# REMMLOT

**REmote Monitoring & Management of LOcomotives & Trains (Type MRM 360)**

# PRESENT SYSTEM without REMMLOT

- In Micro Processor Based Control System, the data is stored in the long-term memory and short-term memory
- The MEP system also has an event recorder, which stores the fault messages along with other useful data.
- The data pack stored in the memory card of MEP system is downloaded when the locomotives returns back to shed for maintenance.
- This data can be analysed for taking proper action during schedule maintenance.

# PRESENT SYSTEM without REMMLOT

- This fault data pack is also downloaded for analysis of faults, which are registered during the run of the loco.
- Though the above data and information is available for downloading at any time from the microprocessor of the locomotive, this data normally becomes available to the shed staff only when the locomotive returns to the shed.

# REMMLOT Introduction

- REMMLOT consists of

1. Locomotive Remote Monitoring System (LRMS)
2. Loconet Train Management System (LTMS)

- LRMS is a Hardware unit with embedded Software remote interface located in Locomotive, which interacts with LTMS remotely.
- LRMS interfaces with MEP\MAS\MCS to obtain Locomotive's health, fault diagnostics related data and other operational data. This data is transmitted to the remote server by using the commercially available GSM/CDMA Networks. The system also comprises of a GPS receiver from which the position information is acquired and the same will be transferred to LTMS.

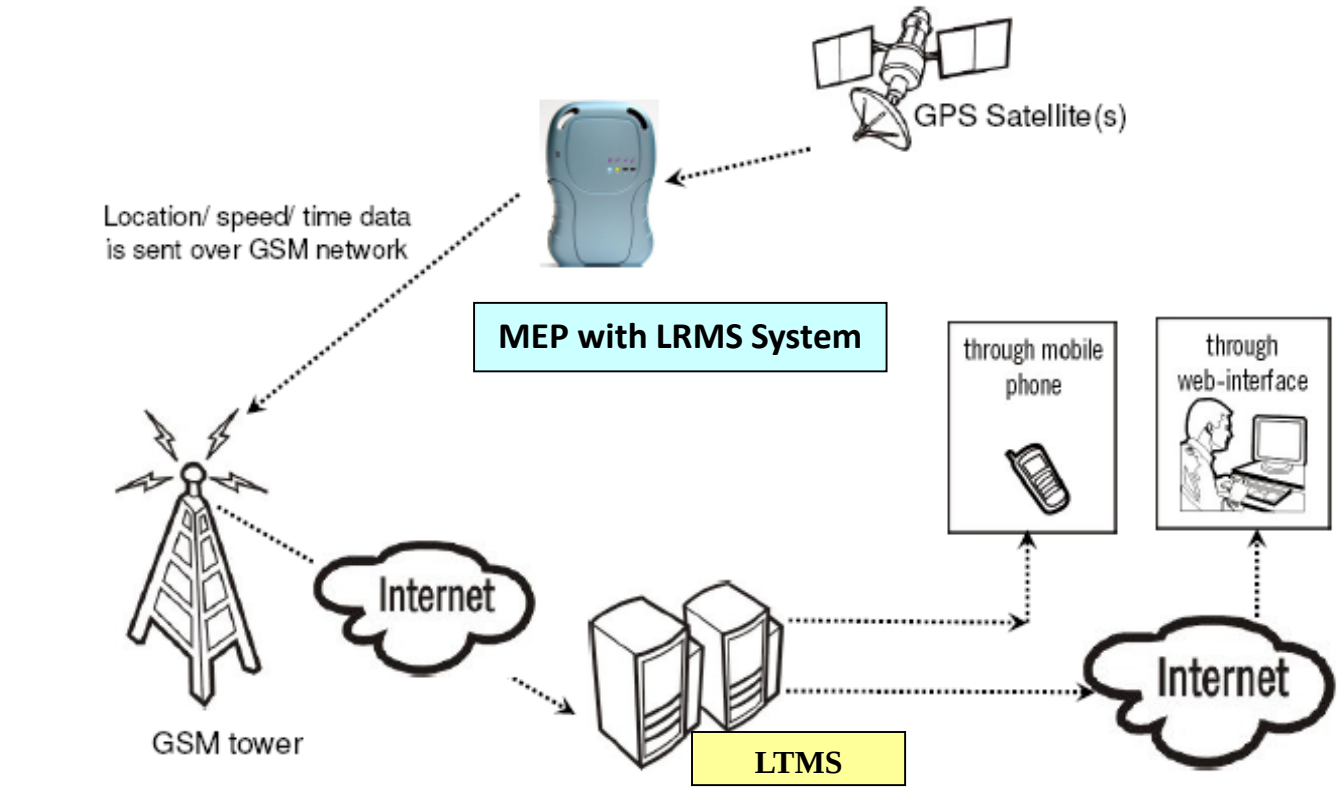
# Introduction

- LTMS is a centralized server connected to the Internet via a Static IP address provided by Internet Service Provider to communicate with Locomotive Remote Monitoring Systems.
- It provides Data with a single point access through Internet to all the Railway Staff at remote Locations.
- LTMS is a 24 X 7 service provider.
- The objective of LTMS is to provide data globally and helping the Railway staff in Fault diagnosis and analyze Driver/Train performance, Locomotive Performance.
- This system is used to improve operational safety and service the locomotives better.

# Features

- It can monitor the locomotives remotely.
- It can monitor healthiness and can generate report of the locomotives on daily basis.
- By monitoring the health data user can avoid the failures by taking preventive action.
- Through alerts user can come to know the problem in the locomotive and can guide the loco pilot in right time to avoid failures.
- User can configure the alerts based on their requirement.
- Overdue status will be indicated.

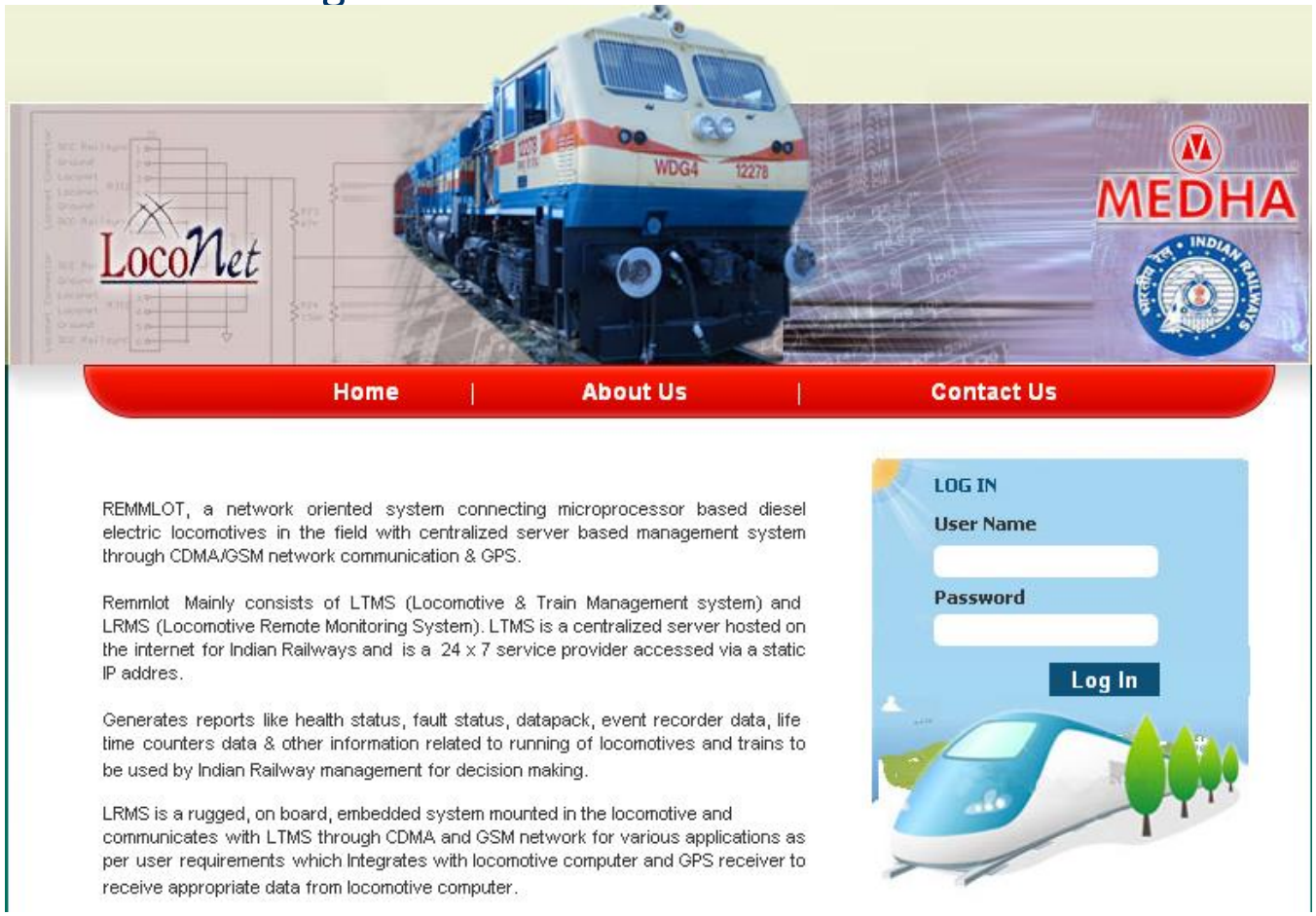
# Block Diagram of System



# MOUNTING POSITION OF MEP WITH  LRMS AND GPS

# LOGIN / LOGOUT

- To browse the LTMS go thru “www.loconet.in”



# LOGIN / LOGOUT

- Login page provides access to the Locomotive data with a valid User Name and Password entered by the user.

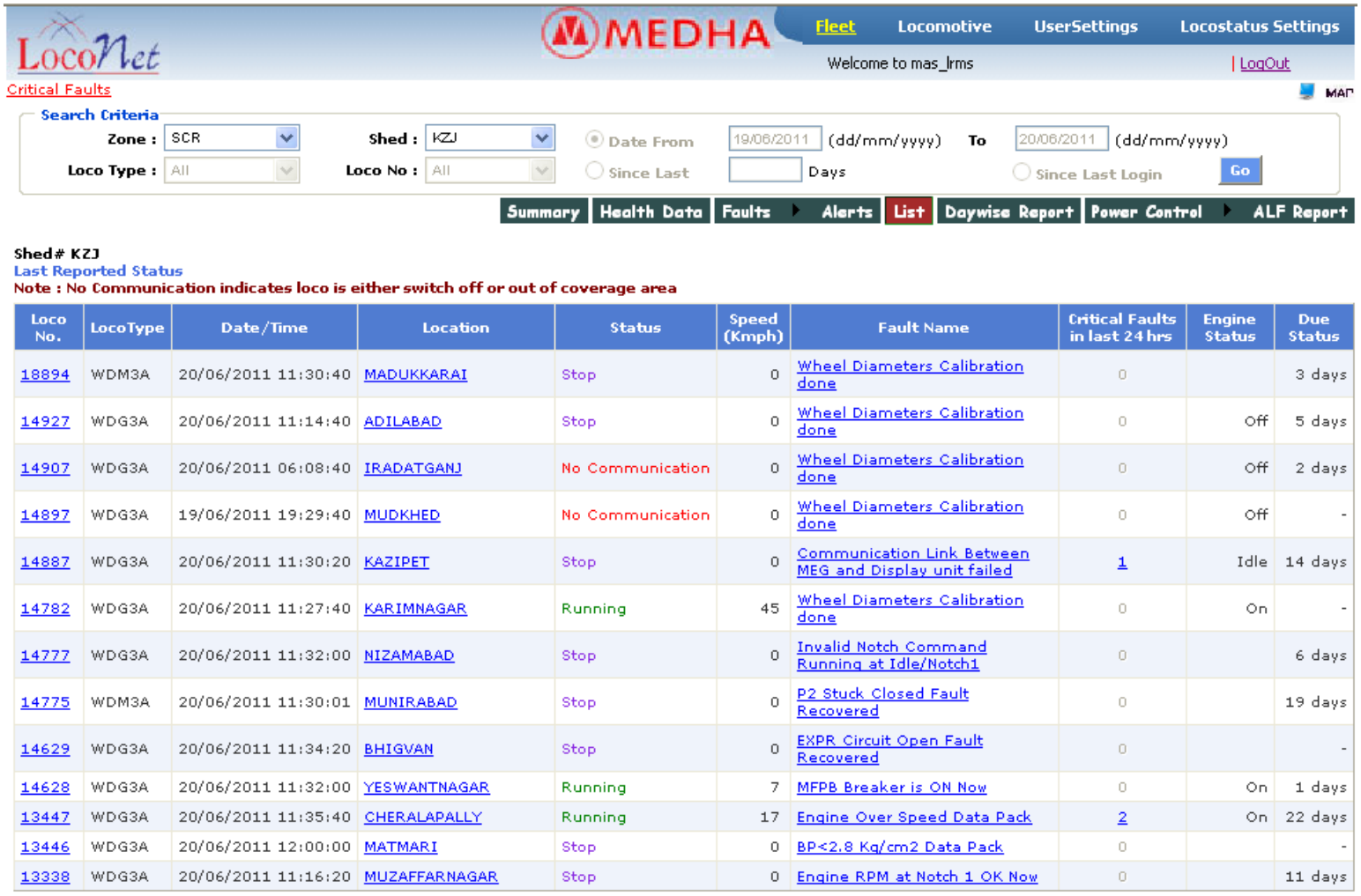
- There are three types of users:

- Superuser
- Supervisor
- Operator

  - The Superuser has the access to all the available Zones and Sheds.
  - The Supervisor has the access to all the available Sheds of a particular Zone.
  - The Operator has the access only to one particular Shed of a particular Zone.

- On completion of work, the user can LOGOUT from the Loconet site. The Logout option appears on every screen of the Loconet site. So the user has an advantage of logging out from any of the screen in which he is working.

# MENU NAVIGATION




**Shed# KZJ**

Last Reported Status

**Note : No Communication indicates loco is either switch off or out of coverage area**

| Loco No. | LocoType | Date/Time | Location | Status | Speed (Kmph) | Fault Name | Critical Faults in last 24 hrs | Engine Status | Due Status |
|---|---|---|---|---|---|---|---|---|---|
| 18894 | WDM3A | 20/06/2011 11:30:40 | MADUKKARAI | Stop | 0 | Wheel Diameters Calibration done | 0 | | 3 days |
| 14927 | WDG3A | 20/06/2011 11:14:40 | ADILABAD | Stop | 0 | Wheel Diameters Calibration done | 0 | Off | 5 days |
| 14907 | WDG3A | 20/06/2011 06:08:40 | IRADATGANJ | No Communication | 0 | Wheel Diameters Calibration done | 0 | Off | 2 days |
| 14897 | WDG3A | 19/06/2011 19:29:40 | MUDKHED | No Communication | 0 | Wheel Diameters Calibration done | 0 | Off | - |
| 14887 | WDG3A | 20/06/2011 11:30:20 | KAZIPET | Stop | 0 | Communication Link Between MEG and Display unit failed | 1 | Idle | 14 days |
| 14782 | WDG3A | 20/06/2011 11:27:40 | KARIMNAGAR | Running | 45 | Wheel Diameters Calibration done | 0 | On | - |
| 14777 | WDG3A | 20/06/2011 11:32:00 | NIZAMABAD | Stop | 0 | Invalid Notch Command Running at Idle/Notch1 | 0 | | 6 days |
| 14775 | WDM3A | 20/06/2011 11:30:01 | MUNIRABAD | Stop | 0 | P2 Stuck Closed Fault Recovered | 0 | | 19 days |
| 14629 | WDG3A | 20/06/2011 11:34:20 | BHIGVAN | Stop | 0 | EXPR Circuit Open Fault Recovered | 0 | | - |
| 14628 | WDG3A | 20/06/2011 11:32:00 | YESWANTNAGAR | Running | 7 | MFPB Breaker is ON Now | 0 | On | 1 days |
| 13447 | WDG3A | 20/06/2011 11:35:40 | CHERALAPALLY | Running | 17 | Engine Over Speed Data Pack | 2 | On | 22 days |
| 13446 | WDG3A | 20/06/2011 12:00:00 | MATMARI | Stop | 0 | BP<2.8 Kg/cm2 Data Pack | 0 | | - |
| 13338 | WDG3A | 20/06/2011 11:16:20 | MUZAFFARNAGAR | Stop | 0 | Engine RPM at Notch 1 OK Now | 0 | | 11 days |

# MAIN OPTIONS


FLEET : Fleet module displays the information of all Locomotive status for selected zone and selected shed.

LOCOMOTIVE : Locomotive module displays the reports of selected locomotive.

USER SETTINGS : This module helps the user to change the password, configure the alerts for selected locos and view the configured alert report.

LOCO STATUS SETTINGS : This module is used to configure the information by the user. Like, ALF settings screen helps to configure ALF parameters, PC settings screen helps to configure PC parameters and Log book screen helps to configure Logbook parameters related to a particular Loco.

# SEARCH OPTIONS


- This option helps the user to search the Locomotive of particular Type, Zone and Shed by choosing from the search options. The user can select the date since and up to when he wishes to have the information. With the help of Search Option, the user can get the details for the locos for both Fleet based and Locomotive based. In Fleet module, the user can select the Zone/Shed which have been permitted to him. He does not has access to select the Loco Number or the Loco Type. But, for selecting the locos from Locomotive module, the user can select the permitted Zone/Shed as well as the Loco Number and the Loco Type to get the details.

# SELECTING MENU OPTIONS


- It has the options to choose the various details to present the information regarding the different locos.

- Summary : This module displays the list of the number of loco's running or Idle.
- Health Data : This module displays the latest health status of each and every locomotive of selected zone/shed.
- Faults : This module displays the Detailed Fault information of each and every locomotive for the selected criteria.
- Alerts : This module displays the user configured alerts for the specific faults or the specific conditions on health data parameters.

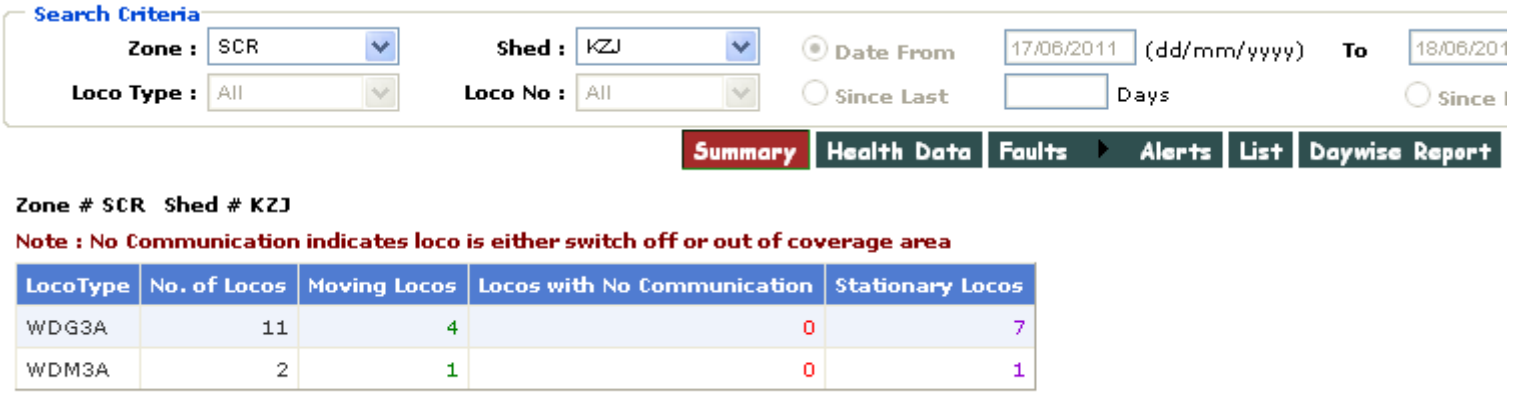
# LIST OF DETAILS

Note : No Communication indicates loco is either switch off or out of coverage area

| LocoType | No. of Locos | Moving Locos | Locos with No Communication | Stationary Locos |
|---|---|---|---|---|
| WDG3A | 18 | 6 | 5 | 7 |
| WDM3A | 3 | 2 | 1 | 0 |
| WDM3D | 8 | 4 | 3 | 1 |
| WDG4 | 6 | 0 | 1 | 5 |

- It lists the respective information chosen for the different locos. For example, the particular List of Details gives the information about the Loco ID, Shed Name, Date/Time and the Satisfied Alert Description for Zone # SCR and Shed # KZJ selected by the user.

# FLEET → SUMMARY



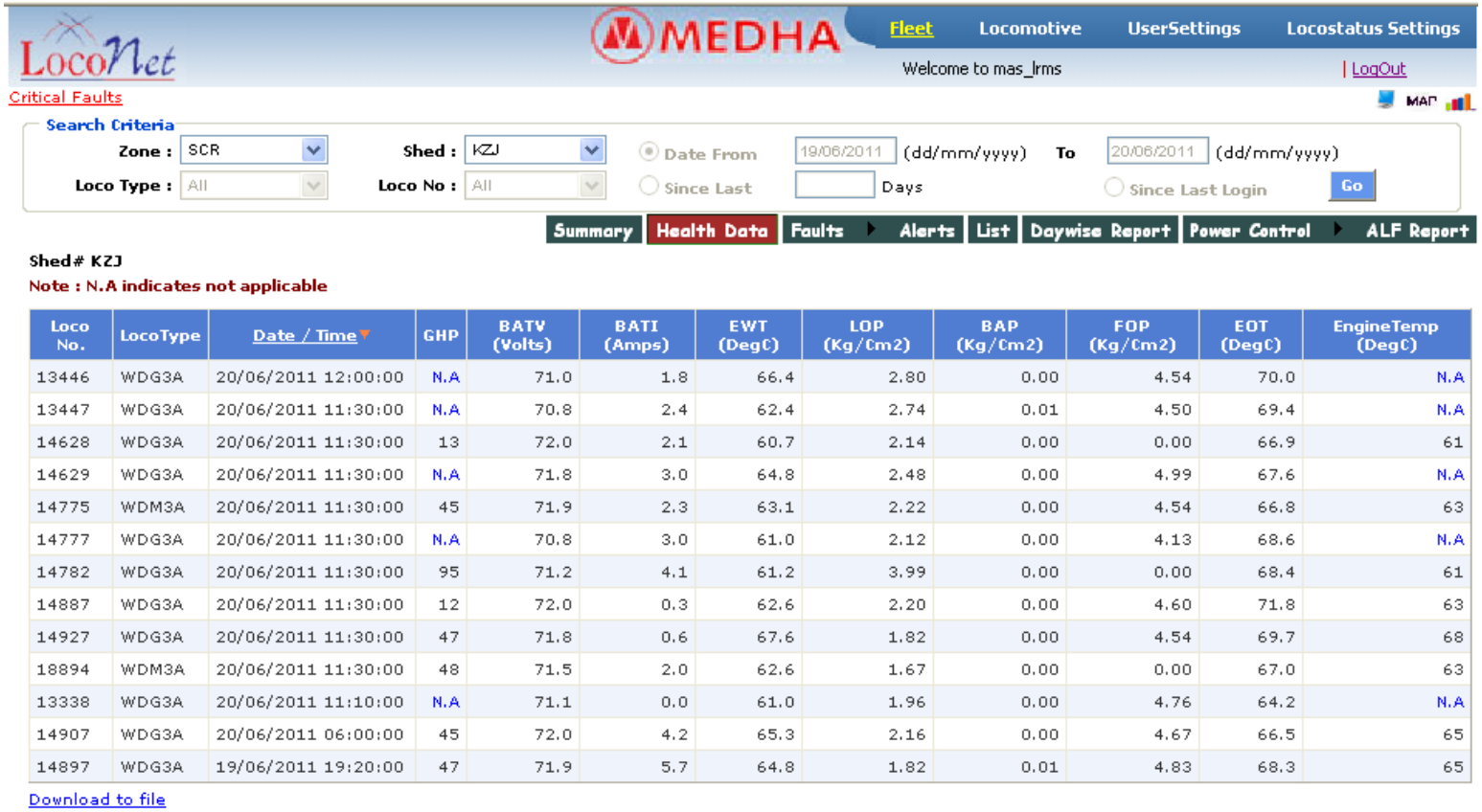

| LocoType | No. of Locos | Moving Locos | Locos with No Communication | Stationary Locos |
|---|---|---|---|---|
| WDG3A | 11 | 4 | 0 | 7 |
| WDM3A | 2 | 1 | 0 | 1 |

- Fleet reports displays the information of all Locomotive status for selected zone and selected shed.
- The reports under this module are:

- Fleet Summary
- Fleet Health Data
- Fleet Faults
- Fleet Alerts
- Fleet List
- Fleet Day wise Report
- Fleet ALF Report

- The Fleet Summary option gives the information of Loco Type, Size of the loco, Number of running locos, Number of locos with no signal and Number Idling for the selected Zone and Shed.

# FLEET → HEALTH DATA




| Loco No. | LocoType | Date / Time | GHP | BATV (Volts) | BATI (Amps) | EWT (DegC) | LOP (Kg/Cm2) | BAP (Kg/Cm2) | FOP (Kg/Cm2) | EOT (DegC) | EngineTemp (DegC) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 13446 | WDG3A | 20/06/2011 12:00:00 | N.A | 71.0 | 1.8 | 66.4 | 2.80 | 0.00 | 4.54 | 70.0 | N.A |
| 13447 | WDG3A | 20/06/2011 11:30:00 | N.A | 70.8 | 2.4 | 62.4 | 2.74 | 0.01 | 4.50 | 69.4 | N.A |
| 14628 | WDG3A | 20/06/2011 11:30:00 | 13 | 72.0 | 2.1 | 60.7 | 2.14 | 0.00 | 0.00 | 66.9 | 61 |
| 14629 | WDG3A | 20/06/2011 11:30:00 | N.A | 71.8 | 3.0 | 64.8 | 2.48 | 0.00 | 4.99 | 67.6 | N.A |
| 14775 | WDM3A | 20/06/2011 11:30:00 | 45 | 71.9 | 2.3 | 63.1 | 2.22 | 0.00 | 4.54 | 66.8 | 63 |
| 14777 | WDG3A | 20/06/2011 11:30:00 | N.A | 70.8 | 3.0 | 61.0 | 2.12 | 0.00 | 4.13 | 68.6 | N.A |
| 14782 | WDG3A | 20/06/2011 11:30:00 | 95 | 71.2 | 4.1 | 61.2 | 3.99 | 0.00 | 0.00 | 68.4 | 61 |
| 14887 | WDG3A | 20/06/2011 11:30:00 | 12 | 72.0 | 0.3 | 62.6 | 2.20 | 0.00 | 4.60 | 71.8 | 63 |
| 14927 | WDG3A | 20/06/2011 11:30:00 | 47 | 71.8 | 0.6 | 67.6 | 1.82 | 0.00 | 4.54 | 69.7 | 68 |
| 18894 | WDM3A | 20/06/2011 11:30:00 | 48 | 71.5 | 2.0 | 62.6 | 1.67 | 0.00 | 0.00 | 67.0 | 63 |
| 13338 | WDG3A | 20/06/2011 11:10:00 | N.A | 71.1 | 0.0 | 61.0 | 1.96 | 0.00 | 4.76 | 64.2 | N.A |
| 14907 | WDG3A | 20/06/2011 06:00:00 | 45 | 72.0 | 4.2 | 65.3 | 2.16 | 0.00 | 4.67 | 66.5 | 65 |
| 14897 | WDG3A | 19/06/2011 19:20:00 | 47 | 71.9 | 5.7 | 64.8 | 1.82 | 0.01 | 4.83 | 68.3 | 65 |

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- Fleet Health Report displays the latest health status of each and every locomotive of selected zone/shed. It displays the latest information like Battery Voltage, Lube Oil Pressure, Boost Air pressure etc. of each and every locomotive of selected zone/shed.

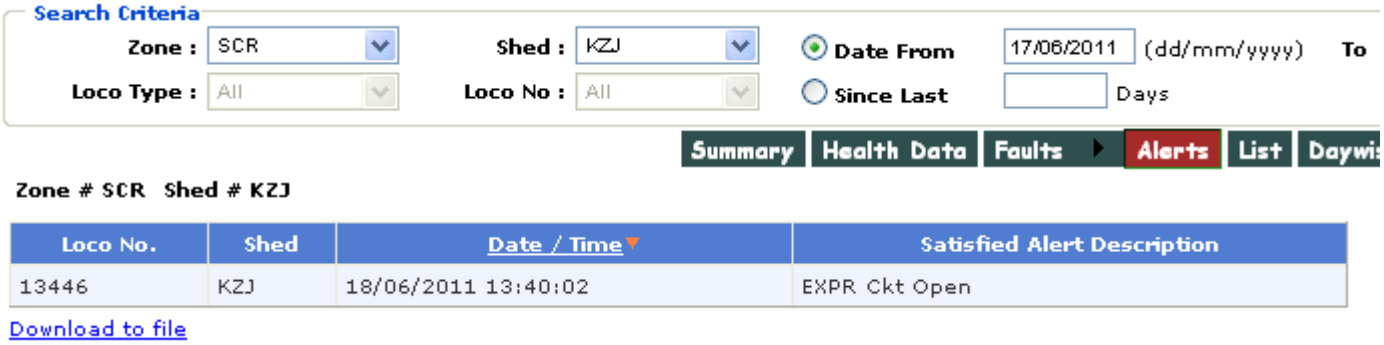
# FLEET → FAULTS

Shed# KZJ  Critical Fault  Normal Fault

| Alert | Date / Time | Loco No. | LocoType | Fault Code | Fault Description | Location | Select Data |
|---|---|---|---|---|---|---|---|
| | 18/06/2011 14:40:35 | 13446 | WDG3A | 2586 | BP<2.8 Kg/cm2 Data Pack | PANCHIKALAPADU | DataPack |
| | 18/06/2011 13:40:18 | 13446 | WDG3A | 1542 | EXPR Circuit Open Fault Recovered | GANGAYAPALLE | DataPack |
| | 18/06/2011 13:40:02 | 13446 | WDG3A | 1133 | EXPR Circuit Open | GANGAYAPALLE | DataPack |
| | 18/06/2011 09:49:12 | 13447 | WDG3A | 1503 | P2 Stuck Closed Fault Recovered | KAZIPET | DataPack |
| | 18/06/2011 09:48:27 | 13447 | WDG3A | 1088 | P2 Stuck Closed | KAZIPET | DataPack |
| | 18/06/2011 09:42:33 | 13447 | WDG3A | 2585 | Engine Over Speed Data Pack | KAZIPET | DataPack |
| | 18/06/2011 09:38:39 | 13447 | WDG3A | 2581 | VCD applied penalty Brake | KAZIPET | DataPack |
| | 18/06/2011 09:19:36 | 13447 | WDG3A | 1610 | Low Water Level Fault Recovered | KAZIPET | DataPack |
| | 18/06/2011 09:18:33 | 13447 | WDG3A | 1001 | Low Water Level | KAZIPET | DataPack |
| | 18/06/2011 07:56:09 | 14629 | WDG3A | 1527 | GF Circuit Open Fault Recovered | HADAPSAR | DataPack |
| | 18/06/2011 07:52:50 | 14629 | WDG3A | 1018 | GF circuit Open | MANJRI | DataPack |
| | 17/06/2011 20:42:47 | 14629 | WDG3A | 2582 | High Wheel Slip Occurred | DAUND | DataPack |
| | 17/06/2011 20:00:50 | 18894 | WDM3A | 1618 | Wheel Diameters Calibration done | IRUGUR | DataPack |
| | 17/06/2011 17:26:27 | 14629 | WDG3A | 2582 | High Wheel Slip Occurred | KUM | DataPack |
| | 17/06/2011 17:25:32 | 14629 | WDG3A | 2582 | High Wheel Slip Occurred | KUM | DataPack |

- Fleet Fault Report displays the Detailed Fault information of each and every locomotive for the selected criteria.
- It displays the Faults information like fault code, fault description, location etc. and data pack link of all loco's of selected zone and shed.

# FLEET → ALERTS




- Fleet alerts report displays the logged user configured alerts for the specific faults or the specific conditions on health data parameters . It displays the loco id for which the alert has been logged, date time at which alert logged, alert condition like fault name or condition on health data parameters.

# FLEET → LIST

**Shed# KZJ**
Last Reported Status
**Note : No Communication indicates loco is either switch off or out of coverage area**

| Loco No. | LocoType | Date/Time | Location | Status | Speed (Kmph) | Fault Name | Critical Faults in last 24 hrs | Engine Status | Due Status |
|---|---|---|---|---|---|---|---|---|---|
| 18894 | WDM3A | 18/06/2011 17:49:00 | PALGHAT JUNCTION | Running | 10 | Wheel Diameters Calibration done | 0 | On | 1 days |
| 14927 | WDG3A | 18/06/2011 17:44:40 | ADILABAD | Stop | 0 | Wheel Diameters Calibration done | 0 | Off | 3 days |
| 14907 | WDG3A | 18/06/2011 17:47:00 | AMDORA | Running | 63 | Direction Reversal Attempted at High speed Cannot Change Direction | 0 | On | - |
| 14897 | WDG3A | 18/06/2011 17:47:00 | ADILABAD | Stop | 0 | Wheel Diameters Calibration done | 0 | | - |
| 14887 | WDG3A | 18/06/2011 17:26:00 | WARDHA | Stop | 0 | Direction Reversal Attempted at High speed Cannot Change Direction | 0 | | 12 days |
| 14782 | WDG3A | 18/06/2011 17:45:00 | GODAMGURA | Running | 74 | Wheel Diameters Calibration done | 0 | On | - |
| 14777 | WDG3A | 18/06/2011 17:50:40 | LINGAMPALLY | Running | 73 | Invalid Notch Command Running at Idle/Notch1 | 0 | On | 4 days |
| 14775 | WDM3A | 18/06/2011 17:48:40 | MUNIRABAD | Running | 70 | Wheel Diameters Calibration done | 0 | On | 17 days |
| 14629 | WDG3A | 18/06/2011 17:51:40 | LONAVALA | Stop | 0 | GF Circuit Open Fault Recovered | 1 | | - |
| 14628 | WDG3A | 18/06/2011 17:49:20 | KAZIPET | Stop | 0 | Wheel Diameters Calibration done | 0 | | - |
| 13447 | WDG3A | 18/06/2011 09:51:20 | KAZIPET | Stop | 0 | P2 Stuck Closed Fault Recovered | 1 | Off | 20 days |
| 13446 | WDG3A | 18/06/2011 18:17:05 | KALAMALLA | Running | 1 | BP<2.8 Kg/cm2 Data Pack | 0 | On | - |
| 13338 | WDG3A | 18/06/2011 17:34:40 | ROHTAK | Stop | 0 | LLOB Trip RESET Plunger Fault Recovered | 0 | | 9 days |

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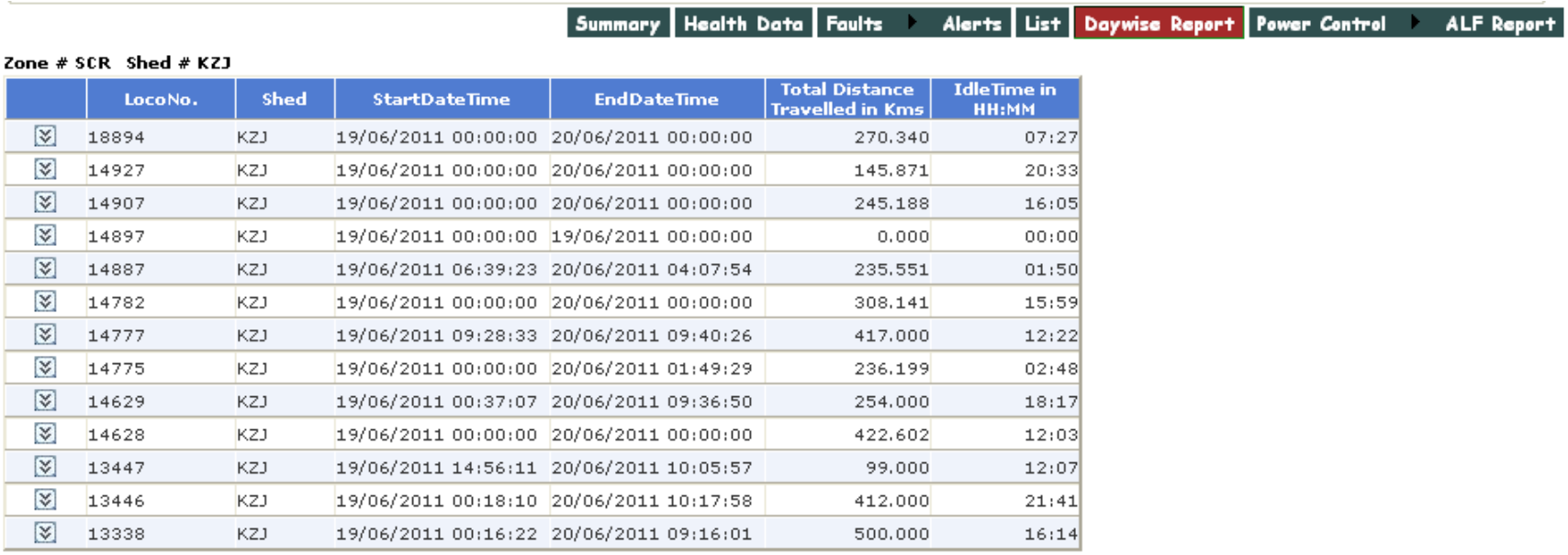
- List report displays current status of all Locomotives whether they are in Running or Halt, Location etc. Last Reported Time column displays the latest updated long term memory record date/time of that particular loco. Here, From Date, To Date, Locotype, Loco No. fields are disabled in order to display the latest information of all loco's of selected zone /shed.

# FLEET → DAY WISE REPORT



Summary | Health Data | Faults | Alerts | List | Daywise Report | Power Control | ALF Report

Zone # SCR Shed # KZJ

| | LocoNo. | Shed | StartDateTime | EndDateTime | Total Distance Travelled in Kms | IdleTime in HH:MM |
|---|---|---|---|---|---|---|
| | 18894 | KZJ | 19/06/2011 00:00:00 | 20/06/2011 00:00:00 | 270.340 | 07:27 |
| | 14927 | KZJ | 19/06/2011 00:00:00 | 20/06/2011 00:00:00 | 145.871 | 20:33 |
| | 14907 | KZJ | 19/06/2011 00:00:00 | 20/06/2011 00:00:00 | 245.188 | 16:05 |
| | 14897 | KZJ | 19/06/2011 00:00:00 | 19/06/2011 00:00:00 | 0.000 | 00:00 |
| | 14887 | KZJ | 19/06/2011 06:39:23 | 20/06/2011 04:07:54 | 235.551 | 01:50 |
| | 14782 | KZJ | 19/06/2011 00:00:00 | 20/06/2011 00:00:00 | 308.141 | 15:59 |
| | 14777 | KZJ | 19/06/2011 09:28:33 | 20/06/2011 09:40:26 | 417.000 | 12:22 |
| | 14775 | KZJ | 19/06/2011 00:00:00 | 20/06/2011 01:49:29 | 236.199 | 02:48 |
| | 14629 | KZJ | 19/06/2011 00:37:07 | 20/06/2011 09:36:50 | 254.000 | 18:17 |
| | 14628 | KZJ | 19/06/2011 00:00:00 | 20/06/2011 00:00:00 | 422.602 | 12:03 |
| | 13447 | KZJ | 19/06/2011 14:56:11 | 20/06/2011 10:05:57 | 99.000 | 12:07 |
| | 13446 | KZJ | 19/06/2011 00:18:10 | 20/06/2011 10:17:58 | 412.000 | 21:41 |
| | 13338 | KZJ | 19/06/2011 00:16:22 | 20/06/2011 09:16:01 | 500.000 | 16:14 |

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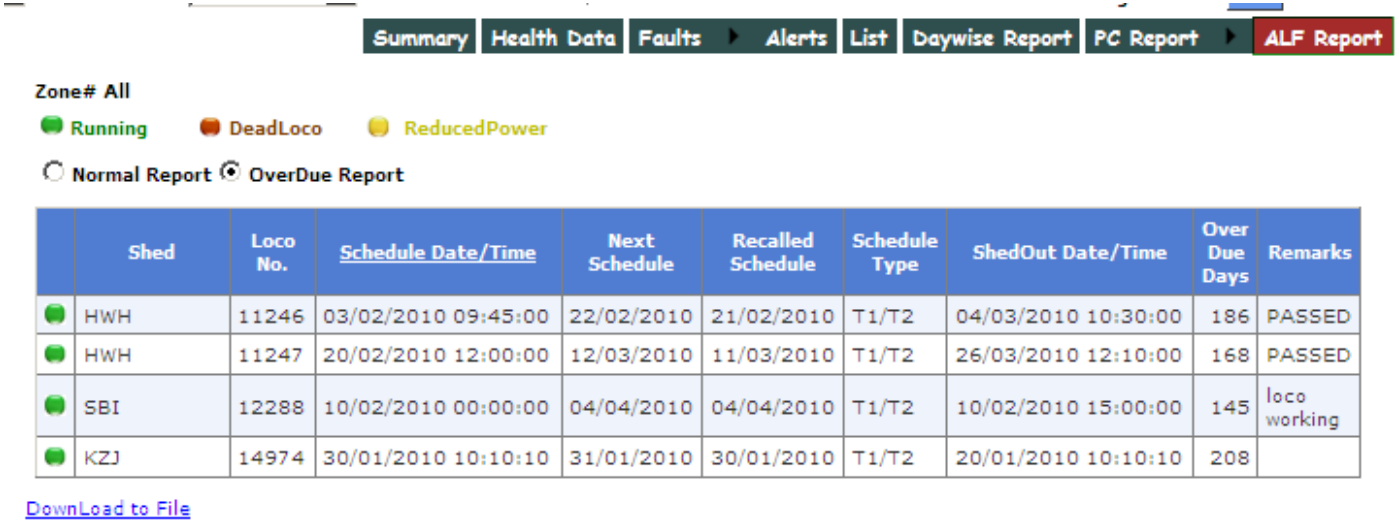
- Day wise report displays the information about the Locomotive daily traveled distance and Idle time of each locomotive of selected zone and selected shed for the selected criteria. It displays the loco number, date, distance traveled and idle time of each and every locomotive of selected zone and selected shed for the selected dates.

# FLEET → PC REPORT


- Power Controller report gives information whether the loco is a passenger Loco, or goods Loco or light Engine. It displays the Power control status of each loco for the selected zone and shed for the selected period. Here the Status of the Loco is displayed in icons i.e yellow indicates passenger, red indicates goods and green indicates light engine trains.

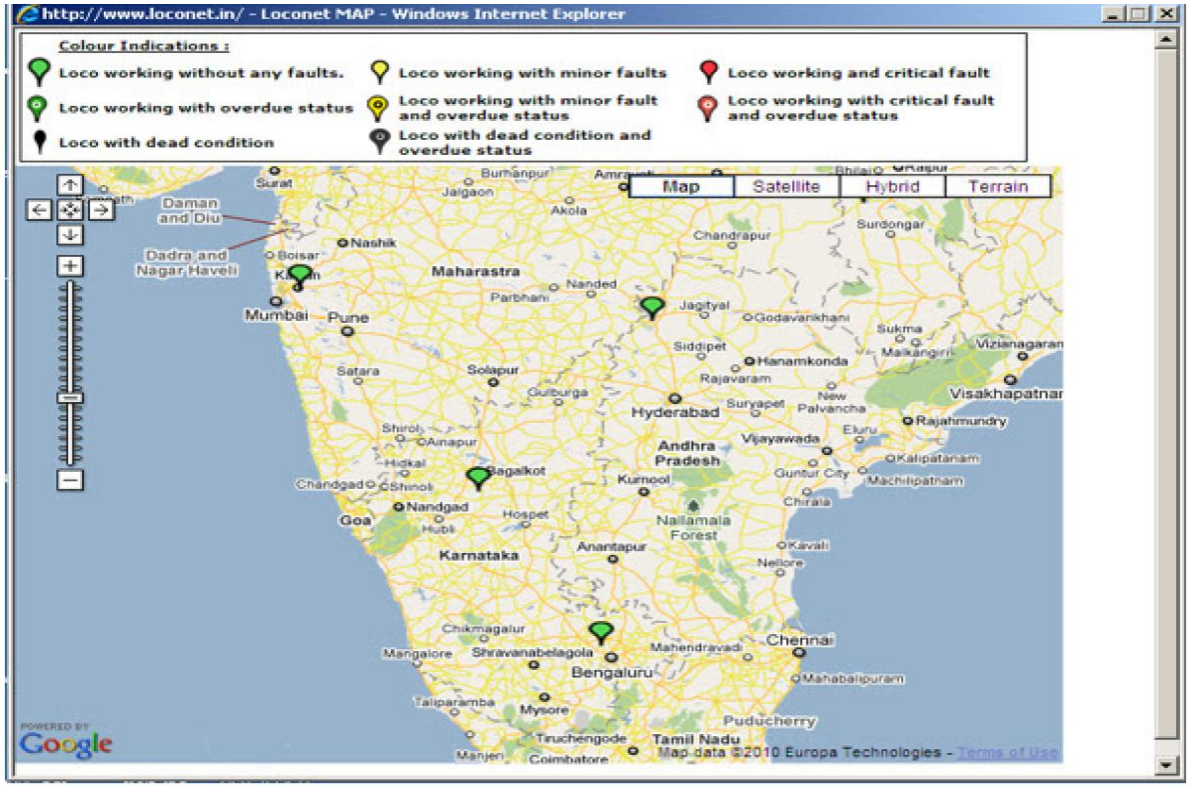
# FLEET → ALF REPORT




| | Shed | Loco No. | Schedule Date/Time | Next Schedule | Recalled Schedule | Schedule Type | ShedOut Date/Time | Over Due Days | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| | HWH | 11246 | 03/02/2010 09:45:00 | 22/02/2010 | 21/02/2010 | T1/T2 | 04/03/2010 10:30:00 | 186 | PASSED |
| | HWH | 11247 | 20/02/2010 12:00:00 | 12/03/2010 | 11/03/2010 | T1/T2 | 26/03/2010 12:10:00 | 168 | PASSED |
| | SBI | 12288 | 10/02/2010 00:00:00 | 04/04/2010 | 04/04/2010 | T1/T2 | 10/02/2010 15:00:00 | 145 | loco working |
| | KZJ | 14974 | 30/01/2010 10:10:10 | 31/01/2010 | 30/01/2010 | T1/T2 | 20/01/2010 10:10:10 | 208 | |

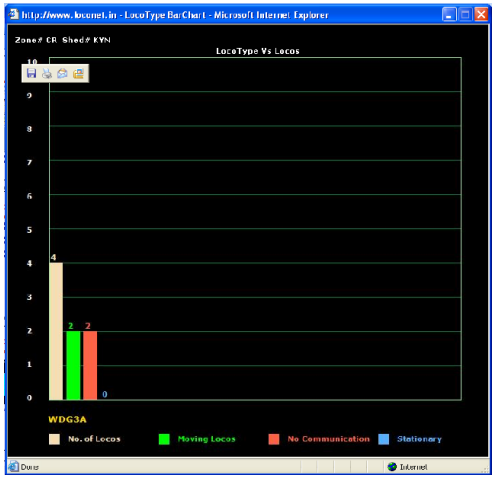
- ALF Report displays the ALF status of each and every loco of selected zone and selected shed for selected criteria.
- ALF status is displayed in two types of reports:
- Normal report: This report displays the ALF status of all the locomotives of selected zone and selected shed without over dues.
- Over Due Report: This report displays the ALF status of all the locomotives running with overdue.

# FLEET → LOCATE IN MAP



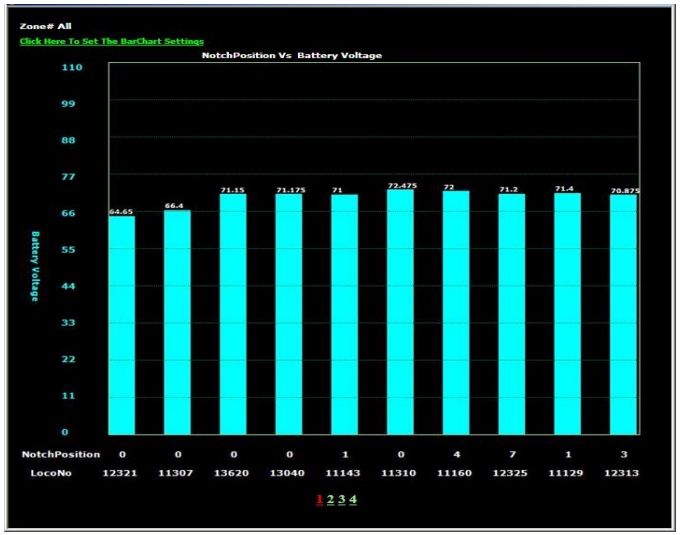

- This map gives the location information of the particular selected Zone and Shed.
- On keeping the cursor, “ Click here to view locos on map” occurs. On clicking, a new window pops out, as shown.

# FLEET → VIEW LOCOTYPE CHART




- This chart gives the information about the size of the selected loco operating and also the number of locos operating in various modes. Be it in running, idling or no signal mode. Here the different modes of operations are indicated by different colors. Green is used for Running mode, blue for no signal mode and Red for Idling mode.

# FLEET → VIEW DATALOG CHART



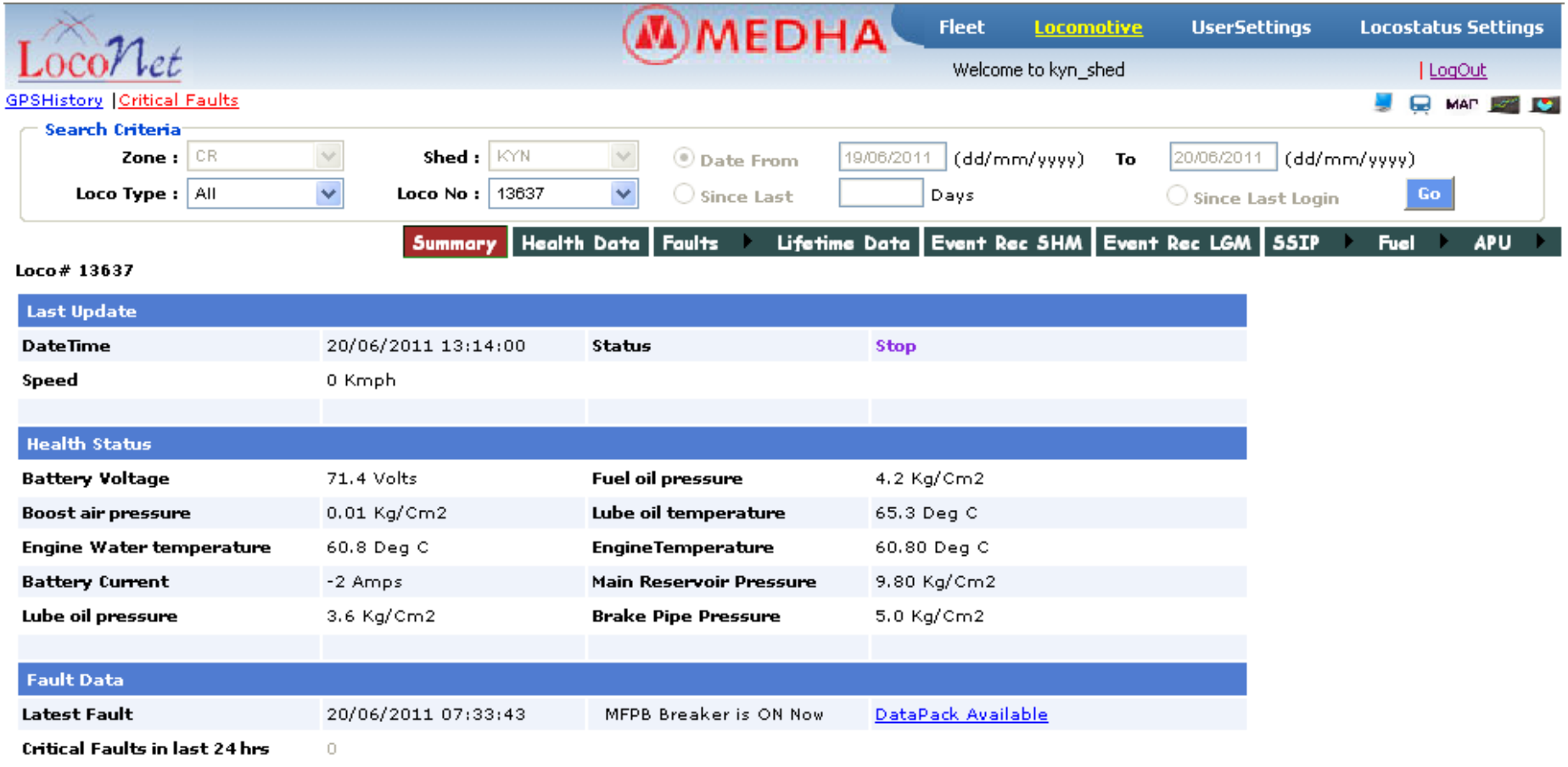


- This charts gives the information about the parameters like Battery current, Battery voltage etc. for the selected Loco of the particular Zone and Shed.
- On clicking, a new window pops out, as shown.
- This window has the ' Select parameters' for the ' Y-Axis Scale Settings' in the Bar Chart Settings.

# FLEET → VIEW DATALOG CHART (cont.)


- For Example, on selecting the option as ' Engine Water Temperature', the Bar Chart is changed showing the Engine Water Temperature of the Loco number 14974 of Zone SCR and Shed KZJ, as shown.

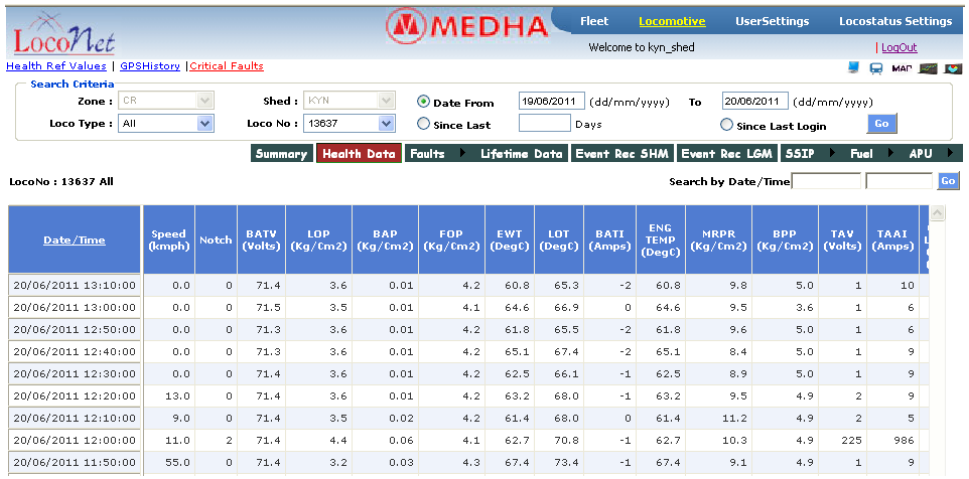
# LOCOMOTIVE → SUMMARY



# LOCOMOTIVE → SUMMARY

- Locomotive Reports is use to display the reports of selected zone and selected shed and loco number for selected dates.
- It includes :
  - Loco Summary
  - Loco Health
  - Loco Faults
  - Life Time Counters
  - Event Recorder SHM
  - Event Recorder LGM
  - SSIP Data
  - Fuel Data
  - APU
- Summary report displays the Latest Updated information about the locomotive. This report displays the last updated data of long term memory like date time, speed, status of the locomotive and the latest information of health data parameters.

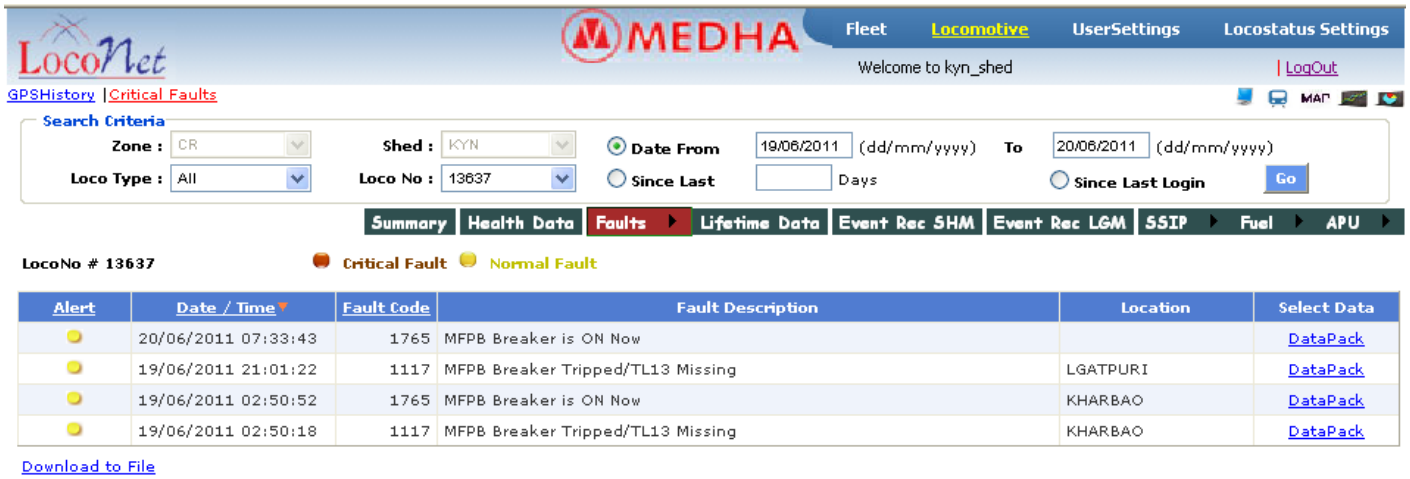
# LOCOMOTIVE → HEALTH DATA




| Date/Time | Speed (kmph) | Notch | BATV (Volts) | LOP (Kg/Cm2) | BAP (Kg/Cm2) | FOP (Kg/Cm2) | EWT (DegC) | LOT (DegC) | BATI (Amps) | ENG TEMP (DegC) | MRPR (Kg/Cm2) | BPP (Kg/Cm2) | TAV (Volts) | TAAI (Amps) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20/06/2011 13:10:00 | 0.0 | 0 | 71.4 | 3.6 | 0.01 | 4.2 | 60.8 | 65.3 | -2 | 60.8 | 9.8 | 5.0 | 1 | 10 |
| 20/06/2011 13:00:00 | 0.0 | 0 | 71.5 | 3.5 | 0.01 | 4.1 | 64.6 | 66.9 | 0 | 64.6 | 9.5 | 3.6 | 1 | 6 |
| 20/06/2011 12:50:00 | 0.0 | 0 | 71.3 | 3.6 | 0.01 | 4.2 | 61.8 | 65.5 | -2 | 61.8 | 9.6 | 5.0 | 1 | 6 |
| 20/06/2011 12:40:00 | 0.0 | 0 | 71.3 | 3.6 | 0.01 | 4.2 | 65.1 | 67.4 | -2 | 65.1 | 8.4 | 5.0 | 1 | 9 |
| 20/06/2011 12:30:00 | 0.0 | 0 | 71.4 | 3.6 | 0.01 | 4.2 | 62.5 | 66.1 | -1 | 62.5 | 8.9 | 5.0 | 1 | 9 |
| 20/06/2011 12:20:00 | 13.0 | 0 | 71.4 | 3.6 | 0.01 | 4.2 | 63.2 | 68.0 | -1 | 63.2 | 9.5 | 4.9 | 2 | 9 |
| 20/06/2011 12:10:00 | 9.0 | 0 | 71.4 | 3.5 | 0.02 | 4.2 | 61.4 | 68.0 | 0 | 61.4 | 11.2 | 4.9 | 2 | 5 |
| 20/06/2011 12:00:00 | 11.0 | 2 | 71.4 | 4.4 | 0.06 | 4.1 | 62.7 | 70.8 | -1 | 62.7 | 10.3 | 4.9 | 225 | 986 |
| 20/06/2011 11:50:00 | 55.0 | 0 | 71.4 | 3.2 | 0.03 | 4.3 | 67.4 | 73.4 | -1 | 67.4 | 9.1 | 4.9 | 1 | 9 |

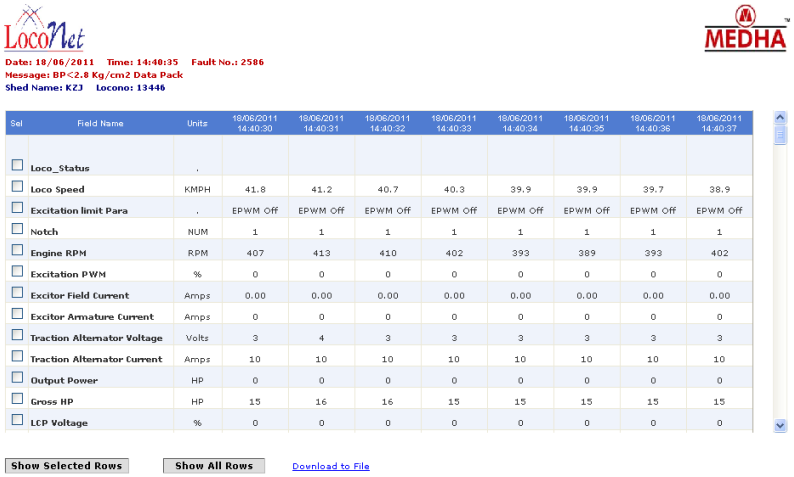
- Health Data report displays the health status of the locomotive like different type of pressures values, temperature values, speed, notch etc., for a particular period of a selected Locomotive.

# LOCOMOTIVE → FAULTS




- Faults Data displays the Detailed Fault information like fault code, fault description, logged date time of the fault to view Fault data pack of a selected locomotive or the selected criteria. Here user can select particular loco information within selected dates.

# LOCOMOTIVE → FAULT DATA PACK



LocoNet

MEDHA

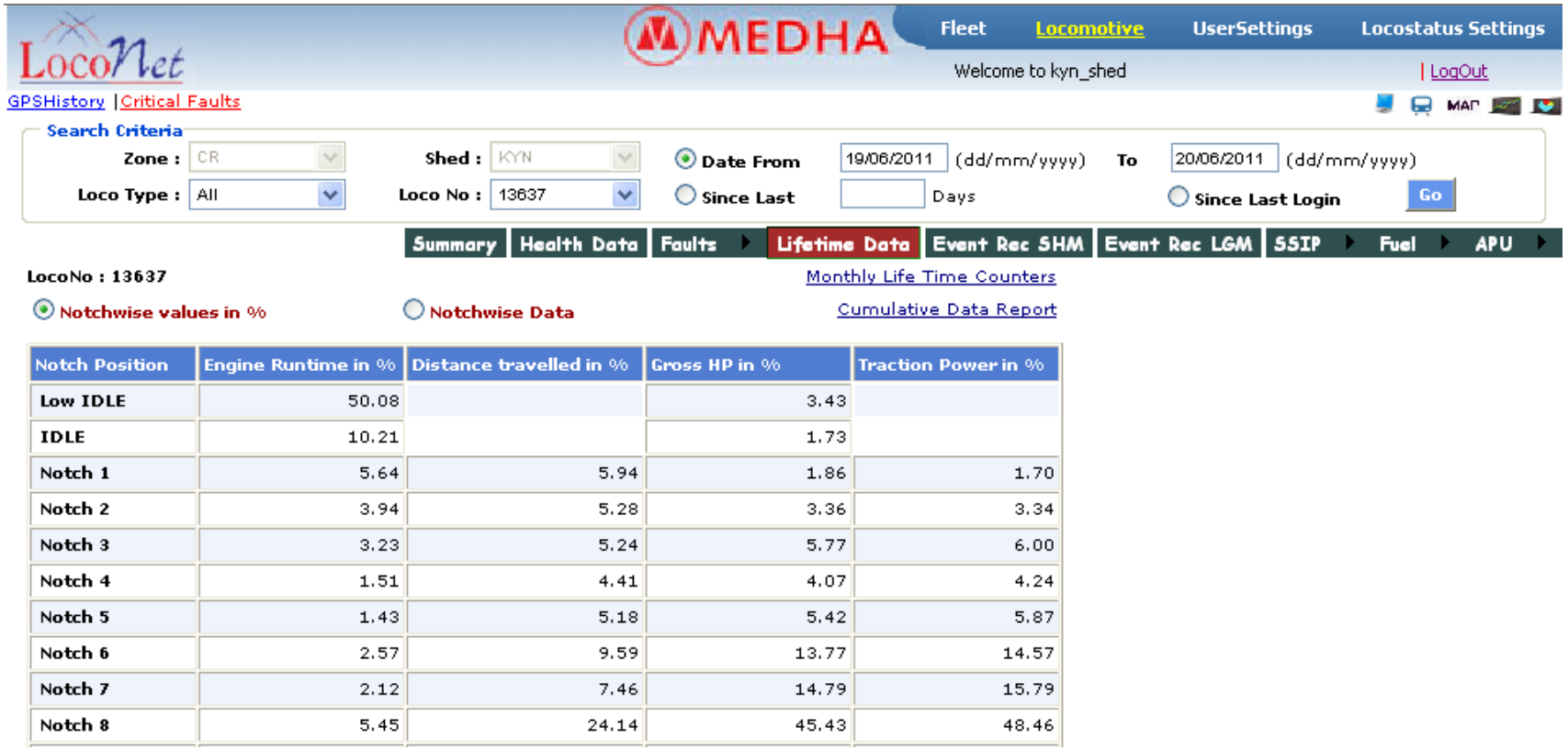
Date: 18/06/2011 Time: 14:40:35 Fault No.: 2586
Message: BP<2.8 Kg/cm2 Data Pack
Shed Name: KZJ Locono: 13446

| Sel | Field Name | Units | 18/06/2011 14:40:30 | 18/06/2011 14:40:31 | 18/06/2011 14:40:32 | 18/06/2011 14:40:33 | 18/06/2011 14:40:34 | 18/06/2011 14:40:35 | 18/06/2011 14:40:36 | 18/06/2011 14:40:37 |
|---|---|---|---|---|---|---|---|---|---|---|
| ☐ | Loco_Status | . | | | | | | | | |
| ☐ | Loco Speed | KMPH | 41.8 | 41.2 | 40.7 | 40.3 | 39.9 | 39.9 | 39.7 | 38.9 |
| ☐ | Excitation limit Para | . | EPWM Off | EPWM Off | EPWM Off | EPWM Off | EPWM Off | EPWM Off | EPWM Off | EPWM Off |
| ☐ | Notch | NUM | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ☐ | Engine RPM | RPM | 407 | 413 | 410 | 402 | 393 | 389 | 393 | 402 |
| ☐ | Excitation PWM | % | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ☐ | Excitor Field Current | Amps | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| ☐ | Excitor Armature Current | Amps | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ☐ | Traction Alternator Voltage | Volts | 3 | 4 | 3 | 3 | 3 | 3 | 3 | 3 |
| ☐ | Traction Alternator Current | Amps | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| ☐ | Output Power | HP | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ☐ | Gross HP | HP | 15 | 16 | 16 | 15 | 15 | 15 | 15 | 15 |
| ☐ | LCP Voltage | % | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Show Selected Rows  Show All Rows  Download to File

- It is a pop up screen in the Fault Module. For the selected fault, it shows the status of different parameters for the past of 3 & 5 seconds of the selected faults.

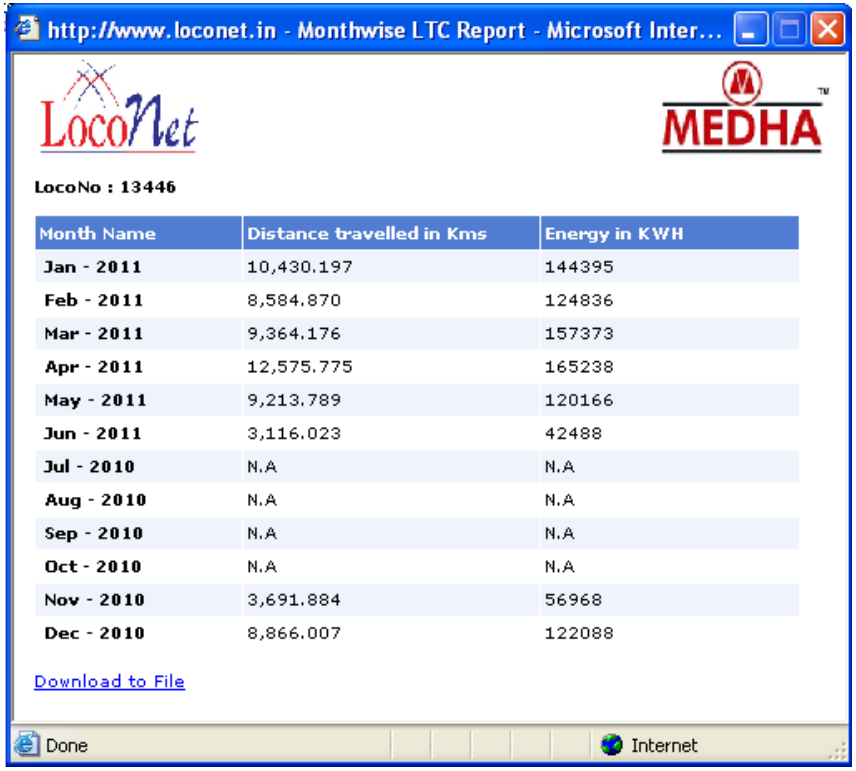
# LOCOMOTIVE → LIFE TIME DATA

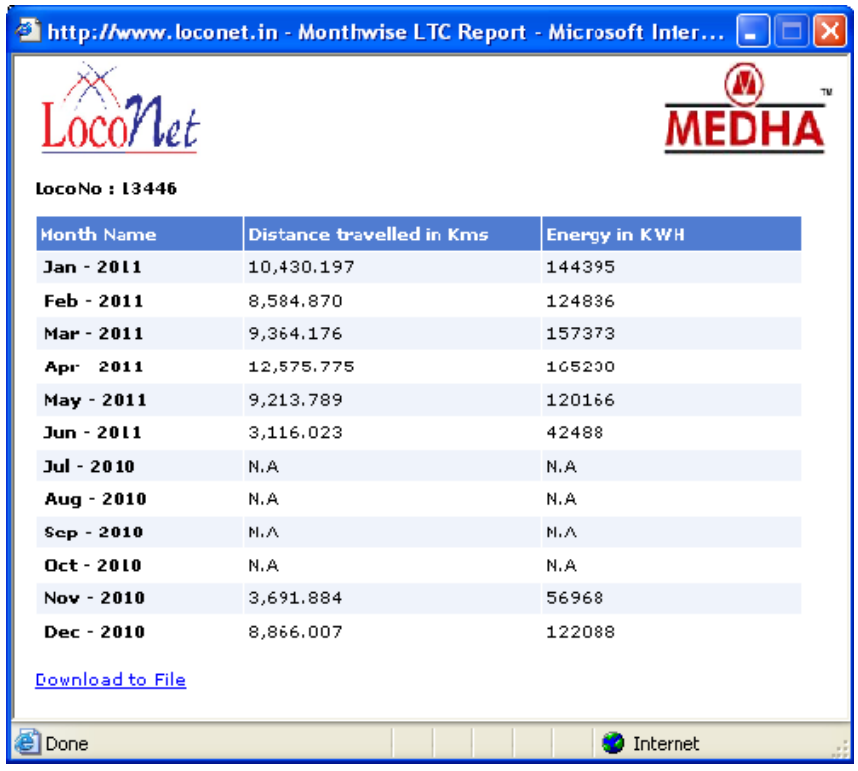



| Notch Position | Engine Runtime in % | Distance travelled in % | Gross HP in % | Traction Power in % |
|---|---|---|---|---|
| Low IDLE | 50.08 | | 3.43 | |
| IDLE | 10.21 | | 1.73 | |
| Notch 1 | 5.64 | 5.94 | 1.86 | 1.70 |
| Notch 2 | 3.94 | 5.28 | 3.36 | 3.34 |
| Notch 3 | 3.23 | 5.24 | 5.77 | 6.00 |
| Notch 4 | 1.51 | 4.41 | 4.07 | 4.24 |
| Notch 5 | 1.43 | 5.18 | 5.42 | 5.87 |
| Notch 6 | 2.57 | 9.59 | 13.77 | 14.57 |
| Notch 7 | 2.12 | 7.46 | 14.79 | 15.79 |
| Notch 8 | 5.45 | 24.14 | 45.43 | 48.46 |

- Lifetime Data displays the Runtime, distance traveled, power consumed for each notch, coasting distance, coasting time, DB distance, DB time of a particular locomotive for a selected period. Distance is shown in Km's and time in hh:mm:ss format.

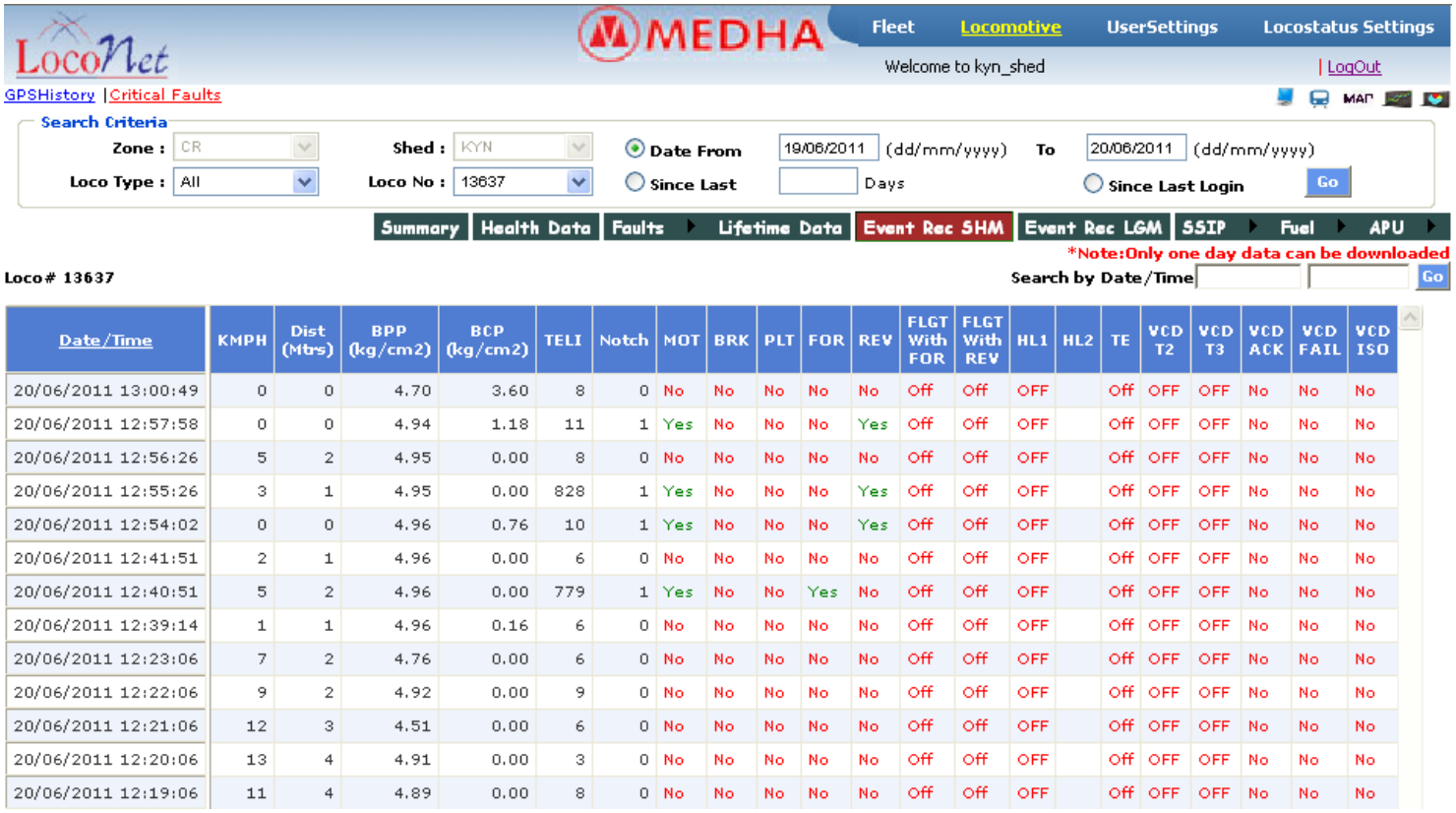
# LOCOMOTIVE > MONTHLY WISE LTC REPORT & CUMULATIVE DATA




- Monthly Lifetime counters: Lifetime counters link displays the month wise counters of the selected loco.
- Cumulative Life Time Counters link displays the cumulative data of the selected loco.

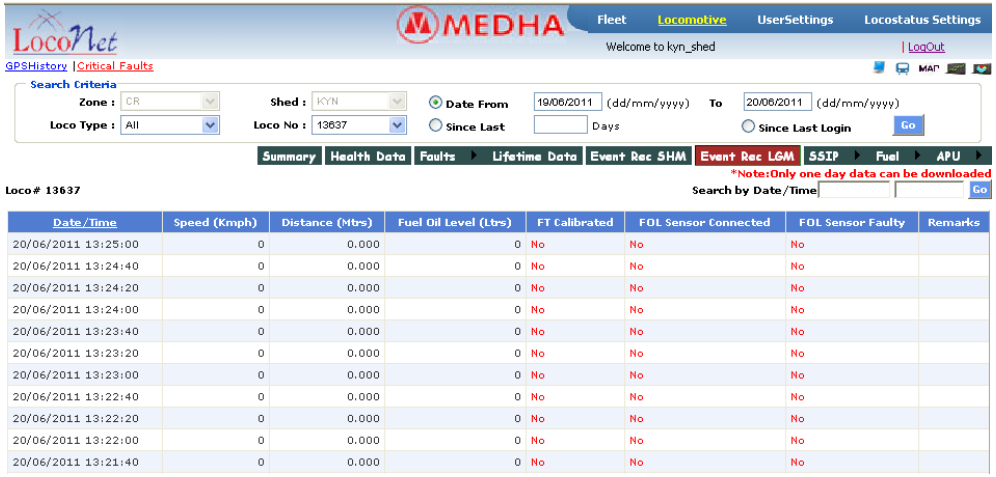
# LOCOMOTIVE → EVENT REC SHM




| Date/Time | KMPH | Dist (Mtrs) | BPP (kg/cm2) | BCP (kg/cm2) | TELI | Notch | MOT | BRK | PLT | FOR | REV | FLGT With FOR | FLGT With REV | HL1 | HL2 | TE | VCD T2 | VCD T3 | VCD ACK | VCD FAIL | VCD ISO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20/06/2011 13:00:49 | 0 | 0 | 4.70 | 3.60 | 8 | 0 | No | No | No | No | No | Off | Off | OFF | | Off | OFF | OFF | No | No | No |
| 20/06/2011 12:57:58 | 0 | 0 | 4.94 | 1.18 | 11 | 1 | Yes | No | No | No | Yes | Off | Off | OFF | | Off | OFF | OFF | No | No | No |
| 20/06/2011 12:56:26 | 5 | 2 | 4.95 | 0.00 | 8 | 0 | No | No | No | No | No | Off | Off | OFF | | Off | OFF | OFF | No | No | No |
| 20/06/2011 12:55:26 | 3 | 1 | 4.95 | 0.00 | 828 | 1 | Yes | No | No | No | Yes | Off | Off | OFF | | Off | OFF | OFF | No | No | No |
| 20/06/2011 12:54:02 | 0 | 0 | 4.96 | 0.76 | 10 | 1 | Yes | No | No | No | Yes | Off | Off | OFF | | Off | OFF | OFF | No | No | No |
| 20/06/2011 12:41:51 | 2 | 1 | 4.96 | 0.00 | 6 | 0 | No | No | No | No | No | Off | Off | OFF | | Off | OFF | OFF | No | No | No |
| 20/06/2011 12:40:51 | 5 | 2 | 4.96 | 0.00 | 779 | 1 | Yes | No | No | Yes | No | Off | Off | OFF | | Off | OFF | OFF | No | No | No |
| 20/06/2011 12:39:14 | 1 | 1 | 4.96 | 0.16 | 6 | 0 | No | No | No | No | No | Off | Off | OFF | | Off | OFF | OFF | No | No | No |
| 20/06/2011 12:23:06 | 7 | 2 | 4.76 | 0.00 | 6 | 0 | No | No | No | No | No | Off | Off | OFF | | Off | OFF | OFF | No | No | No |
| 20/06/2011 12:22:06 | 9 | 2 | 4.92 | 0.00 | 9 | 0 | No | No | No | No | No | Off | Off | OFF | | Off | OFF | OFF | No | No | No |
| 20/06/2011 12:21:06 | 12 | 3 | 4.51 | 0.00 | 6 | 0 | No | No | No | No | No | Off | Off | OFF | | Off | OFF | OFF | No | No | No |
| 20/06/2011 12:20:06 | 13 | 4 | 4.91 | 0.00 | 3 | 0 | No | No | No | No | No | Off | Off | OFF | | Off | OFF | OFF | No | No | No |
| 20/06/2011 12:19:06 | 11 | 4 | 4.89 | 0.00 | 8 | 0 | No | No | No | No | No | Off | Off | OFF | | Off | OFF | OFF | No | No | No |

- SHM report displays the Event Recorder data of 1 second data i.e speed, distance, pressure values, notch etc. for the selected loco for the selected period . Here only one day data can be downloaded. Here, in Search by Date/Time control when a particular date and time is entered and 'Go' button is clicked, it navigates the data page where the entered date time has been matched and it is displayed as a first record.

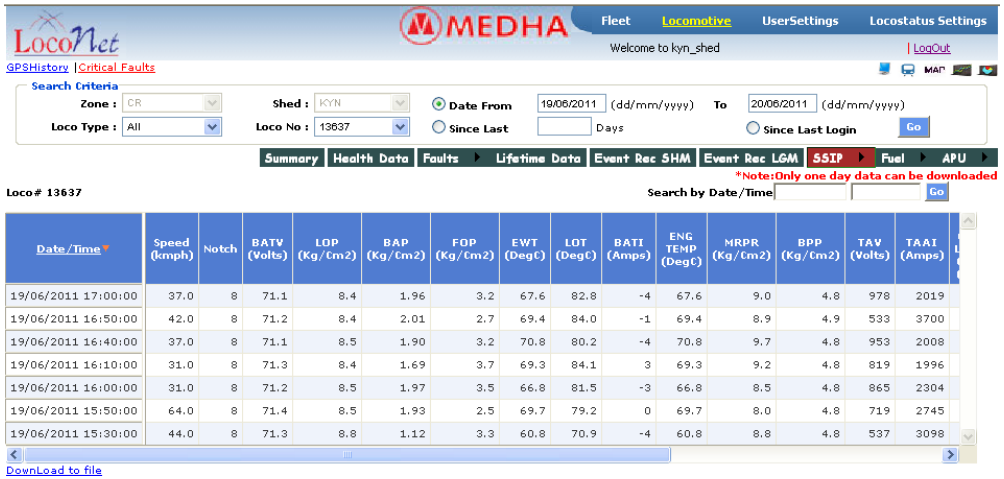
# LOCOMOTIVE → EVENT REC LGM




| Date/Time | Speed (Kmph) | Distance (Mtrs) | Fuel Oil Level (Ltrs) | FT Calibrated | FOL Sensor Connected | FOL Sensor Faulty | Remarks |
|---|---|---|---|---|---|---|---|
| 20/06/2011 13:25:00 | 0 | 0.000 | 0 | No | No | No | |
| 20/06/2011 13:24:40 | 0 | 0.000 | 0 | No | No | No | |
| 20/06/2011 13:24:20 | 0 | 0.000 | 0 | No | No | No | |
| 20/06/2011 13:24:00 | 0 | 0.000 | 0 | No | No | No | |
| 20/06/2011 13:23:40 | 0 | 0.000 | 0 | No | No | No | |
| 20/06/2011 13:23:20 | 0 | 0.000 | 0 | No | No | No | |
| 20/06/2011 13:23:00 | 0 | 0.000 | 0 | No | No | No | |
| 20/06/2011 13:22:40 | 0 | 0.000 | 0 | No | No | No | |
| 20/06/2011 13:22:20 | 0 | 0.000 | 0 | No | No | No | |
| 20/06/2011 13:22:00 | 0 | 0.000 | 0 | No | No | No | |
| 20/06/2011 13:21:40 | 0 | 0.000 | 0 | No | No | No | |

- LGM report displays the Event Recorder data of 20 second data i.e speed, distance, Fuel Oil Level, FT calibrated etc. for the selected loco for the selected period. Here only one day data can be downloaded. Here, in Search by Date/Time control when a particular date and time is entered and 'Go' button is clicked, it navigates the data page where the entered date time has been matched and it is displayed as a first record.

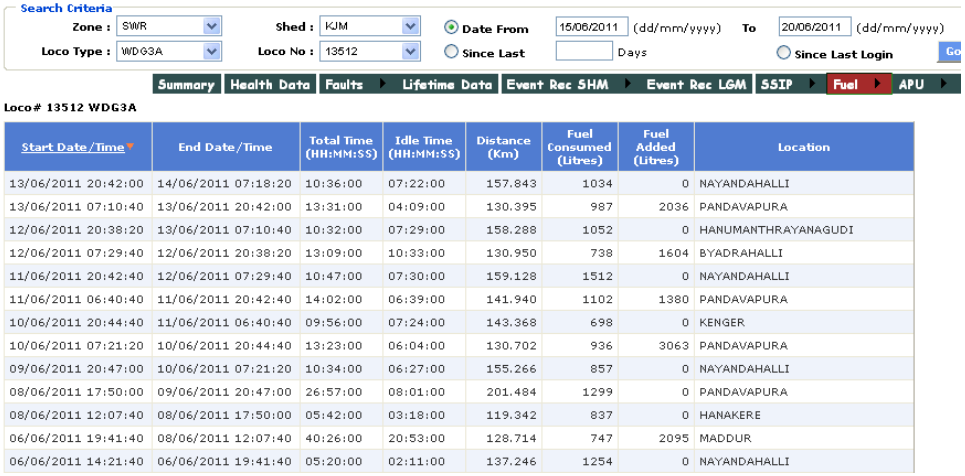
# LOCOMOTIVE → SSIP DATA




| Date/Time | Speed (kmph) | Notch | BATV (Volts) | LOP (Kg/Cm2) | BAP (Kg/Cm2) | FOP (Kg/Cm2) | EWT (DegC) | LOT (DegC) | BATI (Amps) | ENG TEMP (DegC) | MRPR (Kg/Cm2) | BPP (Kg/Cm2) | TAV (Volts) | TAAI (Amps) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 19/06/2011 17:00:00 | 37.0 | 8 | 71.1 | 8.4 | 1.96 | 3.2 | 67.6 | 82.8 | -4 | 67.6 | 9.0 | 4.8 | 978 | 2019 |
| 19/06/2011 16:50:00 | 42.0 | 8 | 71.2 | 8.4 | 2.01 | 2.7 | 69.4 | 84.0 | -1 | 69.4 | 8.9 | 4.9 | 533 | 3700 |
| 19/06/2011 16:40:00 | 37.0 | 8 | 71.1 | 8.5 | 1.90 | 3.2 | 70.8 | 80.2 | -4 | 70.8 | 9.7 | 4.8 | 953 | 2008 |
| 19/06/2011 16:10:00 | 31.0 | 8 | 71.3 | 8.4 | 1.69 | 3.7 | 69.3 | 84.1 | 3 | 69.3 | 9.2 | 4.8 | 819 | 1996 |
| 19/06/2011 16:00:00 | 31.0 | 8 | 71.2 | 8.5 | 1.97 | 3.5 | 66.8 | 81.5 | -3 | 66.8 | 8.5 | 4.8 | 865 | 2304 |
| 19/06/2011 15:50:00 | 64.0 | 8 | 71.4 | 8.5 | 1.93 | 2.5 | 69.7 | 79.2 | 0 | 69.7 | 8.0 | 4.8 | 719 | 2745 |
| 19/06/2011 15:30:00 | 44.0 | 8 | 71.3 | 8.8 | 1.12 | 3.3 | 60.8 | 70.9 | -4 | 60.8 | 8.8 | 4.8 | 537 | 3098 |

- SSIP displays the Steady State Information of the selected locomotive for a selected period. It displays SSIP status of the locomotive like Engine RPM, Lube oil pressure, BAP etc., for a particular period of a selected locomotive.
- On clicking, the Download File link saves the entire information of selected locomotive of selected dates.

# LOCOMOTIVE → FUEL DATA



Search Criteria

Zone : SWR | Shed : KJM | Date From 15/06/2011 (dd/mm/yyyy) To 20/06/2011 (dd/mm/yyyy)

Loco Type : WDG3A | Loco No : 13512 | Since Last Days | Since Last Login | Go

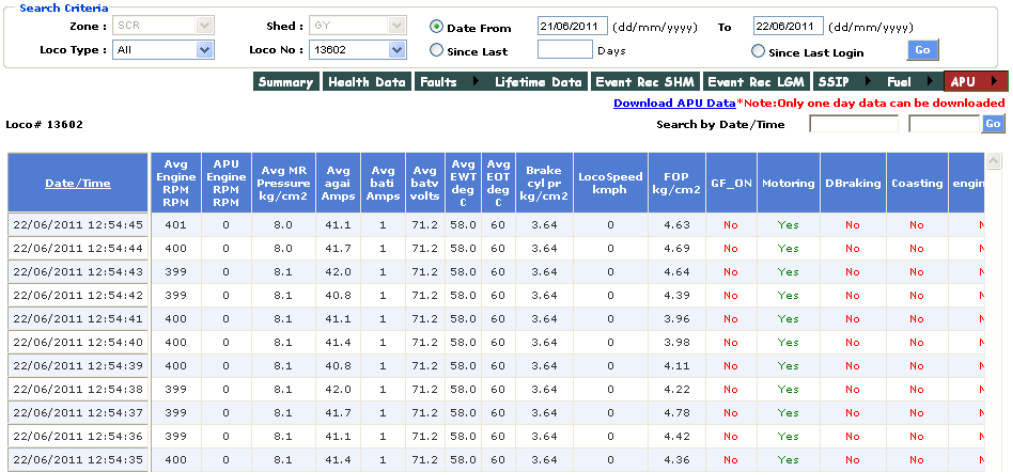
Summary | Health Data | Faults | Lifetime Data | Event Rec SHM | Event Rec LGM | SSIP | Fuel | APU

Loco# 13512 WDG3A

| Start Date/Time | End Date/Time | Total Time (HH:MM:SS) | Idle Time (HH:MM:SS) | Distance (Km) | Fuel Consumed (Litres) | Fuel Added (Litres) | Location |
|---|---|---|---|---|---|---|---|
| 13/06/2011 20:42:00 | 14/06/2011 07:18:20 | 10:36:00 | 07:22:00 | 157.843 | 1034 | 0 | NAYANDAHALLI |
| 13/06/2011 07:10:40 | 13/06/2011 20:42:00 | 13:31:00 | 04:09:00 | 130.395 | 987 | 2036 | PANDAVAPURA |
| 12/06/2011 20:38:20 | 13/06/2011 07:10:40 | 10:32:00 | 07:29:00 | 158.288 | 1052 | 0 | HANUMANTHRAYANAGUDI |
| 12/06/2011 07:29:40 | 12/06/2011 20:38:20 | 13:09:00 | 10:33:00 | 130.950 | 738 | 1604 | BYADRAHALLI |
| 11/06/2011 20:42:40 | 12/06/2011 07:29:40 | 10:47:00 | 07:30:00 | 159.128 | 1512 | 0 | NAYANDAHALLI |
| 11/06/2011 06:40:40 | 11/06/2011 20:42:40 | 14:02:00 | 06:39:00 | 141.940 | 1102 | 1380 | PANDAVAPURA |
| 10/06/2011 20:44:40 | 11/06/2011 06:40:40 | 09:56:00 | 07:24:00 | 143.368 | 698 | 0 | KENGER |
| 10/06/2011 07:21:20 | 10/06/2011 20:44:40 | 13:23:00 | 06:04:00 | 130.702 | 936 | 3063 | PANDAVAPURA |
| 09/06/2011 20:47:00 | 10/06/2011 07:21:20 | 10:34:00 | 06:27:00 | 155.266 | 857 | 0 | NAYANDAHALLI |
| 08/06/2011 17:50:00 | 09/06/2011 20:47:00 | 26:57:00 | 08:01:00 | 201.484 | 1299 | 0 | PANDAVAPURA |
| 08/06/2011 12:07:40 | 08/06/2011 17:50:00 | 05:42:00 | 03:18:00 | 119.342 | 837 | 0 | HANAKERE |
| 06/06/2011 19:41:40 | 08/06/2011 12:07:40 | 40:26:00 | 20:53:00 | 128.714 | 747 | 2095 | MADDUR |
| 06/06/2011 14:21:40 | 06/06/2011 19:41:40 | 05:20:00 | 02:11:00 | 137.246 | 1254 | 0 | NAYANDAHALLI |

- Fuel Data report displays the fuel consumed, distance traveled by a loco on each day for last seven days, the fuel oil level, fuel added and location of the loco along with date/time at which the fuel was added for last selected dates.

# LOCOMOTIVE → APU DATA



Search Criteria

Zone : SCR  Shed : GY  Date From 21/06/2011 (dd/mm/yyyy) To 22/06/2011 (dd/mm/yyyy)

Loco Type : All  Loco No : 13602  Since Last  Days  Since Last Login  Go

Summary | Health Data | Faults | Lifetime Data | Event Rec SHM | Event Rec LGM | SSIP | Fuel | APU

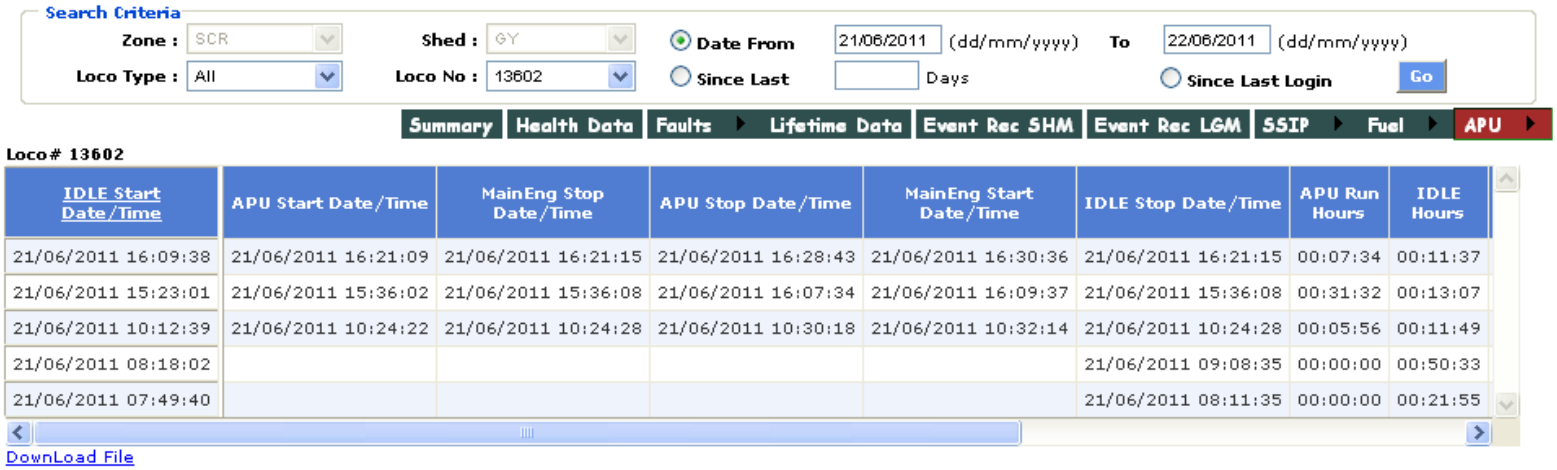
Download APU Data *Note:Only one day data can be downloaded

Loco# 13602  Search by Date/Time  Go

| Date/Time | Avg Engine RPM RPM | APU Engine RPM RPM | Avg MR Pressure kg/cm2 | Avg agai Amps | Avg bati Amps | Avg batv volts | Avg EWT deg C | Avg EOT deg C | Brake cyl pr kg/cm2 | LocoSpeed kmph | FOP kg/cm2 | GF_ON | Motoring | DBraking | Coasting | engin |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 22/06/2011 12:54:45 | 401 | 0 | 8.0 | 41.1 | 1 | 71.2 | 58.0 | 60 | 3.64 | 0 | 4.63 | No | Yes | No | No | N |
| 22/06/2011 12:54:44 | 400 | 0 | 8.0 | 41.7 | 1 | 71.2 | 58.0 | 60 | 3.64 | 0 | 4.69 | No | Yes | No | No | N |
| 22/06/2011 12:54:43 | 399 | 0 | 8.1 | 42.0 | 1 | 71.2 | 58.0 | 60 | 3.64 | 0 | 4.64 | No | Yes | No | No | N |
| 22/06/2011 12:54:42 | 399 | 0 | 8.1 | 40.8 | 1 | 71.2 | 58.0 | 60 | 3.64 | 0 | 4.39 | No | Yes | No | No | N |
| 22/06/2011 12:54:41 | 400 | 0 | 8.1 | 41.1 | 1 | 71.2 | 58.0 | 60 | 3.64 | 0 | 3.96 | No | Yes | No | No | N |
| 22/06/2011 12:54:40 | 400 | 0 | 8.1 | 41.4 | 1 | 71.2 | 58.0 | 60 | 3.64 | 0 | 3.98 | No | Yes | No | No | N |
| 22/06/2011 12:54:39 | 400 | 0 | 8.1 | 40.8 | 1 | 71.2 | 58.0 | 60 | 3.64 | 0 | 4.11 | No | Yes | No | No | N |
| 22/06/2011 12:54:38 | 399 | 0 | 8.1 | 42.0 | 1 | 71.2 | 58.0 | 60 | 3.64 | 0 | 4.22 | No | Yes | No | No | N |
| 22/06/2011 12:54:37 | 399 | 0 | 8.1 | 41.7 | 1 | 71.2 | 58.0 | 60 | 3.64 | 0 | 4.78 | No | Yes | No | No | N |
| 22/06/2011 12:54:36 | 399 | 0 | 8.1 | 41.1 | 1 | 71.2 | 58.0 | 60 | 3.64 | 0 | 4.42 | No | Yes | No | No | N |
| 22/06/2011 12:54:35 | 400 | 0 | 8.1 | 41.4 | 1 | 71.2 | 58.0 | 60 | 3.64 | 0 | 4.36 | No | Yes | No | No | N |

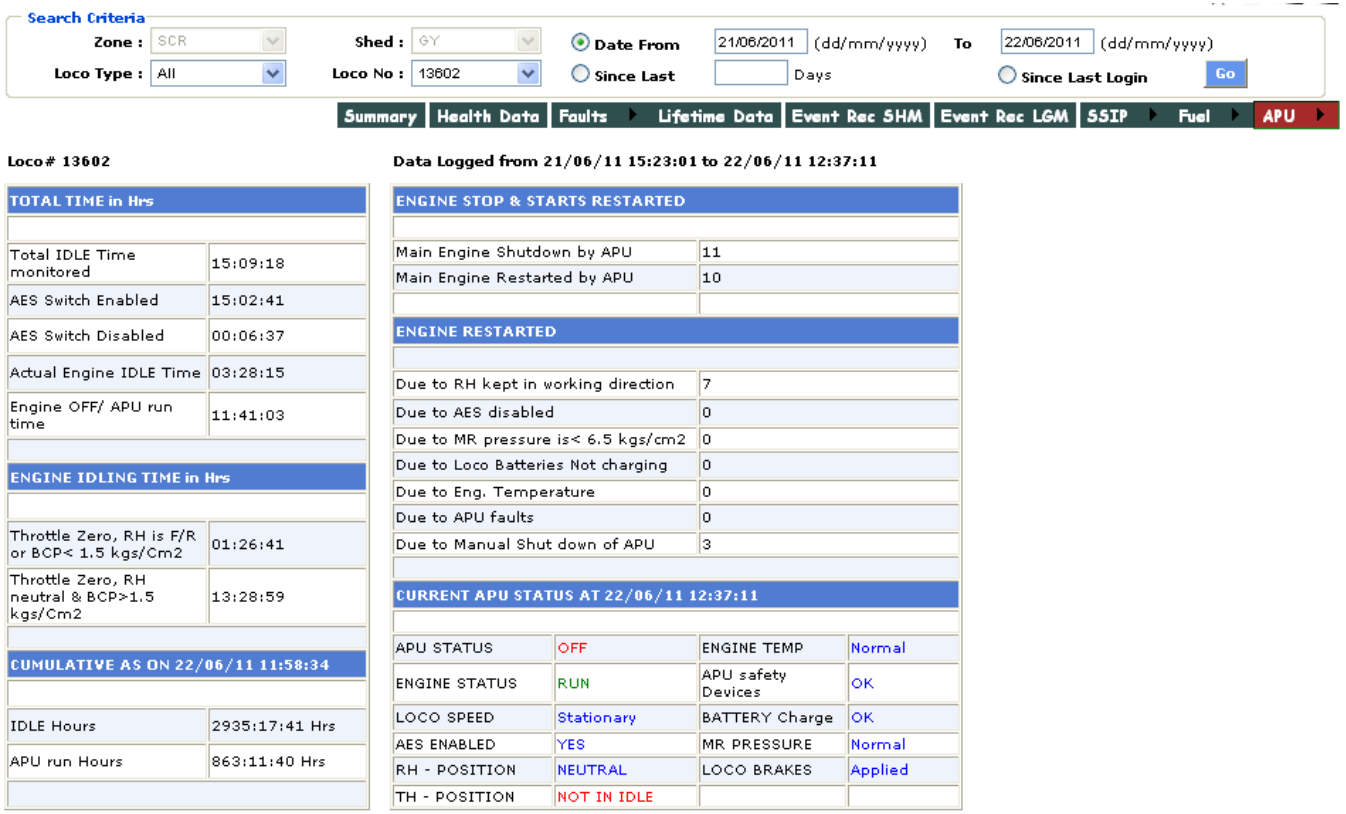
- If loco is provided with Auxiliary Power Unit (APU), then all the relevant parameters of APU will be indicated as given above for furthers analysis.

# LOCOMOTIVE → APU Counters




- APU run time counters can be monitored in this screen. When the loco entered into fuel save mode, fuel saving time etc., will be indicated in this screen. If system is not entering into the fuel save mode, appropriate message will be given by the system why it is not entering into the fuel save mode.

# LOCOMOTIVE → APU Summary



Search Criteria

Zone : SCR  Shed : GY  Date From 21/06/2011 (dd/mm/yyyy) To 22/06/2011 (dd/mm/yyyy)

Loco Type : All  Loco No : 13602  Since Last  Days  Since Last Login  Go

Summary | Health Data | Faults | Lifetime Data | Event Rec SHM | Event Rec LGM | SSIP | Fuel | APU

Loco# 13602

Data Logged from 21/06/11 15:23:01 to 22/06/11 12:37:11

**TOTAL TIME in Hrs**

| | |
|---|---|
| Total IDLE Time monitored | 15:09:18 |
| AES Switch Enabled | 15:02:41 |
| AES Switch Disabled | 00:06:37 |
| Actual Engine IDLE Time | 03:28:15 |
| Engine OFF/ APU run time | 11:41:03 |

**ENGINE IDLING TIME in Hrs**

| | |
|---|---|
| Throttle Zero, RH is F/R or BCP< 1.5 kgs/Cm2 | 01:26:41 |
| Throttle Zero, RH neutral & BCP>1.5 kgs/Cm2 | 13:28:59 |

**CUMULATIVE AS ON 22/06/11 11:58:34**

| | |
|---|---|
| IDLE Hours | 2935:17:41 Hrs |
| APU run Hours | 863:11:40 Hrs |

**ENGINE STOP & STARTS RESTARTED**

| | |
|---|---|
| Main Engine Shutdown by APU | 11 |
| Main Engine Restarted by APU | 10 |

**ENGINE RESTARTED**

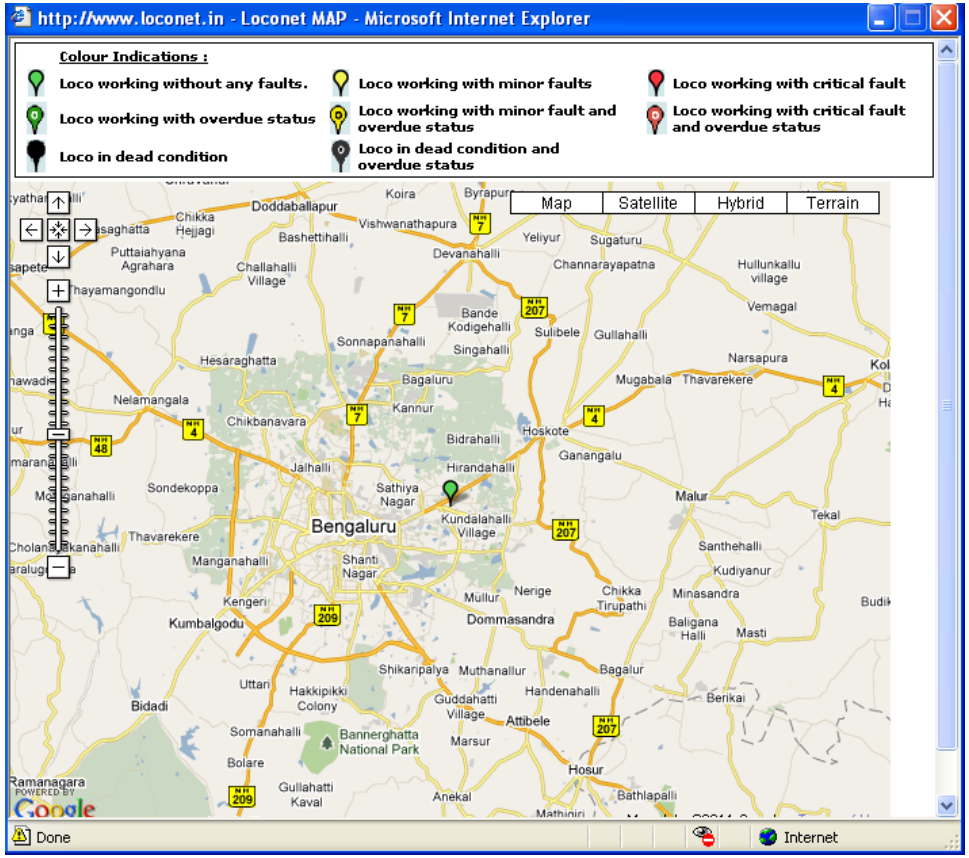
| | |
|---|---|
| Due to RH kept in working direction | 7 |
| Due to AES disabled | 0 |
| Due to MR pressure is< 6.5 kgs/cm2 | 0 |
| Due to Loco Batteries Not charging | 0 |
| Due to Eng. Temperature | 0 |
| Due to APU faults | 0 |
| Due to Manual Shut down of APU | 3 |

**CURRENT APU STATUS AT 22/06/11 12:37:11**

| | | | |
|---|---|---|---|
| APU STATUS | OFF | ENGINE TEMP | Normal |
| ENGINE STATUS | RUN | APU safety Devices | OK |
| LOCO SPEED | Stationary | BATTERY Charge | OK |
| AES ENABLED | YES | MR PRESSURE | Normal |
| RH - POSITION | NEUTRAL | LOCO BRAKES | Applied |
| TH - POSITION | NOT IN IDLE | | |

- In this screen total summary will be prompted related to APU. How many times system entered into fuel save mode, for what reason it come out from the fuel save mode etc., will be shown as above.

# LOCOMOTIVE → GPS DATA → VIEW MAP

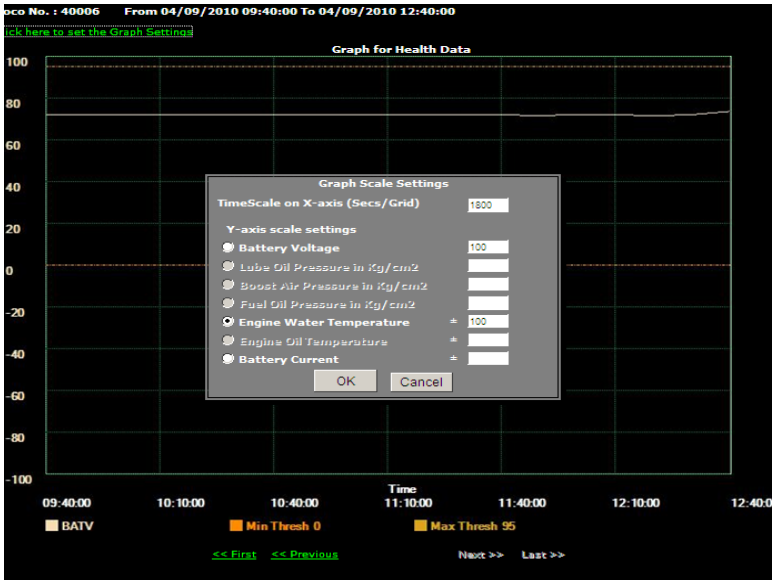


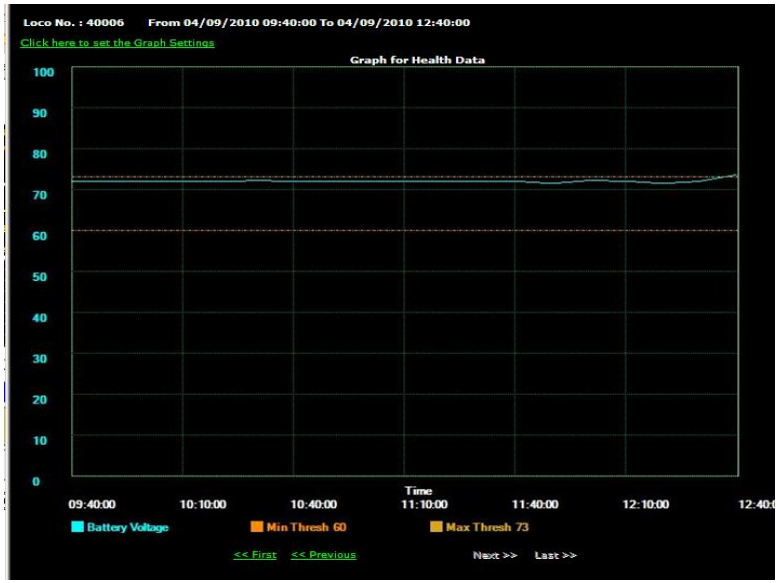

- This Map displays the location of the particular selected loco.
- On keeping the cursor on View Map, “Click here to view loco map” occurs.
- On clicking, a new window pops out, as shown.
- This option provides the location of the selected Locomotive. The locations can be viewed accordingly by choosing the various options as View Map, Satellite, Hybrid and Terrain respectively.

# LOCOMOTIVE → VIEW GRAPH


- This graph shows the “Speed vs Time” or “Speed vs Distance” relationship of the particular selected Loco.
- On keeping the cursor on View Graph, “Click here to view Event recorder LGM” occurs. On clicking, a new window pops out, as shown.
- This particular graph shows the “Speed vs Time” relationship of Loco number 16403 on 03-09-10 10:49:40 to 03-09-10 11:01:20.

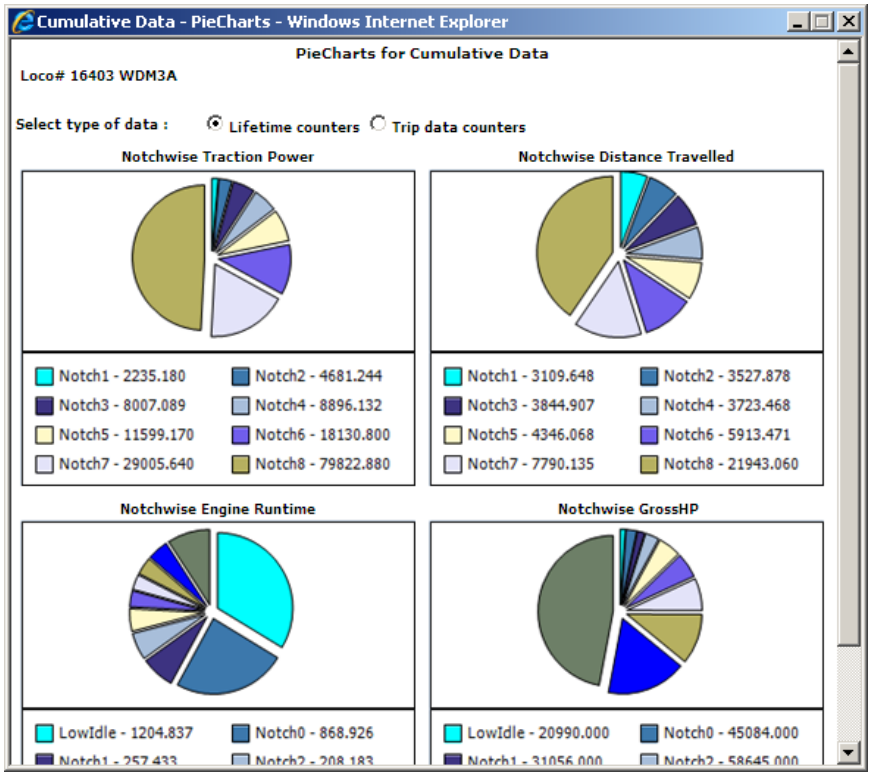
# LOCOMOTIVE → VIEW GRAPH




- There are Graph Scale Settings for the user to choose. For a particular loco, the user can see the “Speed vs Time” relationship or Speed vs Distance relationship. Speed is marked on the Y-axis whereas Time or Distance is marked on the X-axis.
- The scale for Time is marked as Secs/Grid and the scale for Distance is marked as Kms/Grid. Speed is set in KMPH.

# LOCOMOTIVE → VIEW LTC PIE CHART




- These Pie charts shows the various Notch wise distribution of the particular Loco as selected by the user. The eight notches are differentiated by different colors for showing the particular distribution. These charts shows the distribution of the cumulative data for Notch wise Energy Consumption, Notch wise Distance Traveled and Notch wise Energy Runtime.
- On clicking View LTC Pie Chart, a new window pops out showing the cumulative data, as shown

# USER SETTINGS

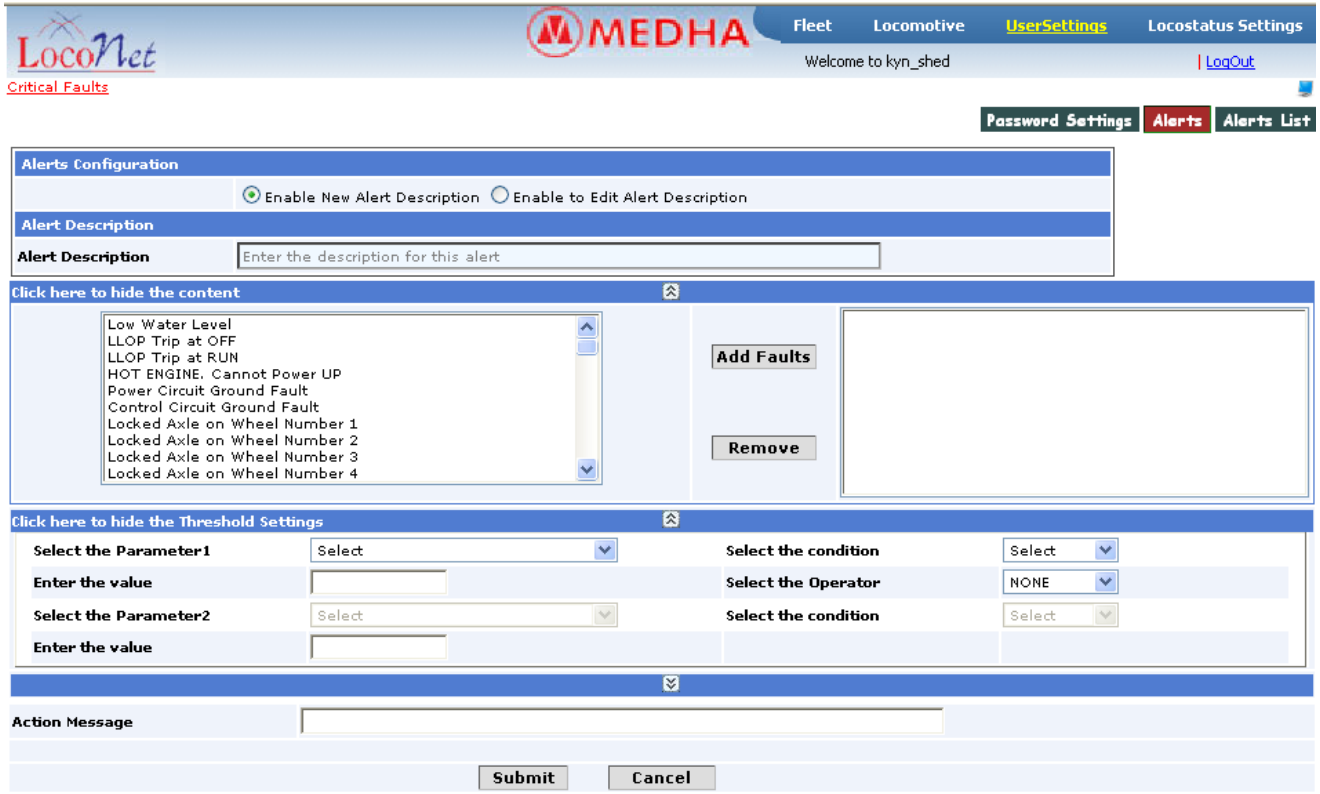

- The reports under this module are:

  - ✓ Password Settings
  - ✓ Alerts
  - ✓ Alerts List

# USER SETTINGS → Password Settings

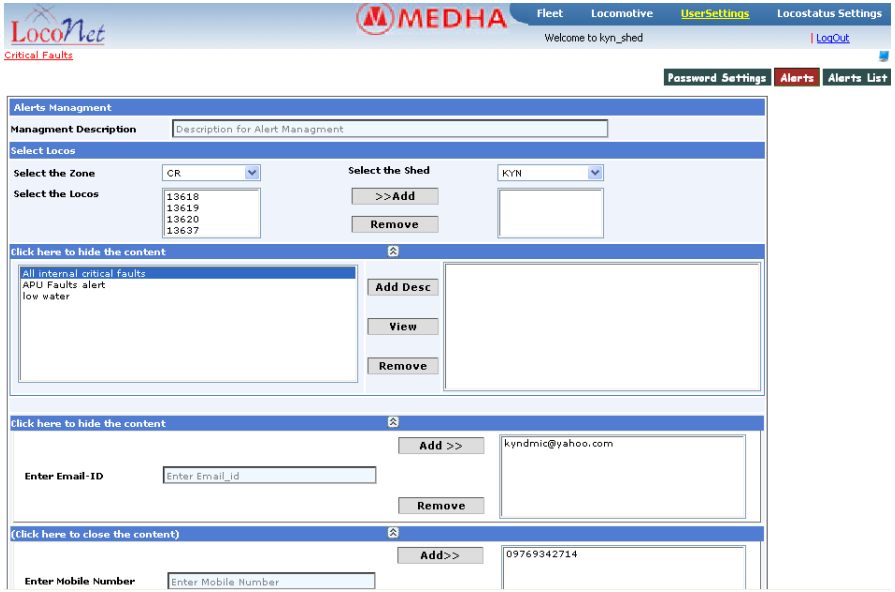

- Password Setting Screen is used to change the password of the respective user. This screen helps the user to change password.
- When this screen is loaded, by default, it will ask to 'Enter Transaction Password'.
- It will prompt User name, Mobile Number, Email ID are loaded in the screen.
- User can change the password by entering data in all fields and on click of the submit button it saves the new password.

# USER SETTINGS → ALERTS CONFIGURATION




- Alerts configuration is mainly used to configure the alerts for selected loco's.
- Alerts Configuration Screen is used for configuring the alerts for selected faults for selected loco's in order to receive the email alerts.
- Zone, Shed, Loco number, Faults, Email id and Mobile numbers are loaded by default when the screen is loaded.

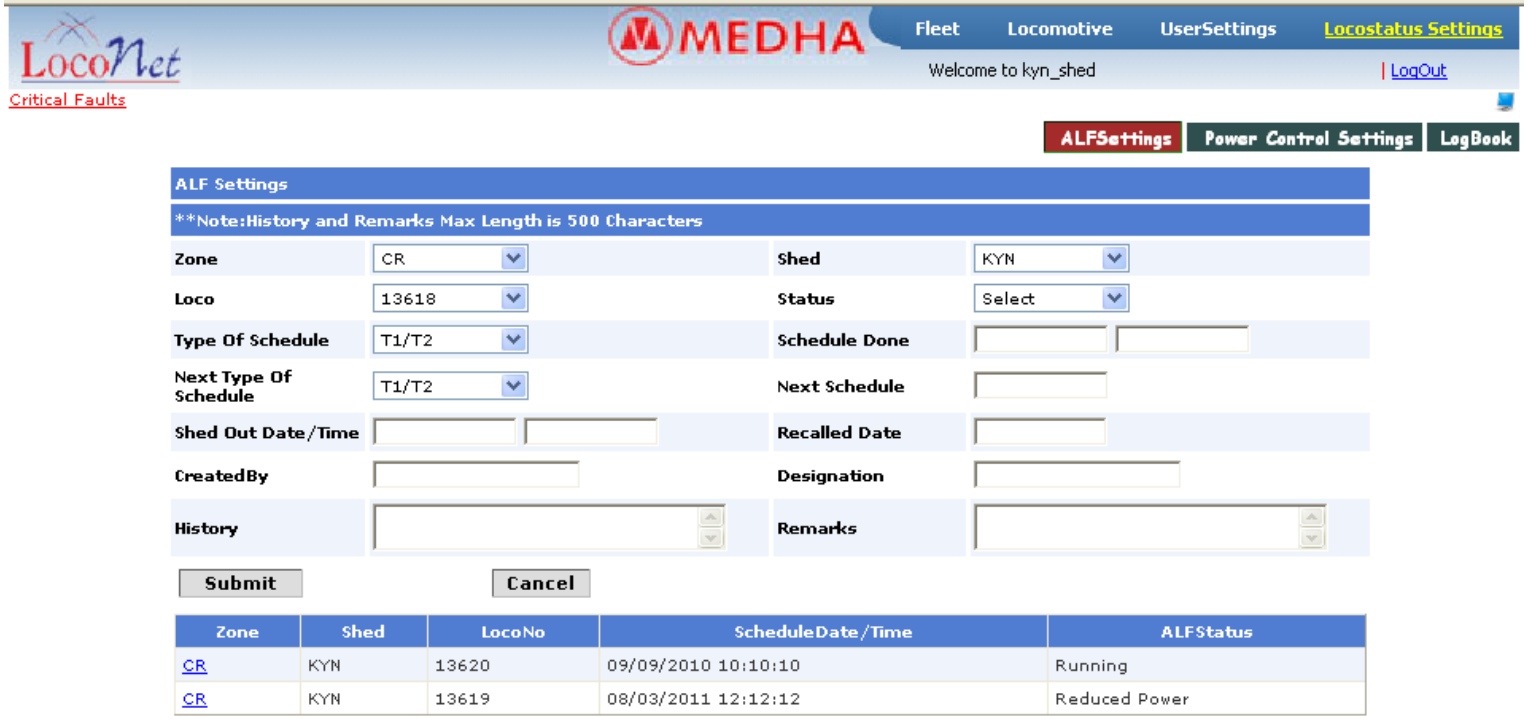
# USER SETTINGS → ALERTS MANAGEMENT



# USER SETTINGS → ALERTS LIST


- Alerts List displays the list of user configured alerts and from this report user can change the existing alert and view the configured alert report in small pop up window.
- On clicking, the Edit the alert link navigates to Alerts configuration Screen.
- There user can modify the selected alert and then click on Update button to modify the alert. The modified data is displayed in Alerts List screen.

# LOCOSTATUS SETTINGS → ALF SETTINGS




Loco Status Reports is used to configure the information by the user. The reports under this module are:

- ALF Settings
- Power Control Settings
- Log Book

# LOCOSTATUS SETTINGS → ALF SETTINGS

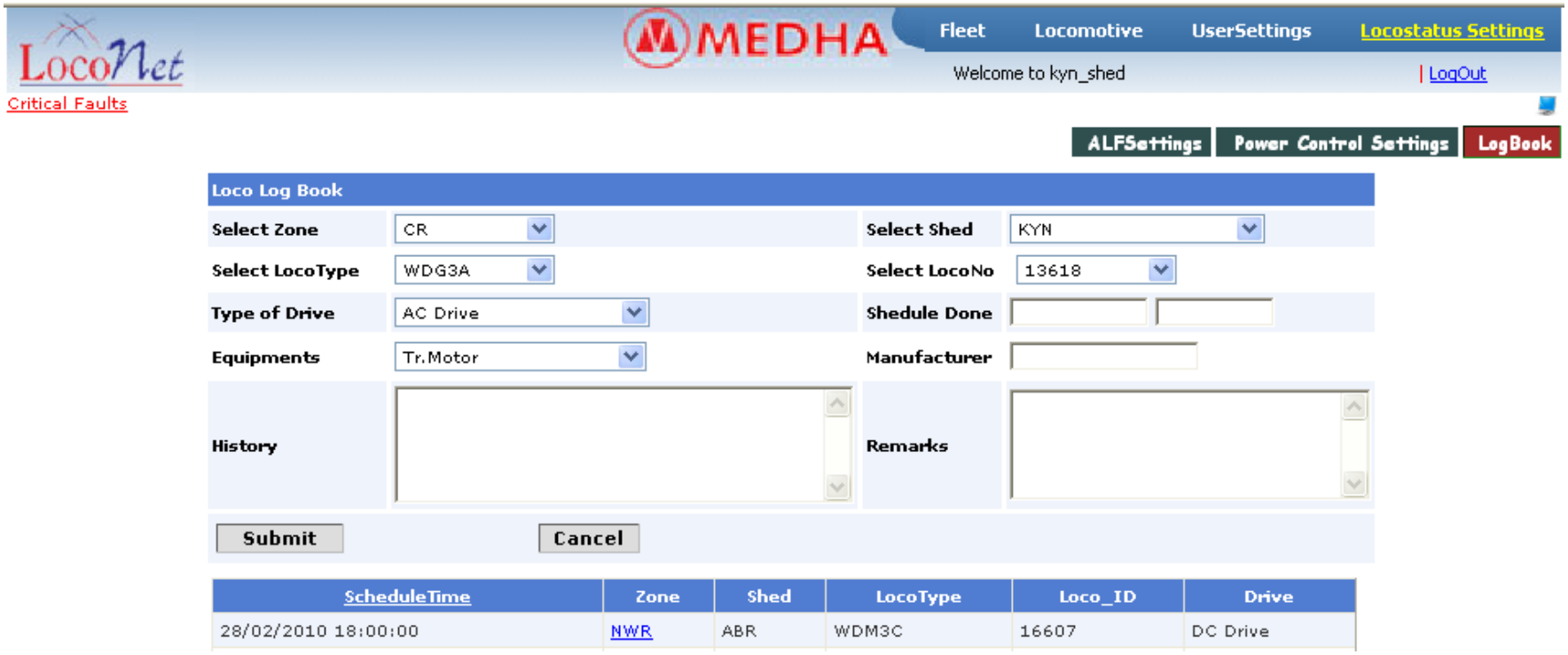
ALF settings screen is used to configure ALF parameters related to a particular Loco by entering data into all the fields like Zone, Shed and Schedule done, Next schedule time etc.

User can modify the data that he has entered by selecting select option in the table format. The data that is selected is displayed in the above fields, there the user can update the data and click on update button. The updated data is displayed in the table format.

# LOCOSTATUS SETTINGS → PC SETTINGS


- PC settings screen is used to configure power control parameters related to
- a particular Loco by entering data into all the fields like Zone, Schedule date etc. Status is loaded as per data related to the ALF report of that particular loco.

# LOCOSTATUS SETTINGS → LOG BOOK




- Logbook screen is used to store the data related to a particular Loco by entering data into all the fields like type of drive, Schedule done, equipments, manufacturers, history, remarks etc.

# CRITICAL FAULTS


| Critical Fault Code | Critical Fault Name |
|---|---|
| 1001 | Low Water Level |
| 1004 | LLOP Trip at OFF |
| 1005 | LLOP Trip at RUN |
| 1006 | HOT ENGINE. Cannot Power UP |
| 1007 | Power Circuit Ground Fault |
| 1008 | Control Circuit Ground Fault |
| 1009 | Locked Axle on Wheel Number 1 |
| 1010 | Locked Axle on Wheel Number 2 |
| 1011 | Locked Axle on Wheel Number 3 |
| 1012 | Locked Axle on Wheel Number 4 |
| 1013 | Locked Axle on Wheel Number 5 |
| 1014 | Locked Axle on Wheel Number 6 |
| 1016 | Alternator Field Circuit Open FAULT |
| 1017 | Exciter Field Circuit Open (or) Short FAULT |
| 1018 | GF circuit Open Fault |
| 1020 | Rectifier Diodes HOT |
| 1023 | BKT Stuck in Braking. |
| 1024 | BKT-M Aux. Contact ckt.Open |
| 1029 | Cranking Contactor CK Stuck Closed |
| 1030 | SLBR/SLBC Contactor Stuck Closed |

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- This option is placed at the upper right end of the home page. This lists the various critical faults occurred by the locos for the reference purpose. It gives the details of the various critical faults occurred.

- On clicking the CRITICAL FAULTS, a new window pops out, as shown side. This window lists the various critical faults occurred with the critical fault code and critical fault name.

# CONCLUSION AND RECOMMENDATIONS

- MEP system with GPS is very helpful for monitoring the health of the loco when loco is working on line.
- In case of some failures prior indications are available
- The parent shed shall monitor the health of the locomotive, once or twice daily.
- This may result in prevention of some of the failure on line.

# CONCLUSION AND RECOMMENDATIONS

- The home shed either can intimate the near by shed or power controller where loco having some defect is working, to take preventive action or to remove the loco from service on first opportunity depending on the gravity of the problem.
- Presently the password to retrieve the data is available with the home shed only for their own loco. Thus the near by shed where the loco is working will not be able to analyse the problem.

# CONCLUSION AND RECOMMENDATIONS

- Thus it is recommended to provide the password to all sheds to enable them to check the health of the loco operating in their territory before arrival of same in shed, so that preventive measures can be taken.
- If lube oil level in sump and water level in extension tanks are also available, it will help to take proper preventive action on line
- ALF and Power control shall be advised to fill the prescribed format of loco fitted with MEP and REMMLOT.

# REMMLOT

**Questions Please…???**

THANK YOU