



PATIALA LOCOMOTIVE WORKS, PATIALA

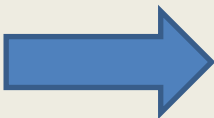
Sh. Bipan Kumar Sharma
Dy. CEE/ES & Plant

1. Brief introduction on Company/Unit

- ❖ Patiala Locomotive Works (PLW) Patiala a premier production unit of Indian Railways was set up in 1981 as DCW to manufacture critical engine components of Diesel Locomotives.
- ❖ Production started in the year 1989.
- ❖ The name of DCW changed to DMW in July 2003
- ❖ In 2010 It also started manufacturing new Diesel Locomotives with 120 locomotives per year.
- ❖ It produced its first 3-Phase, WAP7 New Electric Locomotive in Feb. 2018.
- ❖ It also manufactures New Diesel Electric Tower Car (DETC), WAG-9HC, Rewinding of Traction Motors and Manufacture of Coils
- ❖ The name of DMW changed to PLW in Feb' 2022
- ❖ Total WAP-7 - 202 Nos., DETC – 237 Nos., WAG-9HC – 157 Nos. rolled out from this unit till July-2022

1. Brief introduction on Company/Unit

- ❖ It will also permit use of energy produced through Renewable sources by Installing *2.15 MWp roof top SPP*.
- ❖ PLW is equipped with following standards
- ❖ ISO 50001:2018, ISO 9001:2015, ISO 14001:2015, ISO 45001:2018, ISO/TS 22163:2017, ISO 3834-2:2005 & 5-S certifications.

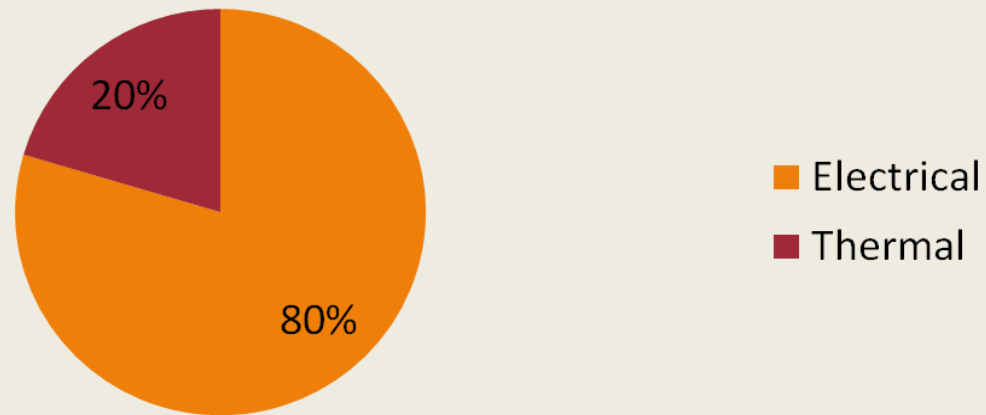


2. Energy Consumption Overview

Overall Eenergy Cconsumption and Production Data.

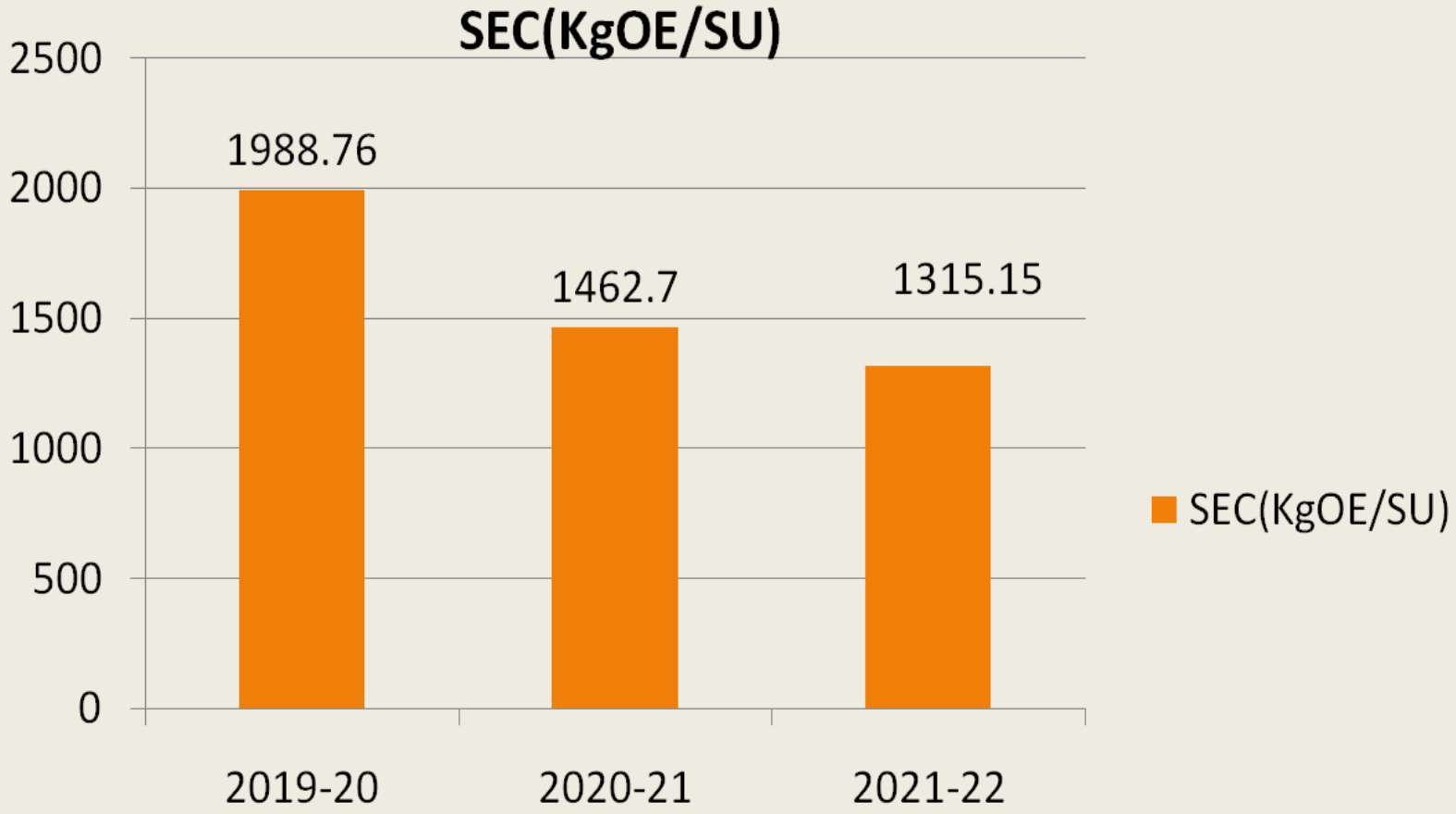
#	FY	Overall Energy Consumption (KgOE)	No. of Unit Produced (SU)	SEC (KgOE/SU)	% Impr. w/r/t. prev. Yr
1	2018-19	1020649.18	458.76	2224.76
2	2019-20	888537.48	446.91	1988.15	10.63
3	2020-21	542592.08	371.31	1462.70	26.42
4	2021-22	556216.29	422.92	1315.15	10.08

2. Energy Consumption Overview



- ❖ Thermal and Electrical Energy Consumption Pie Chart-2021-22
 - Thermal energy consumption – 1115.1629 Million KCal
 - Electrical Energy consumption – 5.049 Million kWh
 - Overall energy consumption – 5562.16 Million KCal

3. SPECIFIC ENERGY CONSUMPTION (THERMAL & ELECTRICAL) TREND



4. INFORMATION ON COMPETITORS, NATIONAL & GLOBAL BENCHMARK

Baseline Year (2018-19) **SEC-** **2294.601 KgOE/Unit**

Reduction in **SEC-** **2113.787 KgOE/Unit**

Target Year - **2024 - 25**

Achieved during 2021-22 ---- **1315.158 KgOE/Unit**

- ❖ ***Participation in National level and State Level events for evaluation for gaining knowledge in the field***

4. ENCON PROJECT PLANNED FOR FY 2022-23

#	Energy Conservation Projects	Annual Elect. Saving (In Lakh KWH)	Investment (Rs. Lakhs) & pay back (In Yr) (Appx)	Comment
1	Spread awareness among staff to avoid Man Made Wastages.	0.02		
2	Switch OFF lights, fans and AC wherever not required.			
3	Keep the AC temperature between 26°C to 28°C			
4	Efficient use of Electrical Power, Fuels and Water.			
5	Review of distribution transformer loading.	0.005	0	
6	Saving by improving performance of air compressor MW 1341	0.58	1	

4. ENCON PROJECT PLANNED FOR FY 2022-23

#	Energy Conservation Projects	Annual Elect. Saving (In Lakh KWH)	Investment (Rs. Lakhs) & pay back (In Yr) (Appx)	Comment
7	Saving by applying High emissivity paint on furnace interior for Stress relieving furnace in HMS	0.04	0.4	
8	Saving by applying High emissivity paint on furnace interior for 9 drying furnaces of TMS.	0.04	0.5	
9	Saving by replacement of centralized AC plant in Tool Room, LMS,HMS and CNC Area with provision of exhaust fan, additional air circulating fans.	2.56	3.6	
10	Saving by installing EE Pumps in Paint Shop.	0.13	1.2	
11	Saving by replacement of Bore well pumps by EE pumps in colony and Workshop.	1.12	12	

5. ENERGY SAVING PROJECTS IMPLEMENTED IN LAST THREE YEARS

Year	No of Proposals	Investments (In Rs. Million)	Savings (In Lakh KWh)
2019-20	8	4.10	6.84
2020-21	6	3.03	7.27
2021-22	6	3.60	6.19

5. ENCON PROJECTS DETAIL FOR FY 2019-20

#	Project Details	Investment	Annual Saving	Pay back (Yr)
		(In Rs. Lakh)		
1	Vigorous counseling and sensitization of staff about Energy Conservation.	0	5.91	Immediate
2	Provision of LED based lights(200W & 120W) in lieu of conventional light (400W & 250W)--20+40= 60 Nos	5	2.95	2
3	Improvement in compressed air system (a) Commissioning of 2 Nos. Digital microprocessor based controller. (b)Replacement of Under ground Over aged compressed air pipe line with new over head- 80 Meters. (c) Procurement of 3 No. baby compressors for individual shop use	29.40	21.76	1.5
4	Close Monitoring and Reduction in working hours of Water Pumping Installations	0	6.92	Immediate

5. ENCON PROJECTS DETAIL FOR FY 2019-20

#	Project Details	Investment	Annual Saving	Pay back (Yr)
		(In Rs. Lakh)		
4	Close Monitoring and Reduction in working hours of Water Pumping Installations	0	6.92	Immediate
5	Replacement of Conventional light of different wattage with suitable wattage LED. (60W,30W,72W,36WLED)- 240 Nos.	3.7	4	1
6	Provision of new Energy Efficient ceiling fans in workshop area - 180 Nos.	2.07	0.75	3
7	Replacement of 40/36 W T12/T8 Florescent tube rods with Energy Efficient 20 W LED.- 400Nos.	0.98	1.86	0.5
8	Operation of AC compressors from 15th May to 30 th Sept., Sealing of AC areas leakages., No operation of AC plants after 8 PM. Only AHU,s are to be switched ON.	0	8.99	Immediate

5. ENCON PROJECTS DETAIL FOR FY 2020-21

#	Project Details	Investment (Rs. Lakhs)	Annual Saving (In Rs. Lakh)	Pay back (Yr)
1	Awareness Program toward Energy Conservation and close monitoring of energy consumption.	0	4.16	Immediate
2	Reduction in Contract demand from 7000 KVA to 5000 KVA and its monitoring	0	51.12	Immediate
3	Procurement of Metal ARC welding machine with DC ARC welding rectifier - 2 Nos.	8.40	1.66	5
4	Procurement of Compressed air blower gun with silent nozzle.- 98 Nos.	3.76	2.41	1.5
5	Procurement of Battery Operated Platform Truck - 4 Nos.	18.19	2.79	6.5

5. ENCON PROJECTS DETAIL FOR FY 2020-21

#	Project Details	Investment (Rs. Lacs)	Annual Saving (In Rs. Lakh)	Pay back (Yr)
6	<p>System improvements in Compressed Air System</p> <p>(A) Barest minimum number of compressors operated in staggered mode as per actual requirement of air in various shops.</p> <p>(B) Regular monthly joint survey conducted in all shops and air leakage has been arrested on top priority.</p> <p>(C) 30 new compressed air pipe line at 2 feet height from ground level has been commissioned between PMS and HMS in place of old underground and over aged compressed air pipeline. It eliminated accumulation of moisture in underground pipe lines</p>	0	49.47	Immediate

5. ENCON PROJECTS DETAIL FOR FY 2021-22

#	Project Details	Investment (Rs. Lakhs)	Annual Saving (In Rs. Lakh)	Pay back (Yr)
1	Awareness Program towards Energy Conservation and close monitoring of energy consumption.	0	4.39	Immediate
2	Replacement of Existing submersible pumps (6Nos.) with Energy Efficient submersible pumps- Capacity 30 HP - 2 Nos 35 HP - 2 Nos 41 HP - 2 Nos	5.76	4.91	15
3	Replacement of Centalized AC Plant of Tool Room/LMS and HMS CNC area with the provision of Exhaust Fans, Additional Air Circulator Fans	3.6	22.45	2
4	Procurement of Battery operated platform truck- 6 Nos.	26.81	4.42	77
5	System improvements in Compressed Air System & its Decentralisation (i) Barest minimum number of compressors operated in staggered mode as per actual requirement of air in various shops. (II) As per FAD test report (Performance test) carried out during Energy Audit Compressor No. MW1341 need maintenance.	0	15.52	0
6	Optimum use and Close monitoring of Oven/Furnaces Insulation and Temperature	0	2.63	0

6. INNOVATIVE PROJECTS IMPLEMENTED LAST 3 FY.

- ❖ Reduction in Contract demand from 7000 KVA to 5000KVA. Further reduction to 4000KVA (Case processed fee deposited with PSPCL)
- ❖ Commissioned 2 Nos. Smart Microprocessor Based Flow Controller in Compressed Air System
- ❖ Installation of 4 Nos. baby compressors for individual machine
- ❖ Installation of Robotic welding Machine.
- ❖ Improvement in environment in AC areas for CNC Machine.
- ❖ Mass Awareness campaign to conserve energy against Man Made Wastages
- ❖ Close Monitoring of Power Factor.
- ❖ Close watch on AC set temperature between **26 °C to 28 °C**
- ❖ Close monitoring of Energy and Water consumption on daily, monthly and yearly basis

Adopting all above, resulting reduction of appx. 10% in SEC during the FY 2021-22 w.r.t. 2020-21



7. UTILISATION OF RENEWABLE ENERGY SOURCES

Onsite Renewable Energy Generation details

#	Year	Capacity Installed (In KWp)	Annual Solar Generation (In KWh)	Cost Gain (In Rs. Lakh)	Investment (In Rs. Lakh)	% Contribution in overall Elec. Consumption
1	2017-18	2150	6,68,268	46.84	788.22	3.88
2	2018-18	2150	26,49,308	220.68	0	17.19
3	2019-20	2150	27,03,073	210.02	0	18.35
4	2020-21	2150	26,22,320	217.65	0	23.44
5	2021-22	2150	21,55,410	189.02	0	20.38

8. WASTE UTILIZATION AND MANAGEMENT

❖ 1. Waste Recycling

S. No	Year	Type of waste generated (MT/year)		Quantity of waste generated (MT/year)	Compost Manufacture (MT/year)	Disposal method
		Wet Waste	Dry Waste			
1	2018-19	134	30.76	164.76	13.4	Recycling. i.e. Segregation and finally Organic compost
2	2019-20	131.76	28.16	159.92	13.7	
3	2020-21	185.58	28.80	214.38	18.55	
4	2021-22	224.61	45.08	269.69	21.60	

8. WASTE UTILIZATION AND MANAGEMENT

❖ 2. Disposal of Scrap Material

S.No	Year	Type of waste generated	Quantity of waste generated (MT/year)	Amount of Scarp Material (In Crore)	Disposal method
1	2018-19	Miscellaneous ferrous/Non ferrous material	6787	34.27	E-Auction
2	2019-20		8366	33.57	
3	2020-21		4549	32.14	
4	2021-22		3990.30	1795.021	

❖ 3. Utilization of Waste Water.

Provided 21 Nos. Rain Water Harvesting System pits & 3Nos. are under construction.

Utilization of treated water of STP for irrigation purpose in PLW Stadium, parks and inside workshop for plantation areas

9. GHG INVENTORISATION

S.No.	Year	Total Kg Co2/Ton of Final Product
1	2018-19	5037.92
2	2019-20	5279.99
3	2020-21	6192.62
4	2021-22	4430.97

10. GREEN SUPPLY CHAIN MANAGEMENT

- ❑ ***Green Purchase Policy.***
- ❖ ***E- Tendering***
- ❖ ***E-Pass/PTO to staff/employees***
- ❖ ***E-Procurement***
- ❖ ***E- office work***
- ❖ ***E- Payment to firms/contractors***
- ❖ ***E- Auction of scrap***
- ❖ ***E- Awareness towards energy conservation through electronic media***
- ❖ ***Digitalization of PLW Hospital activities.***
- ❖ ***E-Complanits attending system***
- ❖ ***E-HRMS***

10. GREEN SUPPLY CHAIN MANAGEMENT

Action Plan to expanding the "Green Supply Chain" activities.

- ❖ Utilised abandoned (since last 30 years) roof tops of workshop & Adm Bdg area**
- ❖ Decrease in inside temperature i.e. 2 °C to 4 °C in each location where Rooftop Solar Power Panels have been installed.**
- ❖ Limitations were there with SDA not to go for more than 1MW with single power supply connection. Petition was filed with State Electricity Regulatory Commission Chandigarh to enhance the limit as Plant is already functioning. Request was turned down and advised to go in CPP mode which is not beneficial for PLW. Plenty of space on roof tops of different another shops and service buildings is available for installation of SPP. As per latest policy of state DISCOM i.e. PSPCL limit has been reduced to 500 KW for single power supply connection. Our humble submission to Ministry of Power, CII and MNRE to arrange enhancement limit upto 5 MW through net metering. With this PLW/PTA production unit of INDIAN Railways will be 100 % on Green Energy.**

11. TEAMWORK, EMPLOYEE INVOLVEMENT & MONITORING

- ❖ ***“Jago Yatra”*** in residential area of PLW Complex involving Primary School Children.
- ❖ **Organised Seminars in Technical Training Centre**
- ❖ **Group discussion at various level to adopt Energy Conservation Measures.**
- ❖ **Training of Supervisors and Staff trained towards Energy Conservation through Electronic media**
- ❖ **Fixed responsibility of supervisors of workshop areas for spreading awareness towards Energy Conservation and Adoption of various Energy Conservation Measures.**
- ❖ **Poster & Slogan Competition regarding Energy Conservation organized during Energy Conservation Week-2020.**

11. TEAMWORK, EMPLOYEE INVOLVEMENT & MONITORING

Review meeting chaired by Head of the Department

Separate budget for Energy Conservation- No

Energy Efficiency / Awareness training program

- ❖ Formation of Energy Cell**
- ❖ Awareness campaign against Man-Made Wastages**
- ❖ Counseling at shop floor levels by Energy Cell Team.**
- ❖ Individual Staff / Officer awareness in Offices /Halls and Workshop area.**
- ❖ Monitoring of Energy Consumption at Dy.HOD, HOD,PHOD & Head of the organisation levels.**
- ❖ *Monitoring by Railway Board officials of Energy Cell***

11. TEAMWORK, EMPLOYEE INVOLVEMENT & MONITORING

Counseling of Staffs towards Energy Conservation.



11. TEAMWORK, EMPLOYEE INVOLVEMENT & MONITORING

“Jago Yatra” in residential area of DMW Complex involving Primary School Children.



11. TEAMWORK, EMPLOYEE INVOLVEMENT & MONITORING

“Painting competition” involving Primary School Children.



“Essay competition” involving PLW employees



11. TEAMWORK, EMPLOYEE INVOLVEMENT & MONITORING

Training of Staff towards Energy conservation.

❖ Total 73 Supervisors and 518 Employees have been trained for Energy Conservation Awareness during FY 2021-22 in TTC (Technical Training Centre)

Monitoring system

- ❖ ***Energy consumption is being monitored on hourly basis at MAIN RECEIVING STATION of 66 KV grid round the clock.***
- ❖ ***Daily monitoring at Deputy HOD level of Electrical Department.***
- ❖ ***Analysis of Monthly consumption report of each shop /service buildings for comparison with last month and last year same period and compilation in Energy Cell.***
- ❖ ***Monthly PCDO to Railway Board through HOD .***
- ❖ ***Monitoring at Railway Board level.***
- ❖ ***Submission of Form -1 of each FY before 30th June to BEE, PEDDA (SDA) & Railway Board under PAT CYCLE Scheme.***

11. IMPLEMENTATION OF ISO 50001/GREEN Co/IGBC RATING

❖ PLW Certified with ISO 50001:2018



CERTIFICATE OF REGISTRATION

INTERCERT hereby certifies that the Energy Management System of

Diesel Loco Modernisation Works

Diesel Loco Modernisation Works, Patiala-147003, India

Has been successfully assessed as per the requirements of

ISO 50001:2018

For the scope of

All Activities of Diesel Loco Modernisation Works Carried out for Manufacture/ Re-Manufacture and Up-gradation of Motive Power Rolling Stock Sub-assemblies including Spares. Besides that it includes Administrative Building, Hospital and Water Installation Located in Colony and Workshop.

Initial Certification Date : 22-06-2020
 Certificate Issue Date : 22-06-2020
 Surveillance Validity Date : 21-06-2021
 Recertification Date : 21-06-2023

Registration Number: IC-En-2006057



Signature
 Issued on behalf of InterCert
 Head - Certifications



The validity of this certificate can be verified at www.intercert.com or through email at info@intercert.com. This certificate is the property of INTERCERT and must be returned on request. Accreditation details are available with IAS, (International Accreditation Services) Inc. USA at www.iasonline.org

❖ PLW received a certificate Green Co Gold in the month of October 2017



❖ PLW achieved “Platinum Rating” for its Administrative Building in March 2019 from Confederation of Indian Industry (CII)



14. LONG TERM VISION ON EE

- ❖ Provision of 2 MWp Solar Power Plant if amendment in Policy by CERC and concerned DISCOM for enhancement of current limit from 500KW to 5 MW.
- ❖ Case study of Over aged Overhead Crane- 8 nos.
- ❖ Case study of water distribution system.
- ❖ Implementation of SMART Energy Monitoring System.
- Support required to achieve these targets
 - ❖ Technical support
 - ❖ Supplier engagement, etc.

AWARDS AND ACHIEVEMENTS

- ❖ **PLW received** Certificate of Green Co Gold in the month of October 2017.
- ❖ ***Punjab Energy Development Agency (2018) ---- 2nd Position at State Level Energy Conservation Award.***
- ❖ ***Smart City India Award 2019, -----1st Position for Green Energy***
- ❖ ***Punjab Energy Development Agency (2019)---- 2nd Position at State Level Energy Conservation Award.***
- ❖ ***Participated in 20th National Award for Excellence in Energy Management 2019 organized by CII HYDERABAD***
PLW/PATIALA declared an” Energy Efficient Unit “ in the event.
- ❖ ***National Energy Conservation Award 2019 -----1st position among PUs of INDIAN RAILWAYS.***



AWARDS AND ACHIEVEMENTS

- ❖ Participated in 21st National Award for Excellence in Energy Management 2019 organized by CII HYDERABAD
DMW/PATIALA declared an “*Energy Efficient Unit*” in the event.
- ❖ *1st Rank from Municipal Corporation Patiala in the field of cleanliness for DMW colony for the year 2020.*
- ❖ *Golden Peacock Energy Efficiency Award ----- Winner among Government (Railway) sector for the year 2020.*
- ❖ *Punjab Energy Development Agency (2020) ----- 2nd Position at State Level Energy Conservation Award for the year 2020.*
- ❖ DMW also participated in ‘22nd National Award for Excellence in Energy Management’ organized by CII Hyderabad from 24-27 August 2021 and has been conferred with ‘Energy Efficient Unit’ continuously for the 3rd year.

ANY OTHER RELEVANT INFORMATION

Major Achievements-

- ❖ It is worth mentioning here that 568 ESCerts have been finalized and accepted by BEE to DMW during M&V Audit of PAT Cycle-II and 2nd highest among Railway production Unit***

Thank You

dycee@dmw.railnet.gov.in/9779242301

ISO CERTIFICATES

❖ ISO 50001:2018



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Arundhati Kishan
Issued on behalf of InterCert
Head - Certifications



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ISO 9001:2015,



फॉर्म III (स्कीम-III के पैरा 3 के उप-पैरा (5) को देखें)
Form III (Refer Sub-Para (5) of Para 3 of Scheme III)

भारतीय मानक ब्यूरो BUREAU OF INDIAN STANDARDS

गुणता प्रबंध पद्धति प्रमाणन लाइसेंस
LICENCE FOR THE QUALITY MANAGEMENT SYSTEMS CERTIFICATION
राष्ट्रीय प्रत्यायन प्रमाणन निकाय बोर्ड, नई दिल्ली द्वारा प्रत्यायित
(Accredited by National Accreditation Board for Certification Bodies, New Delhi)

अनुज्ञप्ति सं / Licence No./NR/QM/L - 9002070.5

ब्यूरो, भारतीय मानक ब्यूरो अधिनियम, 2016 (2016 का 11) प्रदत्त शक्तियों के तहत पर निम्नलिखित को IS/ISO 9001:2015 में पुनः प्रमाणित करता है:

By virtue of the power conferred on it by the Bureau of Indian Standards Act 2016 (11 of 2016), the Bureau hereby recertify to IS/ISO 9001:2015 :-

मै. डीजल रेल इंजन आधुनिकीकरण कारखाना, M/s Diesel Loco Modernization Works
रेल मंत्रालय (डी एम डबल्यू), Ministry of Railways (DMW),
पटियाला (पंजाब) - 147003 Patiala (Punjab) - 147003

को (जिसे इसमें इसके पश्चात इसे अनुज्ञप्तिधारी कहा गया है) इस अनुसूची में वर्णित विशेष तौर पर उत्पाद एवं/या सेवाओं की प्रक्रियाओं के संबंध में ब्यूरो के गुणता प्रबंध प्रणाली प्रमाणन के अनुज्ञप्तिधारकों की ब्यूरो की सूची में इस अनुज्ञप्ति के अनुसार इसी संख्याधारक को अधिकार एवं अनुज्ञप्ति सूचीबद्ध किया जाए। आईएस/आईएस ओ 9001:2015 के अनुसार गुणता प्रबंध प्रणाली के अधीन उक्त दिए गए पते (पते) पर केवल अनुज्ञप्तिधारक द्वारा ऐसे उत्पाद एवं/या सेवाओं प्रक्रियाओं को निर्मित किया/उपलब्ध कराया/ चलाया जायेगा। (hereinafter called the Licensee) the right and licence to be listed in the Bureau's List (s) of Licensees of Quality Management Systems Certification in respect of the products and/or services of process particularly described in the schedule hereto, bearing the same number as this licence. Such products and/or services or processes shall be manufactured/ provided/carried out by the Licensee at only the address(es) given above, and under the Quality Management Systems in accordance with IS/ISO 9001:2015

अनुज्ञप्ति उक्त अधिनियम एवं उनके अधीन नियमों तथा विनियमों के संबंधित उपबन्धों की शर्त पर आईएस/आईएस ओ 9001:2015 में पुनः प्रमाणित किया गया है तथा उक्त संदर्भित अनुज्ञप्तिधारी को इसके तहत शामिल किया जाता है, तथा अनुज्ञप्तिधारक उक्त नियमों एवं विनियमों का पालन किए जाने के लिए ब्यूरो के प्रति प्रतिबद्ध है। The licence is recertified to IS/ISO 9001:2015 subject to the relevant provisions of the above Act and the Rules and Regulations made thereunder governing the licences referred to above, and the Licensee hereby covenants with the Bureau duly to observe with the said Rules and Regulations.

यह अनुज्ञप्ति 04/11/2019 से तारीख 24/01/2022 तक विधिमान्य रहेगा तथा विनियमों में यथा निहित पुनः प्रमाणन दिया जा सकेगा। This licence shall be valid from 04/11/2019 to 24/01/2022 and may be recertified as prescribed in Regulations.

तारीख नवम्बर 2019 के पौष १५ दिनों को हस्ताक्षरित एवं मुहरांकित तथा दिनांकित किया गया।
Signed, Sealed and Dated this 15th day of November 2019.

(N K Kansara)
(N K Kansara)
उप महानिदेशक (उत्तर)
कुल भारतीय मानक ब्यूरो
Deputy Director General (North)
for BUREAU OF INDIAN STANDARDS



ISO CERTIFICATES

❖ ISO 14001:2015



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M

S

फॉर्म III (स्कീम-III के पैरा 3 के उप-पैरा (5) को देखें)
Form III (Refer Sub-Para (5) of Para 3 of Scheme III)

भारतीय मानक ब्यूरो BUREAU OF INDIAN STANDARDS

पर्यावरण प्रबंध पद्धति प्रमाणन लाइसेंस
LICENCE FOR THE ENVIRONMENTAL MANAGEMENT SYSTEMS CERTIFICATION
राष्ट्रीय प्रत्यायन प्रमाणन निकाय बोर्ड, नई दिल्ली द्वारा प्रत्यायित
(Accredited by National Accreditation Board for Certification Bodies, New Delhi)

अनुज्ञप्ति सं / Licence No./NR / EM/L- 9000248.4

ब्यूरो, भारतीय मानक ब्यूरो अधिनियम, 2016 (2016 का 11) प्रदत्त शक्तियों के तहत पर निम्नलिखित को आई एस/आई एस ओ 14001 : 2015 में पुनः प्रमाणित करता है:
By virtue of the power conferred on it by the Bureau of Indian Standards Act 2016 (11 of 2016), the Bureau hereby recertify to IS/ISO 14001: 2015 to :-

मै. डीजल रेल इंजन आधुनिकीकरण कारखाना, M/s Diesel Loco Modernization Works
रेल मंत्रालय (डी एम डब्ल्यू), Ministry of Railways (DMW),
पटियाला (पंजाब) - 147003 Patiala (Punjab) - 147003

को (जिसे इसमें इसके पश्चात इसे अनुज्ञप्तिधारी कहा गया है) इस अनुसूची में वर्णित विशेष तौर पर उत्पाद एवं/या सेवाओं की प्रक्रियाओं के संबंध में ब्यूरो के पर्यावरण प्रबंध पद्धति प्रमाणन के अनुज्ञप्तिधारकों की ब्यूरो की सूची में इस अनुज्ञप्ति के अनुसार इसी संख्याधारक को अधिकार एवं अनुज्ञप्ति सूचीबद्ध किया जाए। आई एस/आई एस ओ 14001:2015 के अनुसार पर्यावरण प्रबंध प्रणाली के अधीन उक्त दिए गए पते (पते) पर केवल अनुज्ञप्तिधारक द्वारा ऐसे उत्पाद एवं/या सेवाओं प्रक्रियाओं को निर्मित किया/उत्पाद/कराया/चलाया जायेगा।
(hereinafter called the Licensee) the right and licence to be listed in the Bureau's List (s) of Licensees of Environment Management Systems Certification in respect of the products and/or services of process particularly described in the schedule hereto, bearing the same number as this licence. Such products and/or services or processes shall be manufactured/ provided/carried out by the Licensee at only the address(es) given above, and under the Environment Management Systems in accordance with IS/ISO 14001:2015

अनुज्ञप्ति उक्त अधिनियम एवं उनके अधीन नियमों तथा विनियमों के संबंधित उपबंधों की शर्त पर आई एस /आई एस ओ 14001:2015 में पुनः प्रमाणित किया गया है तथा उक्त संदर्भित अनुज्ञप्तियों को इसके तहत शामिल किया जाता है, तथा अनुज्ञप्तिधारक उक्त नियमों एवं विनियमों का पालन किए जाने के लिए ब्यूरो के प्रति प्रतिज्ञाबद्ध है।
The licence is recertified to IS/ISO 14001:2015 subject to the relevant provisions of the above Act and the Rules and Regulations made thereunder governing the licences referred to above, and the Licensee hereby covenants with the Bureau duly to observe with the said Rules and Regulations.

यह अनुज्ञप्ति 04/11/2019 से तारीख 24/01/2022 तक विधिमान्य रहेगा तथा विनियमों में यथा निहित पुनः प्रमाणन दिया जा सकेगा।
This licence shall be valid from 04/11/2019 to 24/01/2022 and may be recertified as prescribed in Regulations.

तारीख नवम्बर 2019 के पाँचवें दिन को हस्ताक्षरित एवं मुहरांकित तथा दिनांकित किया गया।
Signed, Sealed and Dated this 5th day of November 2019.

(N K Kansara)
उप महानिदेशक (उत्तर)
कुल भारतीय मानक ब्यूरो
Deputy Director General (North)
for BUREAU OF INDIAN STANDARDS



ISO 45001:2018



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फॉर्म III (स्कीम-III के पैरा 3 के उप-पैरा (5) को देखें)
Form III (Refer Sub-Para (5) of Para 3 of Scheme III)

भारतीय मानक ब्यूरो BUREAU OF INDIAN STANDARDS

व्यावसायिक स्वास्थ्य एवं सुरक्षा प्रबंध पद्धति प्रमाणन लाइसेंस
LICENCE FOR OCCUPATIONAL HEALTH & SAFETY MANAGEMENT SYSTEMS CERTIFICATION

अनुज्ञप्ति सं / Licence No./NR/OHS/L-9000159.5

ब्यूरो, भारतीय मानक ब्यूरो अधिनियम, 2016 (2016 का 11) प्रदत्त शक्तियों के तहत पर निम्नलिखित को आई एस/आई एस ओ 45001 : 2018 पुनः प्रमाणित करता है:
By virtue of the power conferred on it by the Bureau of Indian Standards Act 2016 (11 of 2016), the Bureau hereby recertified to IS/ISO 45001:2018 to :-

मै. पटियाला रेल इंजन कारखाना,
रेल मंत्रालय (पी एल डब्ल्यू),
पटियाला पंजाब - 147003

M/s Patiala Locomotive Works
Ministry of Railways (PLW),
Patiala Punjab - 147003

को (जिसे इसके बाद अनुज्ञप्तिधारी कहा गया है) इस अनुसूची में वर्णित विशेष तौर पर उत्पाद एवं/ या सेवाओं की प्रक्रियाओं के संबंध में ब्यूरो के व्यावसायिक स्वास्थ्य एवं सुरक्षा प्रबंध प्रणाली प्रमाणन के अनुज्ञप्तिधारकों की ब्यूरो की सूची इस अनुज्ञप्ति के अनुसार इसी संख्याधारक को अधिकार एवं अनुज्ञप्ति सूचीबद्ध किया जाए। आई एस/आई एस ओ 45001 : 2018 के अनुसार व्यावसायिक स्वास्थ्य एवं सुरक्षा प्रबंध प्रणाली के अधीन उक्त दिए गए पते (पते) पर केवल अनुज्ञप्तिधारक द्वारा ऐसे उत्पाद एवं/या सेवाओं की प्रक्रियाओं को निर्मित किया/उत्पाद/कराया/ चलाया जायेगा।
(hereinafter called the Licensee) the right and licence to be listed in the Bureau's List (s) of Licensees of Occupational Health & Safety Management Systems Certification in respect of the products and/or services of process particularly described in the schedule here to, bearing the same number as this licence. Such products and/or services or processes shall be manufactured/ provided/carried out by the Licensee at only the address(es) given above, and under the Occupational Health & Safety Management Systems in accordance with IS/ISO 45001:2018

अनुज्ञप्ति उक्त अधिनियम एवं इसके अधीन बनाए गए नियमों तथा विनियमों के संबंधित उपबंधों की शर्त पर आई एस/आई एस ओ 45001 : 2018 पुनः प्रमाणित किया गया है तथा उक्त संदर्भित अनुज्ञप्तियों को इसके तहत शामिल किया जाता है, तथा अनुज्ञप्तिधारक उक्त नियमों एवं विनियमों का पालन किए जाने के लिए ब्यूरो के प्रति प्रतिज्ञाबद्ध है।
The licence is recertified to IS/ISO 45001:2018 subject to the relevant provisions of the above Act and the rules and regulations made there under governing the licenses referred to above, and the Licensee hereby covenants with the Bureau duly to observe with the Bureau duly to observed with said Rules and Regulations.

यह अनुज्ञप्ति 10/05/2022 से तारीख 24/01/2025 तक विधिमान्य रहेगा तथा विनियमों में यथा रहित पुनः प्रमाणन दिया जा सकेगा।
This licence shall be valid from 10/05/2022 to 24/01/2025 and may be recertified as prescribed in Regulations.

यह तारीख मई 2022 के 11th दिन को हस्ताक्षरित एवं मुहरांकित तथा दिनांकित किया गया।
Signed, Sealed and dated this 11th day of May 2022

(Rajiv Sharma)
उप महानिदेशक (उत्तर)
कुल भारतीय मानक ब्यूरो
Deputy Director General (North)
for BUREAU OF INDIAN STANDARDS



ISO CERTIFICATES

❖ ISO 3834-2:2005



This is to certify that
DIESEL LOCO MODERNISATION WORKS
MINISTRY OF RAILWAYS, GOVT OF INDIA, PATIALA-147003,
PUNJAB, INDIA

has been independently assessed by QRO
and is compliant with the requirement of:

ISO 3834-2:2005

Quality Requirements for Fusion Welding of Metallic Materials

For the following scope of activities:

**MANUFACTURING AND REHABILITATION OF LOCOMOTIVES,
THEIR SUB ASSEMBLIES AND COMPONENTS**

Date of Certification: 25th November 2020
1st Surveillance Audit Due: 24th November 2021

2nd Surveillance Audit Due: 24th November 2022
Certificate Expiry: 24th November 2023

Certificate Number: 2020112533



Chunara

Head of Certification

Validity of this certificate is subject to annual surveillance audits to be done successfully on or before 365 days from date of the audit.
(In case of surveillance audit) is not allowed to be conducted: this certificate shall be suspended / withdrawn).

The Validity of this certificate can be verified at www.qvcert.com

This certificate of registration remains the property of QRO Certification LLP and shall be returned immediately upon request.
QRO Certification LLP is accredited by UK Accrediting Forum Limited, UK (www.ukaf.org.uk)
5 Jupiter House, Calvea Park, Aldermaston, Reading Berkshire RG78NN UK

India Office : QRO Certification LLP

142, 11nd Floor, Avtar Enclave, Near Paschim Vihar West Metro Station, Delhi-110063, (INDIA)
Website : www.qvcert.com, E-mail : info@qvcert.com

5 S certifications.



Certificate of Compliance

This is to certify that

DIESEL LOCO MODERNISATION WORKS

PATIALA - 147 003, PUNJAB, INDIA

has been assessed and certified by Quality Veritas Certification
Limited (UK) as meeting the requirements of

5S

Work Place Management System

For the following activities

**MANUFACTURE, RE-MANUFACTURE, UP-GRADATION AND MAINTENANCE OF
MOTIVE POWER ROLLING STOCK & ITS SUBASSEMBLIES AND SPARES**

Date of Registration : 28 October 2020
Certificate Expiry (subject to the company maintaining its
system to the required standard) : 27 October 2023

Certificate No:- 103281020

To Verify this certificate please visit at www.qvcert.co.uk



Quality Veritas Certification Limited

This Certificate Of Registration Remains The Property of Quality Veritas Certification Limited and Shall be Returned Immediately Upon Request

Email:- info@qvcert.co.uk Website:- www.qvcert.co.uk

Suite 48, 88-90 Hatton Garden, London, EC1N 8PN, UK

Certificate

13. OTHER INNOVATIVE TECHNOLOGIES IMPLEMENTED

- ❖ Intelligent Flow Controller for Compressed [Air System](#)



13. OTHER INNOVATIVE TECHNOLOGIES IMPLEMENTED

- ❖ Use of Baby Compressors for individual shop in place of centralized compressed air [piping system](#)



Use of Baby Compressor instead of Central Compressed System

13. OTHER INNOVATIVE TECHNOLOGIES IMPLEMENTED

- ❖ Robotic Welding Machine for [Engine Block](#)



13. OTHER INNOVATIVE TECHNOLOGIES IMPLEMENTED

❖ [Power Factor](#) Detail of DMW from 2018-19 to 202-21

Year	2019-20	2020-21	2021-22
April	1	1	1
May	1	1	0.99
june	1	0.99	1
July	1	0.99	1
August	1	1	1
September	0.99	1	1
October	0.99	0.99	1
November	0.99	0.99	1
December	1	1	1
January	1	1	1
February	0.99	1	1
March	0.99	0.99	1
Avg.	0.99	0.99	1

13. OTHER INNOVATIVE TECHNOLOGIES IMPLEMENTED

- ❖ Close watch on AC set temperature between 26 °C to 28 °C



AWARDS AND ACHIEVEMENTS

❖ DMW received a certificate of Green Co Gold in the month of October 2017.



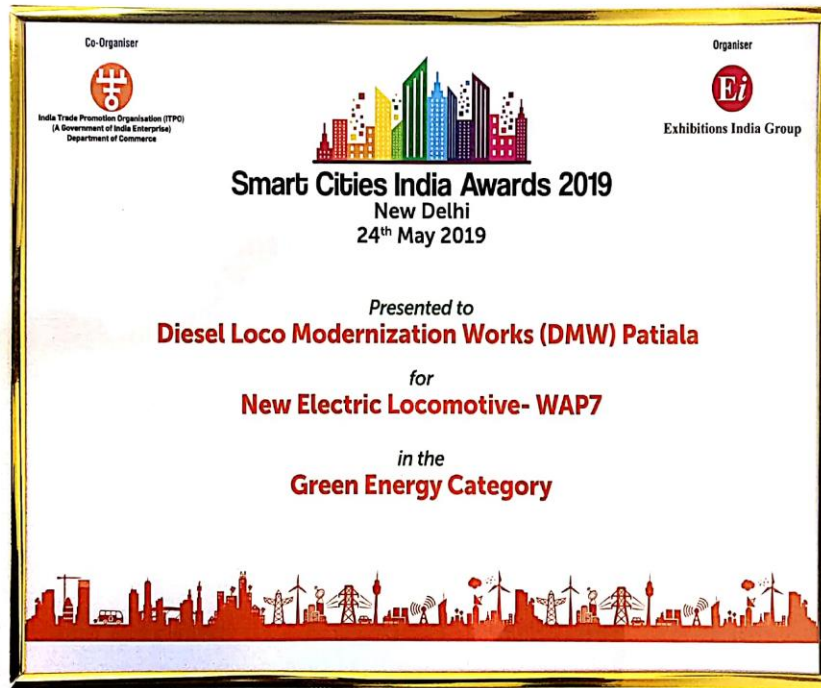
AWARDS AND ACHIEVEMENTS

❖ **Punjab Energy Development Agency (2018) ---- 2nd Position at State Level Energy Conservation Award.**



AWARDS AND ACHIEVEMENTS

❖ **Smart City India Award 2019, -----1st Position for Green Energy**



AWARDS AND ACHIEVEMENTS

❖ Punjab Energy Development Agency (2019)---- 2nd Position at State Level Energy Conservation Award.



CERTIFICATE OF MERIT



Certified that

M/s. Diesel Loco Modernisation Works, (Sector: Commercial Buildings), Patiala

participated in the State Level Energy Conservation Award Competition

organized by Punjab Energy Development Agency, Chandigarh

(State Designated Agency-Punjab) and secured the

Second Position

under the category of

Offices (Government & Private Buildings)

for their efforts made in the field of

Energy Conservation during the last two years 2017-18 & 2018-19.

20th December, 2019


Chief Executive Officer, PEDA



AWARDS AND ACHIEVEMENTS

- ❖ Participated in 20th National Award for Excellence in Energy Management 2019 organized by CII HYDERABAD
DMW/PATIALA declared an” *Energy Efficient Unit* “ in the event.



AWARDS AND ACHIEVEMENTS

❖ **National Energy Conservation Award 2019 -----1st position among PUs of INDIAN RAILWAYS.**



राष्ट्रीय ऊर्जा संरक्षण पुरस्कार

ऊर्जा संरक्षण हेतु किए गए
प्रशंसनीय कार्य
जो कि रेलवे उत्पादन इकाइयों सेक्टर
में प्राप्त की गई उपलब्धियों से सम्बन्धित है
वर्ष 2019 के लिए
भारत सरकार, विद्युत मंत्रालय द्वारा
मेसर्स डीजल लोको आधुनिकीकरण वर्क्स
पटियाला (पंजाब) को
प्रथम पुरस्कार से
सम्मानित किया जाता है।

विद्युत मंत्रालय
नई दिल्ली
14 दिसम्बर, 2019


सचिव,
भारत सरकार

Ministry of Power
New Delhi
14 December, 2019



National Energy Conservation Award

*In appreciation of the achievements
in Energy Conservation in the
Railway Production Units Sector
for the year 2019
Government of India, Ministry of Power
is pleased to award the First Prize to
M/s Diesel Loco Modernization Works
Patiala (Punjab)*


Secretary to the
Government of India



AWARDS AND ACHIEVEMENTS

- ❖ Participated in 21st National Award for Excellence in Energy Management 2019 organized by CII HYDERABAD

DMW/PATIALA declared an " *Energy Efficient Unit* " in the event.



AWARDS AND ACHIEVEMENTS

- ❖ Golden Peacock Energy Efficiency Award ---- Winner among Government (Railway) sector *for the year 2020.*



PROUD MOMENT AFTER RECEIVING GOLDEN PEACOCK AWARD IN 2020



AWARDS AND ACHIEVEMENTS

- ❖ 1st Rank from Municipal Corporation Patiala in the field of cleanliness for DMW colony for the year 2020.



CONSUMPTION DETAILS OF WORKSHOP

❖ . Year	2020-21	2021-22
April	140211	359289
May	154170	308356
june	428304	369708
July	658297	470988
August	663681	500865
September	585265	464663
October	507881	470407
November	349477	390782
December	363851	423902
January	418266	459323
February	415626	429891
March	369385	401207
total	5054414	5049381

CHINTAN MATERIAL RECOVERY FACILITY

