

HINDALCO INDUSTRIES LIMITED, MOUDA WORKS

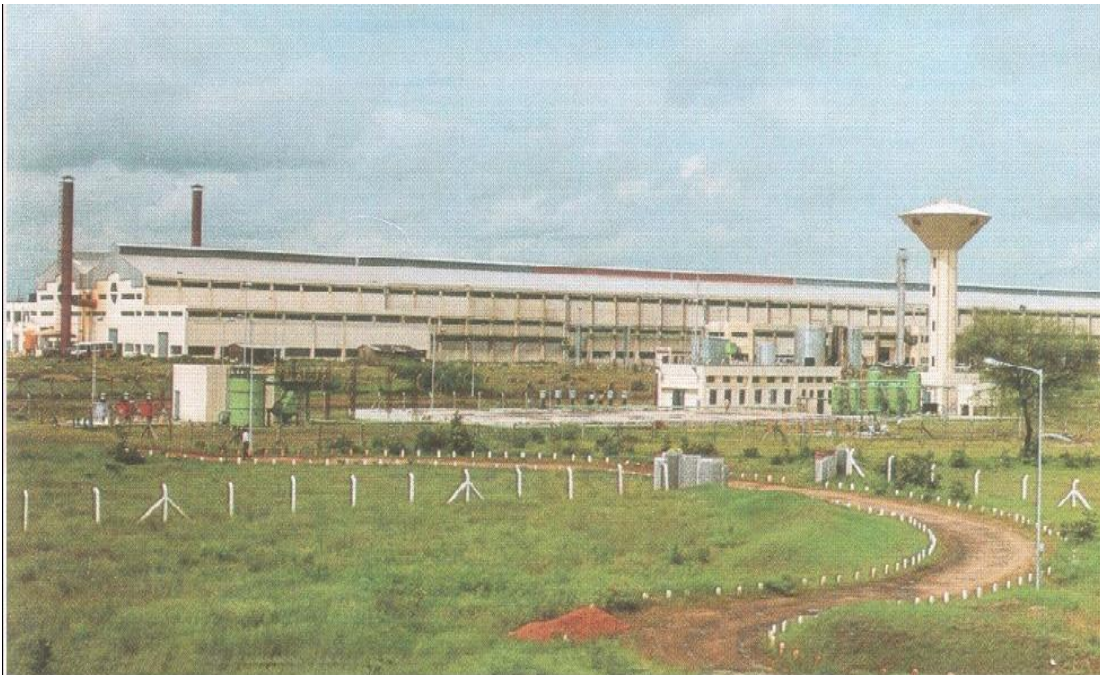
Unit Profile

Hindalco Industries Limited , Mouda Works,Nagpur(Formerly Known As Pennar Alumnium Company Limted) has an Aluminum rolled product factory at Village Dahali, Ramtek Road, Mouda ,Nagpur,441 104,Maharashtra with a capacity of 39,000 TPA.

We wish to inform that the assets of the existing plant of Pennar Aluminum Company Limited (Palco) at Mouda ,Dist Nagpur have been transferred to Hindalco Industries Limited (Hindalco)with effect from 4th of March 2006,under the provision of section 13 (4) of the Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interest Act,2002(SARFAESI Act),read with the Security Interest (Enforcement) Rules, 2002.

In exercise of the power under the said provision, the Asset Reconstruction Company (India)Limited (Arcil) has effected the sale and transfer of the said plant assets. Pursuant to the above, effective 4th March 2006 the said Plant is known as Hindalco Industries Limited, Mouda Unit, with its Registered office at Century Bhawan, 3rd Floor, Dr .Annie Besant Road, Worli, Mumbai-400 025.

During the year 2007-2008 , 24.4 KMT Aluminum Rolled Products were produced. The Annual sale turnover was Rs 204.59 Cr..



Energy Consumption

With the implementation of various energy conservation measures as on going practice, there is a steady decline of specific energy consumption. Energy conservation measures & ideas increases efficiency of equipment.

Description	UNIT	2006-07	2007-08
Electrical Energy (Specific)	Kwh / T	739	710.4
Thermal Energy	mkcl /year	22659.633	24791.046
Total Manufacturing Cost	Rs. (Lakhs)	4429	5202
Total Energy Bill	Rs. (Lakhs)	637	827.5
Energy as % of Total cost of production	%	14	16

Energy Conservation Commitment,Policy and Set-up.

Hindalco Industries Ltd. Has been involved in continuous improvement in energy conservation.

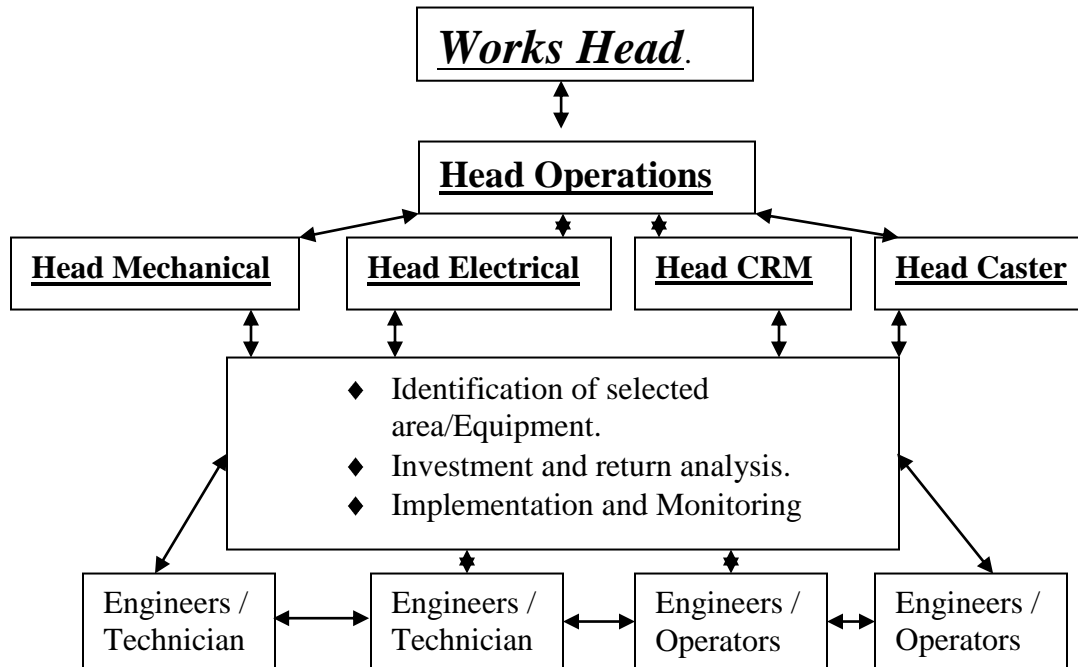
The team is lead by works head and headed by all department heads along with self motivated Engineers.

Energy consumptions are monitored on daily basis. The Unit gives utmost importance to energy conservation.

Specific energy consumption targets are decided by Executive Management and every effort is made to achieve the targets.

Promoting and Propagating Energy awareness among all the employees.

ENERGY CONSERVATION TEAM STRUCTURE



Energy conservation achievements

During the period 2006-07 the unit implemented 4 energy saving projects. Annual energy saving of **Rs.3.6 Lacs/Year** was achieved with an investment of **Rs.9.7 Lacs** with payback period of approx. 6 months.

During the period 2007-08 the unit implemented 7 energy saving projects. Annual energy saving of **Rs.0.52 Lacs/Year** was achieved with an investment of **Rs.1.8 Lacs** with payback period of approx. 10 to 12 months.

Environment and safety.

The unit is committed to preserve its environment and safety of its employees.

Unit consent to operate under section 26 of the water(prevention & control of pollution) act,1974 and under section 21 of the air (prevention and control of pollution) act,1981 and authorization /renewal of authorization under rule 5 of the hazardous wastes (management and handling) rules 1989 and amendment rules thereto.

Unit gives utmost importance to Machine and Human safety. There were no major casualty/accidents in the yr. 2007-08.

Major Projects implemented for energy conservation during 2007-08

NEW ENERGY EFFICIENT AC MOTORS IN PLACE OF OLD & REWOUND LOW EFFICIENCY MOTOR.



IN CASTER COLD WATER CIRCULATING PUMPS



Year of Installation : 2007-2008

Old Rewound Motor: 15KW, Efficiency: 88%

New Energy Efficiency Motor: 15KW, Efficiency: 92.5%

Quantity : 2Nos

Saving in Rs./Yr.: 60069.6

Saving in Energy/Yr. : 12013.9 KWH

Price of AC Motors: 70882

Pay Back Period: 1.17 Yrs.

**NEW ENERGY EFFICIENT AC MOTORS
IN PLACE OF OLD & REWOUND LOW EFFECIENCY MOTOR.**

IN HEAT EXCHANGE WATER PUMP AT CHILLING PLANT



Year of Installation : 2007-2008

Old Rewound Motor: 15KW, Efficiency: 88%

New Energy Efficiency Motor: 15KW, Efficiency: 92.5%

Quantity : 1Nos

Saving in Rs./Yr.: 26697.6

Saving in Energy/Yr. : 5339 KWH

Price of AC Motors: Rs. 23583/-

Pay Back Period: 0.88 Yrs.

**NEW ENERGY EFFICIENT AC MOTORS
IN PLACE OF OLD & REWOUND LOW EFFECIENCY MOTOR**

AT CRM COOLING TOWER FAN NO-1



COOLING TOWER FAN NO-2.

Year of Installation : 2007-2008

Old Rewound Motor: 15KW, Efficiency: 88%

New Energy Efficiency Motor: 15KW, Efficiency: 92.5%

Quantity : 2 Nos

Saving in Rs./Yr.: 53395.2

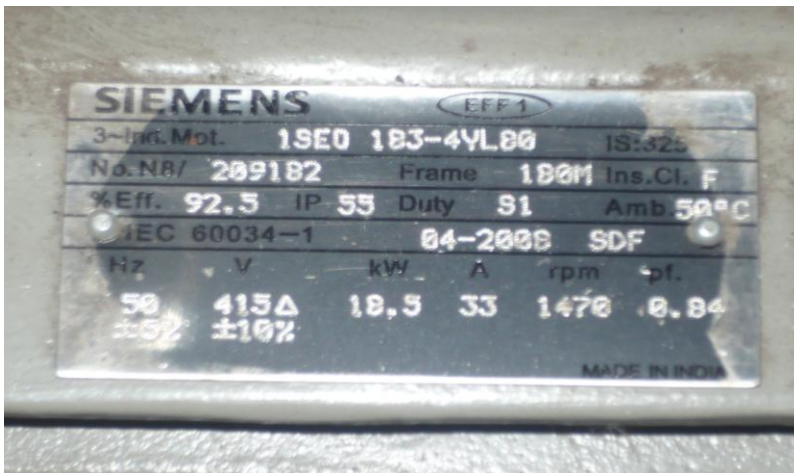
Saving in Energy/Yr. : 10679 KWH

Price of AC Motors: Rs. 47166 /-

Pay Back Period: 0.88 Yrs.

**NEW ENERGY EFFICIENT AC MOTORS
IN PLACE OF OLD & REWOUND LOW EFFECIENCY MOTOR**

AT SLITTING LINE HYDRAULIC PUMP



Year of Installation : 2007-2008

Old Rewound Motor: 18.5 KW, Efficiency: 88%

New Energy Efficiency Motor: 18.5 KW, Efficiency: 92.5 %

Quantity : 1 Nos

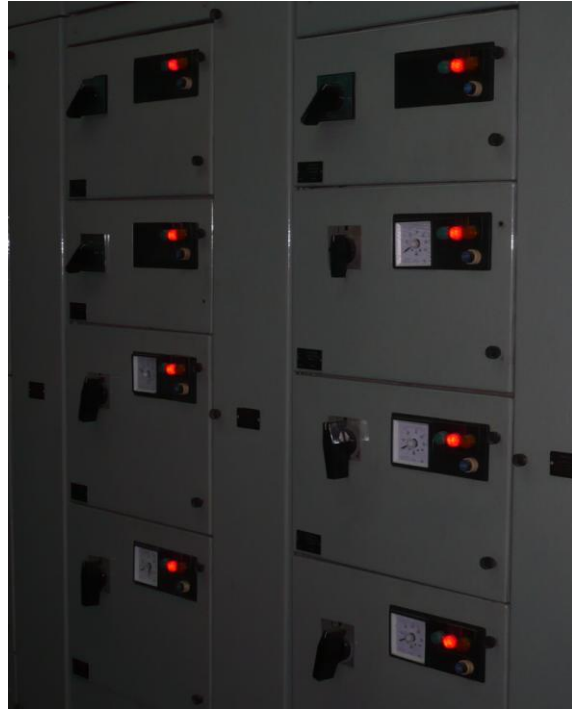
Saving in Rs./Yr.: 34365

Saving in Energy/Yr. : 6872 KWH

Price of AC Motors: Rs. 33258 /-

Pay Back Period: 0.96 Yrs.

REPLACEMENT OF FILAMENT TYPE INDICATION LAMPS
WITH LED TYPE INDICATION LAMPS
AT VARIOUS LOCATIONS ON PANELS



Year of Installation : 2007-2008

WATTS (FILAMENT LAMP) : 7W

WATTS (LED LAMPS) : 0.5W

Quantity : 400 Nos

Saving in Energy/Yr.: 5616 KWh (considering $\frac{1}{4}$ lamps glowing continuously)

Saving in Rs./Yr. : 28080/-

Price of Lamps: Rs. 30000 /-

Pay Back Period: 1 Yr. (considering $\frac{1}{4}$ lamps glowing continuously)

Average life of one LED lamp is considered as 10 Yrs.

**REPLACEMENT OF 40W FLUORESENT TUBE LIGHT
WITH 36W TUBE.**



Year of Installation – 2007 - 2008

Locations: Elect. Sub stations, Control rooms, Canteen, Guest house, Office.

Quantity: Approx. 500 nos.

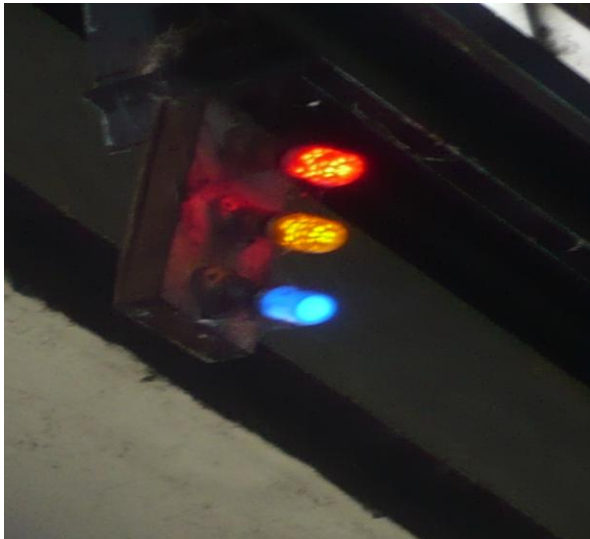
Saving in Energy/Yr.: 8640 KWh (considering $\frac{1}{4}$ lamps glowing continuously)

Saving in Rs./Yr. : 43200/-

Carried out as routine replacement after failure of old tube rods.Thus NO extra investment.

REPLACEMENT OF EOT CRANE DSL-POWER INDICATOR LAMPS
(INCANESCENT-TYPE60W)
WITH NEW LED TYPE LAMPS

IN 2-BAYS



Year of Installation – 2007 - 2008

Location : Plant BC-Bay and CD-Bay (Total 12 nos of LED lamps)

Old 60 W Incandescent Lamps were replaced with 1.5W LED Type Lamps.

This has reduced power consumption and reduced its frequent failure due to vibration.

Energy Saving /Yr. : 6013KWH

Saving in Rs./Yr. : 30067

Total Cost .: Rs 5400/- (with 2 yrs of service life)

Pay Back period : With in 2 Months.

Major Projects implemented for energy conservation during 2006-07

1. Installation of variable frequency drive 75 KW at CRM in Fume exhaust Motor



FUME EXHAUST SYSTEM : 75KW VFD



FUME EXHAUST SYSTEM : 75 KW AC MOTOR

One no. Variable frequency drive was installed to stop the fume exhaust motor during no coil rolling period in cold rolling mill thereby reducing the fix power consumption of cold rolling mill. (Frequent start /stop was not advisable with earlier 75 KW DOL starter, hence Fan was running continuously during no coil rolling period.) Due to this modification power consumption in cold rolling mill area is reducing @10,000 kwh/month.

Thus expected Annual Energy saving will be Rs.1.2 lacs/year.

Investment : Rs. 2,66,074.00

Date of Installation /Commissioning : 15-09-2006

Saving in Kwh till March 2007 : 71,695 kwh,

Saving in Rs. Till march 2007 @ 4.53 Rs./kwh : **Rs. 3,24,778 .00**

2. Installation of variable frequency drive 110 KW at CRM in Roll Coolent Feed Pump Motor . 2006 - 2007



ROLL COOLENT FEED PUMP 110KW VFD



ROLL COOLENT FEED PUMP AC MOTOR

One no. Variable frequency drive was installed to stop the feed pump motor during no coil rolling period in cold rolling mill thereby reducing the fix power consumption of cold rolling mill(Frequent start /stop was not advisable with earlier 110KW DOL starter, hence pump was running continuously during no coil rolling period.) Due to this modification power consumption in cold rolling mill area is reducing @ 15000 kwh/month.

Thus expected Annual Energy saving will be Rs.1.8 lacs/year.

Investment: Rs. 3,92,562.00

Date of Installation /Commissioning: 15-02-2007

Saving in Kwh till March 2007 : 28,000 kwh,

Saving in Rs. Till march 2007 @ 4.53 Rs./kwh : **Rs.1,26,840.00**

3. Installation of Separate Air Compressor in Cut-to-length line.

2006 - 2007



AIR COMPRESSOR PANEL 18.5 KW

One no. Separate Air compressor 18.5 kw was installed in Cut-to-length line for providing Compressed air supply to the machine. Earlier air supply was through centralized 125 kw compressors which has to run some times only for CTL machine. Due to this modification power consumption is reduced to 3000 Kwh/month.

Thus expected Annual Energy saving will be Rs.0.36 lacs/year.

Investment: Rs. 2, 70,000.00

Date of Installation /Commissioning: 05-11-2006

Saving in Kwh till March 2007 : 2000 kwh,

Saving in Rs. Till march 2007 @ 4.53 Rs./kwh : **Rs. 9060 .00**

4.1

Various Energy saving Measures in Plant Lighting 2006-2007



20 W CFL
in place of
40W Tube
Light.



90W CFL
in place of
150W
sodium
vapor
lamp.



27 W CFL in place of 160 W mercury lamp

90 W CFL in place of 150W HPSV lamp

1. Total 68 nos. 20W CFL replaced in place of 40w tube lights. These were installed in August 2006 with investment of Rs. 7140 and Kwh saving of 5875kwh till March 2007 ie saving of Rs. 26,613.00

2. Total 05 nos. 27W CFL replaced in place of 160w Mercury lights. These were installed in March 2007 with investment of Rs. 1275 and Kwh saving of 95 kwh till march 2007 ie Saving of Rs. 433.00

3. Total 20 nos. 90W CFL replaced in place of 150w HPSV lights . These were installed in March 2007 with investment of Rs. 14,500 and Kwh saving of 432 kwh till march 2007 ie. Saving of Rs. 1957.00

(Above modifications were made considering required lumen in the area is not affected.)

4.2 Various Energy saving Measures in Plant Lighting 2006-2007



250 w Metal halide lamp in place of 400w HPSV lamps.

1. Total 8 nos. 250W Metal Halide lamps were replaced in place of 400w HPSV lights. These were installed in March 2007 with investment of Rs. 23130 and Kwh saving of 432 kwh till march 2007 ie Saving of Rs. 1957.00

(Above modifications were made considering required lumen in the area is not affected.)
