EnHM

Madurai Division

Southern Railway

About us

The formation of EnHM wing has been done as per CPO/SR Memorandum No: P(G)/534/Misc/EnHM dated 13.04.2016. The EnHM Wing of Madurai Division is functioning under Control of Mechanical Branch

Environmental Wing

a. EnHM wing is nodal agency for Environment related issues in Madurai Division.
b. Monitoring of Works related to Environment, being executed by various branches.
c. Planning, sanction and execution of works relating to Environment shall remain with the concerned department

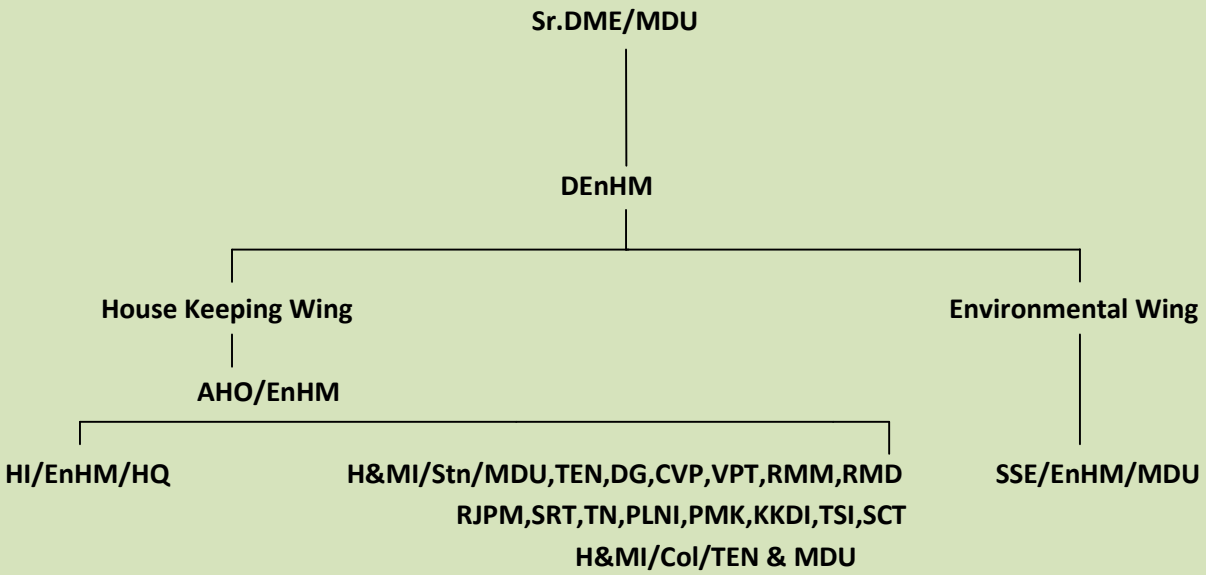
d. Monitoring of 1% ENHM fund nominated for ERW works from the estimates of various Works in all departments
e. Co-ordination and Monitoring of Capacity building including training/seminars and Workshops on environmental related matters.
f. ENHM wing liaisons with other than Railway bodies such as pollution control board (CPCB, SPCBs) for environment related issues.
g. To implement various NGT guidelines issued time to time and give compliance report on it.
h. To obtain and monitor Consent to Operate (CTO) for all 8 NGT stations (MDU,TEN,TN,CVP,VPT,DG,RMM,RMD).

House Keeping Management Wing

a) ENHM wing is responsible to execution of housekeeping activities in EnHM Control Railway Stations(i.e MDU,DG,VPT,SRT,CVP,TEN,TN,RJPM,TSI,SCT,PLNI,PMK,RMD,RMM&KKDI) and colonies(i.e MDU,DG, TEN,PLNI, KKDI, VPT,TN & SCT)
b) Housekeeping of Coaching Trains (excluding of EMUs) and Coaching Maintenance Depots.
c) On Board Housekeeping Services (OBHS) & Linen Management in coaching trains.
d) PEST and Rodent Control in EnHM Control Stations, Coaching Depots and Coaching Trains excluding EMU.

The EnHM Wing of Mechanical Branch of Madurai Division is headed by Divisional Environmental and House Keeping Manger (DEnHM) and Assisted by AHO/EnHM.

The Organization Chart of EnHM Wing



House Keeping Wing

Stations coming under EnHM wing

SL.No	Station category	Station	Cleaning activity under control of	Date of handing over to EnHM
1	A	RMM	EnHM	18.11.2016
2	A	TEN	EnHM	21.11.2016
3	A	TN	EnHM	19.07.2017
4	A1	MDU	EnHM	03.12.2021
5	A	DG	EnHM	03.12.2021
6	A	VPT	EnHM	03.12.2021
7	A	CVP	EnHM	03.12.2021
8	B	PMK	EnHM	18.05.2022
9	B	KKDI	EnHM	18.05.2022
10	B	RJPM	EnHM	18.05.2022
11	B	TSI	EnHM	18.05.2022
12	B	SCT	EnHM	18.05.2022
13	B	SRT	EnHM	18.05.2022
14	B	PLNI	EnHM	18.05.2022
15	B	RMD	EnHM	18.05.2022

In addition to that colonies of MDU, DG, TEN, PLNI, KKDI, VPT,TN & SCT cleaning activities were taken over by EnHM wing of Mechanical department on 18.05.2022.

Environmental Performance of MDU Division

Wind Energy

Salient Features:

Windmill project with latest S111 technology, which has increased rotor diameter of 111.8 metre and wider swept area of 9500 square metre. This model uses Doubly Fed Induction Generators (DFIG) optimizing output at various wind conditions. Suitable for low wind sites, SB 54 blades to withstand extreme on site conditions. Project commissioned amidst heavy rainfall during 2018 in the project site.

5 numbers of Windmills of 2.1 MW capacity each with a total capacity of 10.5 MW. Windmills are installed at Savalaperi (2 nos), Vellalankottai and Vadakku Illandaikulam (2 nos.). Power generated from these Windmills is used for captive consumption. Project serves as a Corporate Social Responsibility towards Green Energy.

Being a Green Energy project, this project helps in reduction of Carbon Emission on account of electricity consumption by Railways. Centralized Control & Monitoring Station established by Suzlon captures data from all five Wind Turbine Generators on real time basis. Daily Generation from Windmills is being monitored by Railways. The wind mill generators are under comprehensive AMC with M/s Suzlon upto year 2029.

Location	Capacity	Date of Installation	Power Generation upto 2023-2024 in KWH
Kayathar	2.1 x 5 mw	08.01.20219	12,90,96,999

Solar Energy

105 KWP Solar PV panels at DRM Office

100 KWP Solar PV panels at MDU PF 2/3

Location	Capacity	Date of Installation
MDU station	100	16.12.18
MDU DRM office	100	26.02.19
	5	14.10.19
Control office	10	26.12.17

- As per PCEE/SR directions in MDU Division five stations (DKO, KZB, KZY, KIC & TTL) having less than 5 KW load has converted in to green stations duly providing 5 kW solar Power plants

Bio Gas plant at TEN

Plant Details

Waste Type & Qty	Gas Output	LPG Equivalent	Cylinders/Month	Commissioned on	Gas generated as on March 2024
Wet Garbage Waste 50 Kg/Day	8 CUM	4 KG/DAY	6 Cylinders/Month	15.12.2022	367 CUM

Plant Technology

Bio Gas technology involves the anaerobic fermentation of organic waste material such as canteen waste, agriculture waste, market waste and animal dung etc in a bio reactor for 5 to 10 days. Generation bio gas is governed by its PH value temperature carbon-nitrogen ratio total solid content hydraulic retention time and chemical induces etc. The process of anaerobic fermentation involves a series of bio chemical reactions mainly to acetate and the methanogenic phase in which methane and carbon dioxide are formed. The bio gas so generated is a mixture of methane (65 to 70 %) and carbon dioxide (30-35)% and traces of hydrogen sulphate . This bio gas does not contain sulphur so it

is consider as clean and cheap fuel. A bio gas provides better sanitation and hygiene. This gas can be used for thermal application and for generation of electricity.

Compost Bins at MDU TEN,RMM &DG

4 No's of Community Composter 50 KG/Day is Installed at MDU, TEN, RMM & DG Stations through 1% of ERW funds.

Green Composter Bin Working Principal

MY GREEN COMPOSTER works on a dual composter concept. The composter requirement will vary depending on the density of the waste.

The quantity of waste to be added in the My Green Composter per day should beas specified in the chart. The character of waste that goes inside the composter decides the output. My Green bin is an Aerobic composting system which functions with My Green Bin Microbes that acts as an activator developed with ligno-cellular lytic material .Vegetable peels & Fruit waste (avoid Citrus fruits) has to be chopped to small pieces and added to the Composter for upto 3" height. The leftover food has to be added & the plastic bag has to be removed compulsorily. The dry leaves from the garden can be added only after adding microbes above the waste and ½ cm of microbes above the waste shall be Spread to cover the waste totally. Now again add 3" of waste and add ½ cm of microbes regularly till the composter is filled (approx. 25-30 days).

Once you start using the My Green composter, every two days the liquid stored in the lower chamber should be removed and discarded, till the liquid turns into dark leachate and this leachate

or Bio booster can be stored and used as organic fertilizer. The bio composter is designed to collect Bio booster separately. This can be diluted with water @ 1:10 ratio and sprayed on to plants acts as bio booster and pest repellent.

Plant Details

Waste Type & Qty	Frequency	Compost out put	Commissioned on
Garbage Waste 50 Kg/Day	30 day/Bin	60 to 70 % of Input Waste	05.06.2023

Colour Coded Twin Dust Bins

530 Nos of Pole Mounted Color coded Twin Dust bin have been provided at 18 Major Railway Stations (MNM, KQN, TCN, MDU, PLNI, DG, CVP, VPT, RMM, TEN, TN, PMK, RMD, KKDI, RJPM, TSI, SCT, SRT) of MDU Division through 1% of ERW funds.

Water Recycling Plant at TEN Coaching Depot

Water Treatment Plant (WRP) at TEN Coaching Depot aims at treating and reuse of waste water generated in the pit subjecting it to Physico-Chemical treatment by adding suitable Effluent treatment chemicals and to achieve treated effluent quality as prescribed by the TNPCB.

Plant Details

Location	Capacity	Date of commissioning	Water Recycled Up to Oct 2023 in lits	Savings in Rs
TEN	300 KLD	08.02.2023	8,65,000	51,900/-

Water recycled in Water Recycling plants/Madurai

Location	Capacity	Date of commissioning	Water Recycled Up to Oct 2023 in lits	Savings in Rs
Madurai	400 KLD	01.12.2015	10,34,59,953	68,12,397/-

Water Treatment Plant (WRP) at MDU Coaching Depot aims at treating and reuse of waste water generated in the pit line subjecting it to Physico-Chemical treatment by adding suitable Effluent treatment chemicals and to achieve treated effluent quality as prescribed by the TNPCB.

Sanitary Napkin Incinerator

27 Nos. of Sanitary Napkin incinerators were provided at Ladies toilets of General and Upper class Waiting room of MDU,TEN,DG,RMM,TN,KKDI,CVP,RMD,VPT& PLNI Railway stations through 1% of ERW funds.

Environment Awareness (IEC Programmes)

Various Awareness Programmes i.e World Environment Day, Swachhata Pakhwada Campaign from 16.09.23 to 30.09.23, Mass Shramdan on 1st October-2023, Clean toilet Campaign etc.. was observed duly organized rallies in association with NGOs and NCC/NSS students from various schools/colleges, conducted Webinar by Dr.J.kannan, professor, Environmental science, Tamilnadu Agriculture College and research institute Madurai and also organized Single use plastic awareness Exhibitions at MDU Railway Station to Create Awareness among Railway Passengers.

IEC Boards

500 Nos. of trilingual IEC boards are installed at Major stations of Madurai Division through CSR initiative for creating awareness to the passengers to use dustbins, avoid littering, avoid spitting, usage of lavatories, avoid open defecations, say no to plastics etc .