) Specific GHG emission reduction(2-6%) & CDM.

(5) Increased recycling of materials by 2-10%.

(6) Rain water harvesting increase by 2 –10%.

(7) Life Cycle Assessment of new products & new technologies.

(8) Green Purchase Policy.

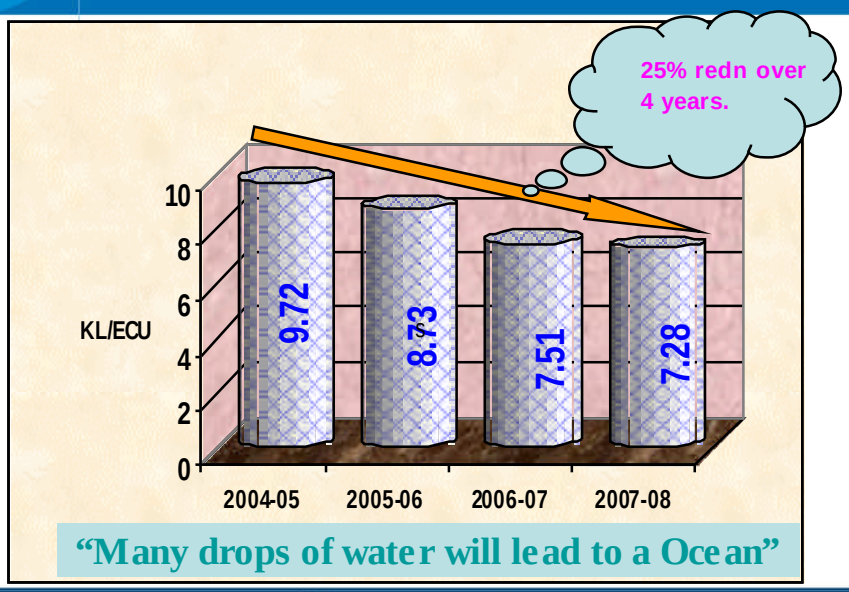
(9) Product stewardship program &

(10) Reduction of other natural capaitals by 2 – 6%.

"Every drop of water counts"

HINDUJA GROUP

Specific Water Consumption : 2004 -08



"Many drops of water will lead to a Ocean"

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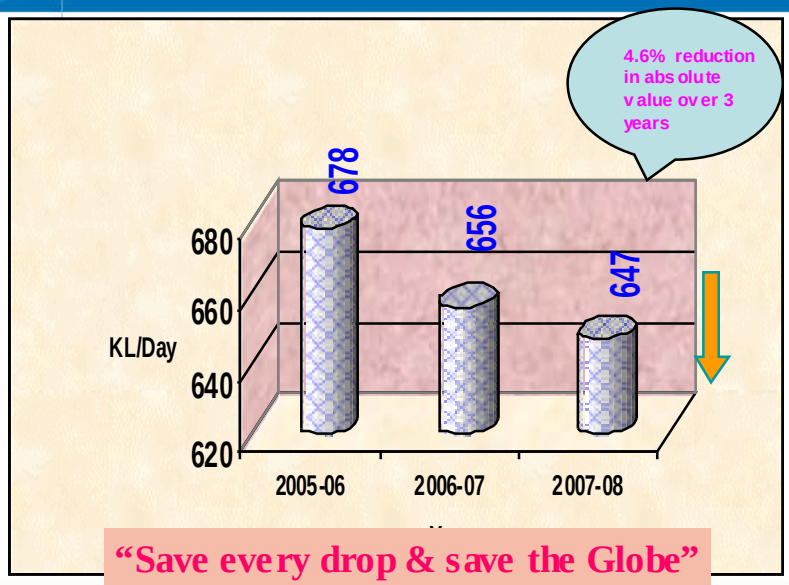
Per Day Water Consumption : 2005 -2008



"Save every drop & save the Globe"

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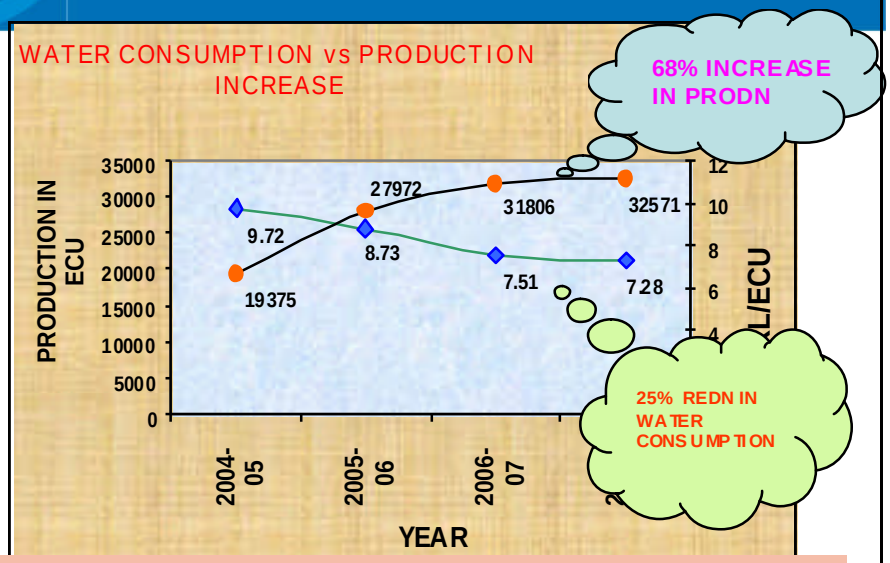
Water Consumption Vs Production Increase



"Every drop of water Recycled & Reused is water saved for Others/Future"

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Water Conservation –Last 4 years : 2004 -08

Year	Water savings (M3/Annum)	Water savings (M3/Day)
2007 - 08	45270	124
2006 - 07	18000	49
2005 - 06	15156	41
2004 - 05	26100	71

"Avoid runoff of water .The wastage is 30%"

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WATCON INITIATIVES: 2007-08

"Availability of Pure Water Scarce"

Sl. No.	Title of Water saving Project implemented	Year of implementation	Annual Water Savings.		Invesement Made	Payback period (Months)
			M3	Rs. Lakhs	Rs Lakhs.	
1	Installation of "Zero Discharge Facility" at ETP area towards reducing raw water consumption by 50 kl/day.	2008	15000	292500.00	21500000.00	882
2	Elimination of water seepage thro' underground water storage tanks by reconcreting the tank bottom portion- 2 nos.	2008	3300	64350	300000	55.9
3	Water atomisation in engine washing activity after testing of engines in test cells along with usage of compressed air.	2008	1350	26325	20000	9.1
4	Replacement of damaged pipelines at underground fire hydrant lines & thereby eliminate wastage of water in fire hydrant lines.	2008	1500	29250	25000	10.3
5	Recycling of condensate water from mechanical evaporator thro' RO Plant & thereby ensure usage of additionally treated RO water for cooling towers & washing machines.	2008	4500	87750	25000	3.4
6	Procurement of water pumps with mechinical seals instead of gland rope to eliminate wastage of water form pump.	2008	1800	35100	200000	68.4
7	Identification of old gate valves leading to wastage of water thro' leaks & replace them with butterfly valves.	2008	3000	58500	48000	9.8

WATCON INITIATIVES: 2007-08

"Availability of Pure Water Scarce"

8	Filling of cooling tower sumps at Generator house from extra make up water sump, therby ensuring no feeding of water during 1st shift from main overhead tank.	2008	6000	117000	10000	1.0
9	Blowdown control of cooling towers based on TDS monitoring & thereby reduce water consumption towards top up quantity of water.	2008	3000	58500	6000	12.3
10	Blending of raw water with RO water for engine test bed applications at shop5 engine shop & also still ensure required water parameter.	2008	1500	29250	20000	8.2
11	Idenitification water leaks around all shops thro' holiday patrolling & arrest leakage of water.	2008	3600	70200	48002	8.2
12	Laying of DM water distribution system from Generator house DM plant to shop4 MDV assembly for mixing with radiator coolant & filling on Chassis, thereby reducing frequency of filling for the end customer.	2007	1320	25740	200000	93.2
13	Intermittent supply of water during summer to all shops by stopping supply from OHT during lean hours.	2007	9000	175500	0	-
14	Installation of "Push type taps" at urinal points for flushing at shop3, shop9, shop7 & shop1 areas.	2007	11400	222300.00	75000.00	4

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WATCON INITIATIVES: 2006-07

"Availability of Pure Water Scarce"

15	Elimination of water wash for concrete floors in shop floor & resorting to dry floor cleaning using scrubbers.	2007	1200	23400	0	0
16	Elimination of raw water use for gardening by extending the pipeline of treated water supply from ETP/STP areas, thereby raw reducing water consumption.	2007	3600	70200	50000	8.5
17	Piping modification for usage of "Localised 15 kl capacity concrete overhead tank" at shop5 machine shop, to restrict water supply to only 2 bays of shop5 machine shop. in first shift.	2006	4500	87750	15000	2.1
18	Piping installation for using reject water of drinking water Purifiers at urinal points for flushing.	2006	2400	46800	190000	48.7
19	Introduction of fourth pipeline source from private agency for supply of potable water, towards reduction in water receipt from tanker to MOQ level of 100 kl.	2006	6300	122850	0	0.0

WATCON INITIATIVES: 2005-06

"Availability of Pure Water Scarce"

20	Installation of "Kent" make 6" dia water flow meters at main & shop5 pump houses, to directly quantify water consumed at the plant level.	2006	-	-	100000	-
21	Installation of "Air cooled Refrigerated type compressed air Dryers" - 2nos, to eliminate use of water thro' cooling tower incase of water cooled machines.	2006	1800	35100	400000	136.8
22	Extension of "RO water usage" for compressor cooling water circuit, towards reducing descaling frequency of intercooler & after cooler tube bundles.	2006	2250	43875	10000	2.7
23	Introduction of "Foam type taps" at all high consumption shops(shop5, shop1 & 2 & employees canteen) of the plant & thereby reduce 37 kl/day.	2005	11100	216450.00	150000.00	8

WATCON INITIATIVES: 2004-05

"Availability of Pure Water Scarce"

24	Improving cooling efficiency on compressor cooling towers, by replacement of fills, reconditioning of sprinklers etc., & thereby reduce evaporation loss. Spillage loss & make up water quantity.	2005	1500	29250	75000	30.8
25	Construction of "Rain water collection Sumps" - 10 nos at plant level, towards charging the ground level & thereby helping to the water supplying agency towards better yield.	2005	6000	117000	1000000	102.6
26	Reducing water consumption at main canteen by installation of 2 nos 5 kl storage tanks on top of canteen building, towards reducing head from 20 metres to 9 metre.	2004	7200	140400	50000	4.3
27	Introduction of "RO water" for washing machine & coolant mixing applications in machineshops 1&2	2004	11700	228150.00	700000.00	37
28	Introduction of "new induction hardening machine for shop1 cam shaft line with closed circuit RO water utilisation" as against conventional cooling tower installation.	2004	11700	228150.00	600000.00	32
29	Piping line installation to ensure water supply from shop5 Overhead tank, instead of main overhead tank, by reducing head from 40 metres to 20 metres.	2004	9900	193050	400000	24.9

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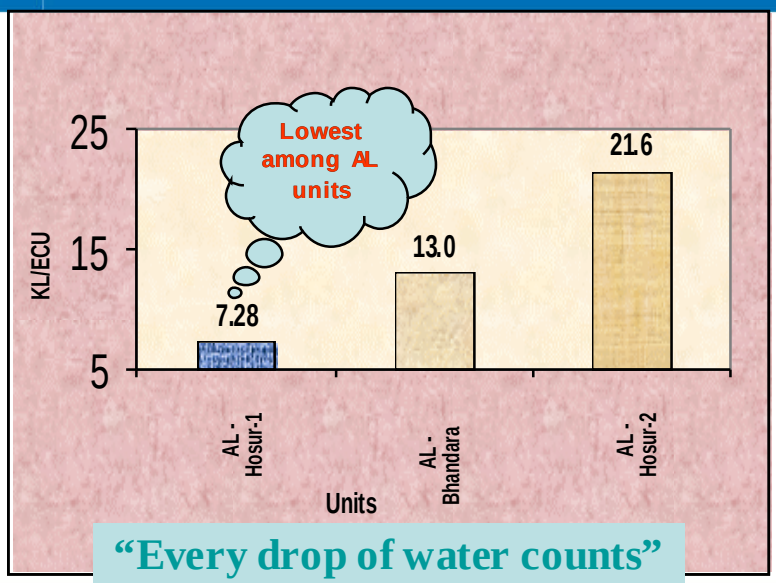
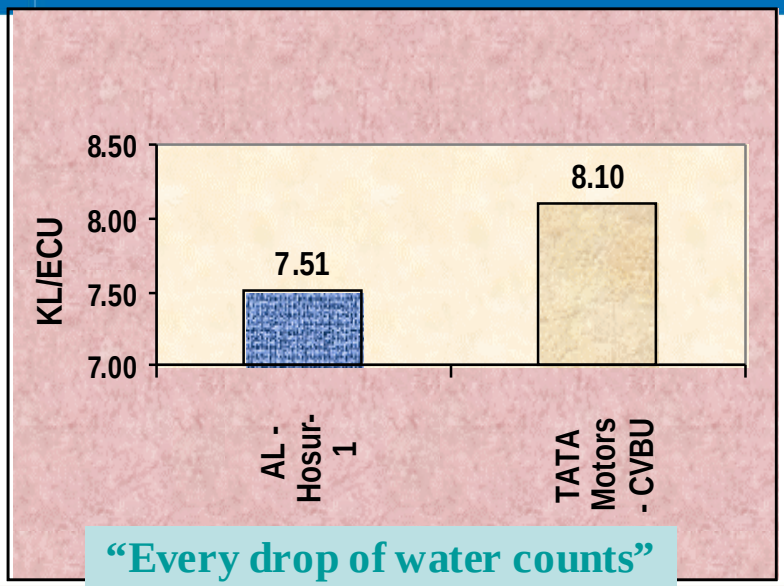
Bench-marking with other AL Units: 2007-08



"Every drop of water counts"

HINDUJA GROUP

Bench- marking with Competitors : 2006 -07



"Every drop of water counts"

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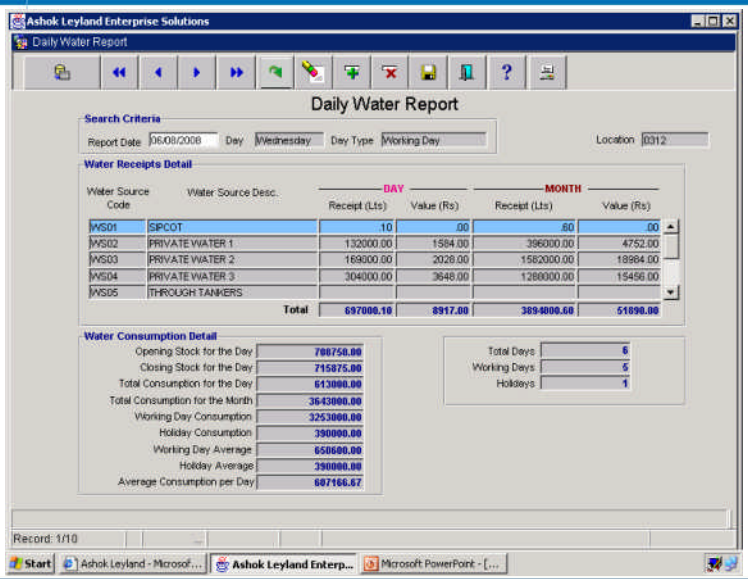
Monitoring & Reporting System

MEASURE WATER.

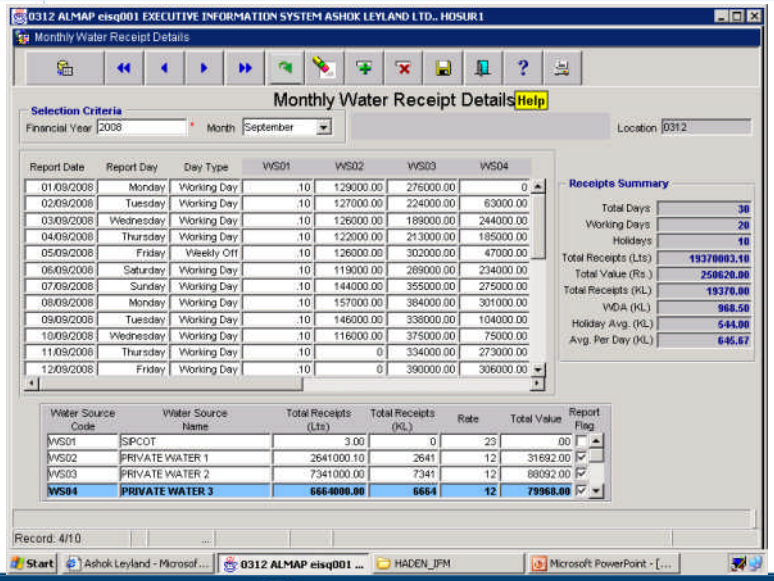


SAVe WATER

HINDUJA GROUP

Monitoring & Reporting System

MEASUREWATER.



SAVe WATER

HINDUJA GROUP

Innovative Projects:

Scope For water conservation is mainly looked at in 3 areas:

(1) Recycling & reuse of waste water.

(2) Reduce water consumption by process change.

(3) Study water intensive areas & Introduce water efficient products.

Water is Scarce ..... Save it.

HINDUJA GROUP

Innovative Project No: 1

Water is Scarce ….. Save it.

Project : *Water conservation by 50 kl/day thro' recycling of ETP waste water.*

Methodology :

§ ETP waste water which was earlier used for gardening,was in excess of STP waste water which was also used for Gardening.

§ RO Plant (Rochem make) & Mechanaical Evaporator (Technoforce make) were installed to ensure reuse of process waste water.

§ This treated water was used for industrial applications like washing m/cs, cooling towers, test beds & for coolant mixing, thereby reducing raw water consumption.

§ Zero discharge of process water was alos ensured.

§ 95 % water recovery was ensured thro' recycling.

Benefits:

§ Saved raw water procurement to the extent of 50 kl/day.

§ Process water quality was enhanced to all shops.

§ Industrial RO plants avl in shops became standby facilities.

Start Date: ***05/07/2007*** HINDUJA GROUP *Compln. Date:* ***15/03/2008***

Innovative Project No: 2

Water is Scarce ….. Save it.

Project : *Water atomization in engine washing activity at testbeds.*

Methodology :

§ After testing of engines in test beds, engines need to be washed.

§ Direct washing with water jet was consuming water by 12 kl/day.

§ Introduced water wash gun to minimise water consumption by mixing compressed air at low pressure, to create atomized water wash.

§ Extended to all testbeds of shops 2 & 5.

Benefits:

§ Saved water consumption to the extent of 4.5 kl/day.

§ Engine washing quality was not compromised.

§ Reduced water consumption by 2/3 rd.

Start Date: ***10/05/2007*** HINDUJA GROUP *Compln. Date:* ***31/05/2007***

Innovative Project No: 3

Water is Scarce ….. Save it.

Project : Water conservation thro' introduction of "Air cooled Air Dryers" in place of "Water cooled Air Dryers".

Methodology :

§ 2 nos Water cooled Compressed air dryers at shop5 required water circulation for cooling of hot air passing thro' dryers.

§ This demanded exclusive availability of a cooling tower for cold water circulation.

§ Apart from water consumption, water wastage in terms of evaporation loss, spray loss etc., are inevitable.

§ while ordering additional air dryers for shop2, Air cooled air dryers which do not require cooling tower were ordered.

§ Hot air is cooled thro' a fan arrangement, in air cooled air dryers.

Benefits:

§ Saved water consumption to the extent of 6 kl/day.

§ Cooling tower operation & maintenance eliminated.

§ No compromise was made on dry air quality.

*Start Date: **01/07/2007*** HINDUJA GROUP *Compln. Date: **31/12/2007***

THANK YOU

HINDUJA GROUP