

DIESEL LOCO MODERNISATION WORKS Patiala (Punjab)

Unit Profile

DMW is a state-of-the-art Production Unit of the Indian Railways in Punjab, having integrated facilities to manufacture, upgrade & rehabilitate Locomotives and extend maintenance support to the Diesel Locomotive fleet of Indian Railways by providing high precision components and sub assemblies. Diesel Component Works (DCW) was set up at Patiala with the laying of foundation stone on October 24, 1981 and production started in 1986.

The Midlife Rehabilitation of Diesel Locomotives was started in 1989 after a service life of 18 years. The name of Diesel Component Works (DCW) was changed to Diesel Loco Modernisation Works (DMW) in July, 2003 to signify the modernisation of Diesel Locomotives being done. DMW has, now, also started manufacture of new 3300 HP ALCO Locomotives since March 2011 and turned out 225 WDM3D locomotives till march15. Two Multi Gen Set locos have also been rolled out till March, 2014.



PRESENT ACTIVITIES AT DMW:

- Manufacture of 2400 HP Multi Gen set and WDM 3D with 3300 HP Loco
- Rehabilitation & Upgradation from 2600HP to 3100/3300 HP & Modernization of Diesel Locos.
- Manufacture and Re-manufacture of Power Packs (3100/3300 HP)
- Manufacture of 345 types of high precision & critical components required for open line maintenance.
- Manufacture of WDM3A/ WDG3A/ WDM3D type Motorized Wheel Sets Assembly for 3100/3300 HP Locos
- Manufacture/Remanufacture of High speed Bogies for WDM3D and WDM3A Locos
- Rehabilitation of Engine Blocks & Traction Machines
- Manufacture & Supply of all types of Carbon Brushes of Diesel Locos to Zonal Railways.

Energy Consumption

Year	No. of units consumed in workshop (in kWh lacs)	Cost of electric consumption (in lacs of Rs.)	Production outturn in lacs of Rs.	Total energy used (in kWh lacs) in DMW/WS & Colony	Cost of electric power consumption per lac Rs. of production (energy Index)	Average power factor
1995-96	138.94	287.35	16181.42	164	1775.80	0.95
1996-97	118.55	288.54	16562.98	148.29	1742.07	0.95
1997-98	119.49	314.45	18479.38	151.04	1701.62	0.95
1998-99	117.58	341.41	20342.85	153.24	1678.26	0.95
1999-00	123.14	385.82	22503.83	159.56	1714.47	0.97
2000-01	126.86	427.74	25067.47	161.90	1706.35	0.98
2001-02	125.26	439.56	26783.22	159.89	1641.18	0.97
2002-03	126.75	475.82	29695.56	161.25	1602.33	0.97
2003-04	139.24	545.77	29828	170.12	1829.73	0.98
2004-05	140.52	545.19	31102	173.35	1752.89	0.98
2005-06	140.60	555.81	35097	174.76	1583.63	0.98
2006-07	151.33	604.51	40912	191.4	1477.59	0.98
2007-08	148.60	600.39	52519	200.95	1143.18	0.98
2008-09	148.46	619.36	68248	199.75	907.5	0.97
2009-10	148.05	673.39	85295	202.28	789.48	0.98
2010-11	137.12	594.19	107173	192.83	554.42	0.98
2011-12	106.41	575.30	119630	157.66	480.90	0.99
2012-13	105.64	652.37	145500	159.22	448.37	1.00
2013-14	114.88	779.03	173789	168.36	448.26	1.00
2014-15	120.98	785.08	170319	175.59	460.95	1.00

Note:

- 1) Power factor maintained by DMW is **one of the best among the industries in Punjab.**
- 2) The increase in consumption during 2014-15 is due to induction of additional M&P in workshop and commissioning of additional pumps for water supply.

Energy Conservation Measures During 2014-15

1. Occupancy Censors provided in Officer's chambers in Admn. Bldg , D.MW Workshop and colony and Doctor's chambers in DMW hospital.
2. VFDs are provided for efficiency in high capacity centralized AC plant in DMW.
3. Improvement and safety up-gradation of DMW staff Col .II residential area MDB/SDB (Network strengthening in DMW/PTA).
4. 400W HPMV light fitting replaced with 250W MH high bay light fittings in various shops in workshop area.
5. Energy efficient submersible pumps are provided in lieu of higher consuming pumps.
6. For reducing the line losses and strengthening the power supply system in workshop & colony total HT cable laid 11.5 kms & LT cable laid 77 kms during the last three years.
7. T-12 fittings are replaced with T-5 fittings 1x28W.
8. Resistance type Ceiling fan regulators are replaced with energy efficient electronic type ceiling fans regulators.
9. 90 W ceilings fans are replaced with energy efficient 60W ceilings fans.
10. 70W/120W Mercury tube lights for street lights are replaced with 25 W/65 W LED lights.
11. Star rated appliances viz. AC's/Geysers are provided.
12. Solar geysers are provided in Hospital and Rest houses.

Energy Plans

- Solar power plant of 50 KW in DMW hospital and 2 MW in DMW complex up to 2016-17 and 2017-18.
- Replacement of old 90 W ceiling fans by 60W Energy Efficient ceiling fans with electronic regulators – 6000 Nos. up to 2017-18.
- Replacement of Energy Efficient LED bulbs in place of 60/40 watt incandescent lamps – 1571 nos. up to 2016-17.
- Provision of LED light in place of T-12 TL fittings – 5800 nos. up to 2017-18.
- Replacement of HPMV 400 W high bay light fittings with LED light fittings – 400 nos. up to 2016-17.
- LED lights for high masts & watch towers – 8 nos. each up to 2015-16.

- Water level controllers for O/H tanks – 10 nos. up to 2016-17.
- Star rated geysers 25 ltrs – 43 nos. up to 2015-16.
- LED Street light fittings – 1024 nos. up to 2016-17.
- Dry type Transformers 1000 KVA- 3 nos. 500KVA – 3 nos. up to 2015-16.
- Quarters rewiring using copper wires – 1100 nos. up to 2017-18.
- Piped Day light in shops (solar reflection based lights) up to 2017-18.
- Energy efficient AC plant for EDP centre up to 2016-17.
- Variable frequency drive for pumps – 36 nos. up to 2016-17.
- Solar Geyser for Type-V quarters - 50 nos. up to 2017-18.
- Solar water geyser for RPF barrack & canteen up to 2016-17.
- Smart energy saver LDBs – 100 nos. for W/S lighting circuit up to 2017-18.
- Replacement of Underground compressed Air pipe line with O/H pipe line (Mech.Deptt) up to 2017-18.
- AC drive with VF control for cranes (Mech.Deptt) up to 2017-18.
- Transvector type nozzle for air cleaning (Mech Deptt) up to 2017-18.
- Water Recycling plant (Civil) up to 2016-17.
- Sun film on windows/ventilator glasses of AC area facing sun against solar protection (Civil Deptt) up to 2016-17'.