नाम
Name : _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

अनुक्रमांक
Roll No : _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

प्राप्तांक
Marks Awarded :

पाठ्यक्रम
Course : _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

दिनांक
Date : _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

अनुदेशक के आद्यक्षर
Instructor Initial :

KAVACH NMS

(RDSO/SPN/196/2020)

Objective :- **(i) Simulation of running trains on NMS online .**

(ii) Playback of events on NMS offline .

(iii) To get different types of reports using the report generation system.

In this lab session we will see how the train movements are shown on the NMS screen using the online NMS module, how the past event can be replayed using playback NMS & generating different types of reports of kavach modules using the NMS server .

NMS :- Network Monitoring system is used to display all the major events taking place in the kavach system.All the stationary kavach units are connected on ethernet using E1 to Ethernet converters over SDH network of Indian Railways .All the information about the events are being sent to the central NMS server over ethernet using the on board interface available in the stationary Kavach unit . SOS & other important predefined events are also sent using GSM/GPRS available on Loco & station Kavach Unit .

Lab Setup at Iriset :- Here in Kavach lab total 6 nos of stationary kavach & 6 nos of Loco Kavach units are installed . These are from three different OEMs namely Kernex, HBL & Medha 2 each . All the six stationary units are connected to the central switch available in the NMS server rack using LAN interface available for

that . The NMS server installed in the lab is of HBL make . It is a web browser based server which can be accessed using any web browser on the system which is in the network of NMS (192.168.10.0/24). The IP address for the NMS server is 192.168.10.1 .

Basic procedure for connecting the NMS server is given below :-

1. Open the web browser in any PC which is connected in the NMS network .
2. Enter the address in the browser as 192.168.10.1/nms for accessing the login page as shown in figure 1.

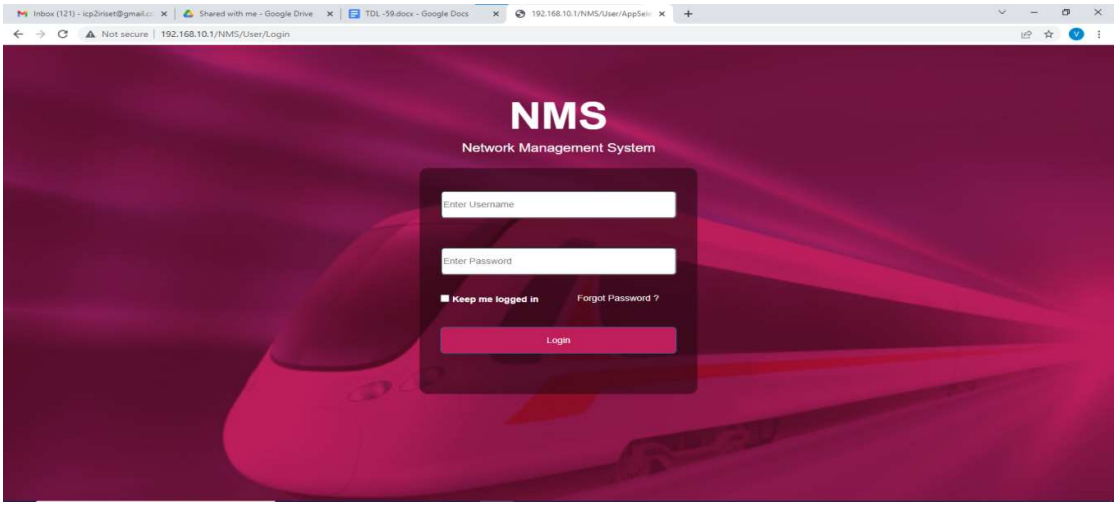

Fig.1 Login Screen

3. Enter the credential Username - iriset1 , Password - 1234 and click on the login button .

4. After the login button is pressed an app selection page will open with all three option which is available on NMS server as shown in figure 2.

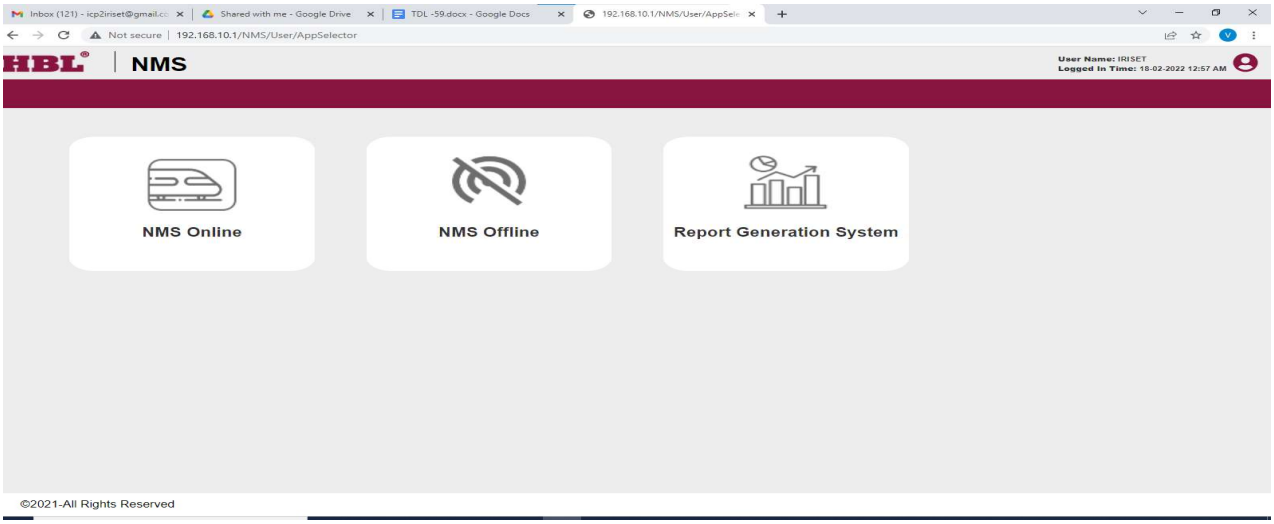

Fig.2 App selection Screen

5.After this depending upon our objective a particular app is selected .

Note :- First 3 steps are common for all objectives

(i) Simulation of online trains on NMS screen .

1. NMS online is selected then the page with selection of yard will come where depending upon the user choice any or all the stations can be selected as shown in the figure 3.After selection open button is clicked .

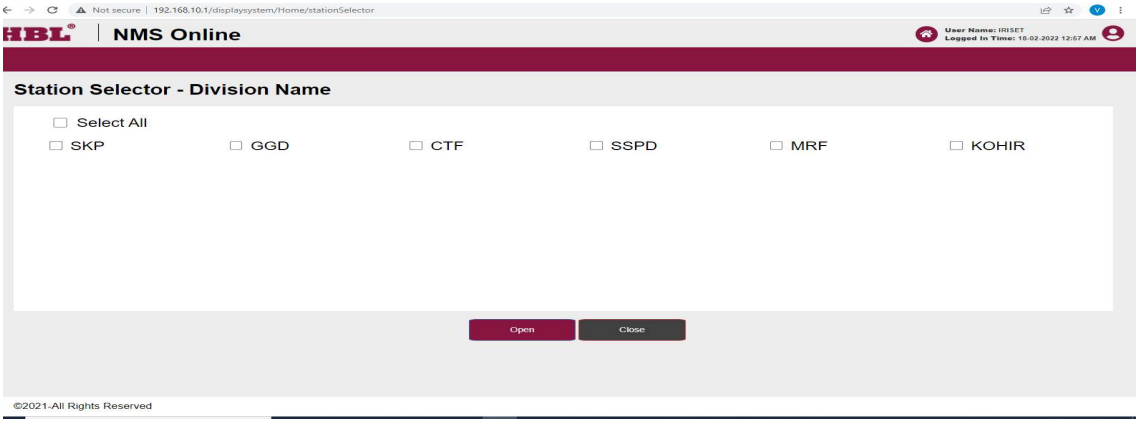

Fig 3.Selection of yard

2. After selection of yard on station selector page a complete layout as per selection will be visible with station name in white on the screen as shown in fig 4.

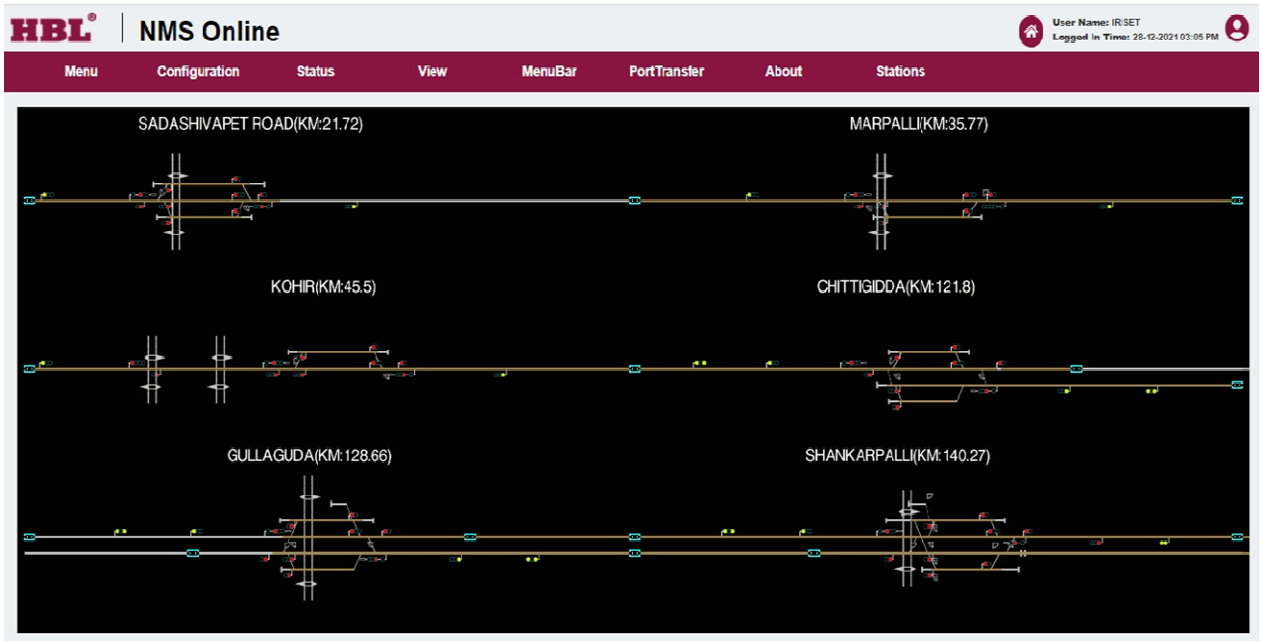

Fig 4. Yard Layout

3. Now ethernet connectivity is to be established by using Menu→ethernet config.→connect.After this the whole layout will be connected with NMS as per the network condition . If in link then all station name will be green as shown in fig 5.

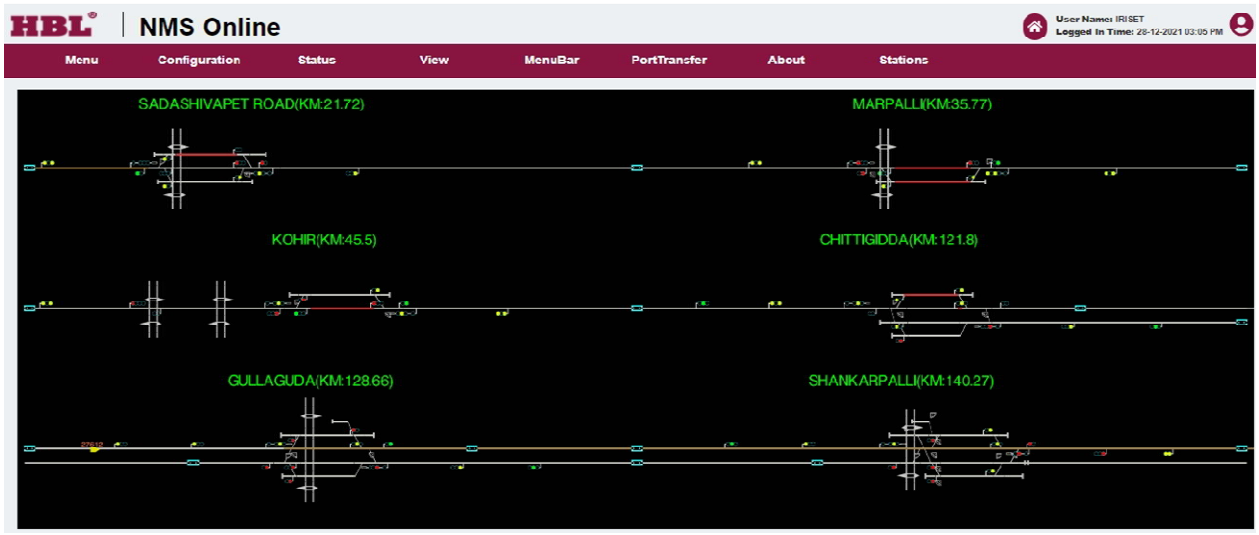

Fig 5. Connected yard layout

4. Now whatever the movement of loco in the connected section will be visible on the NMS screen with loco icon & loco with load icon. Loco will display 6 values like Loco ID , speed, Absolute location , RFID, Length of train & mode of loco as shown in fig 6..

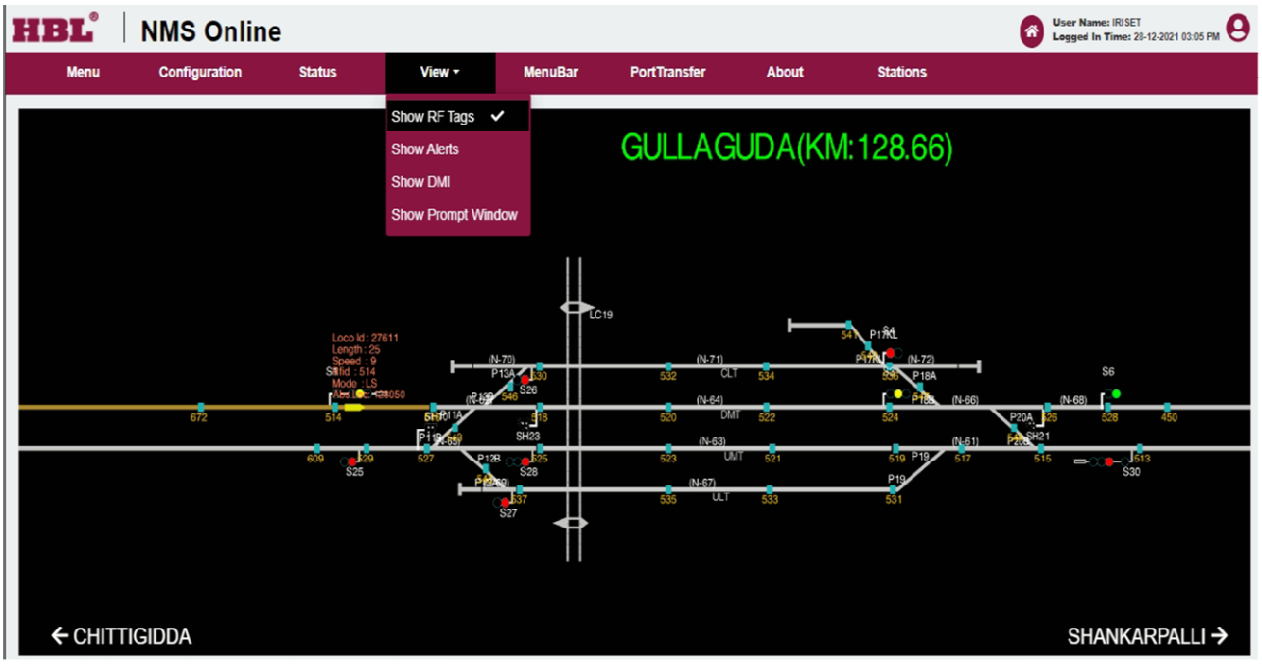

Fig 6. Movement of Loco

5. Other details related to online simulation can be accessed using different option available in on home screen(dashboard) like status(Relay & loco) & can view RF tags, Alerts,DMI,& prompts .

(ii) Playback of events on NMS offline.

For playback of events which have taken place earlier, first 3 steps are common as explained earlier , NMS offline is selected from the app selector option available on page as shown in fig 2.After this NMS offline screen will be available as shown in fig 7 below.

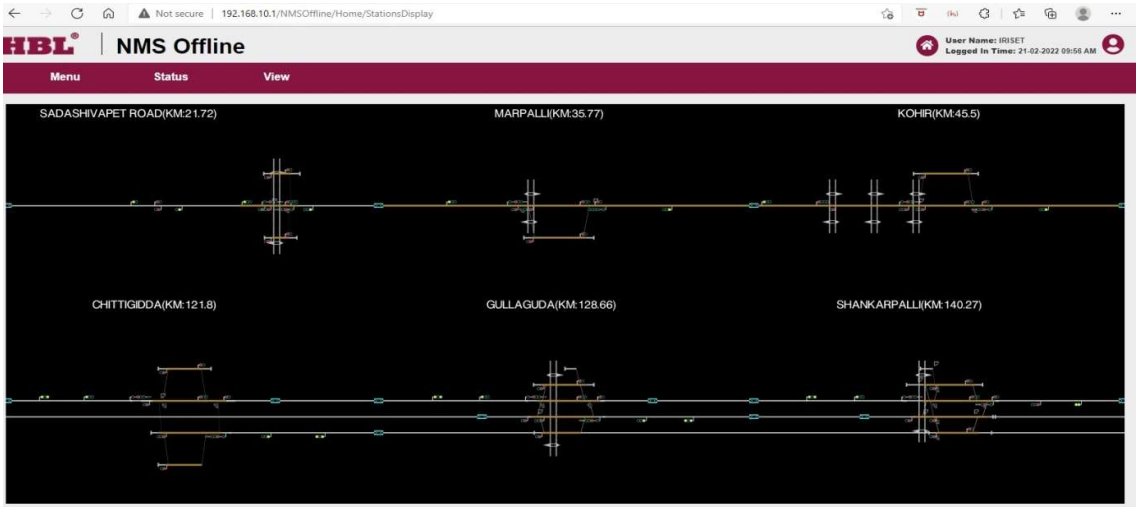

Fig 7. NMS offline screen

1. After NMS offline screen is available then using view button NMS playback option is selected to shown , by default it is selected to hide as shown in fig 8 below .

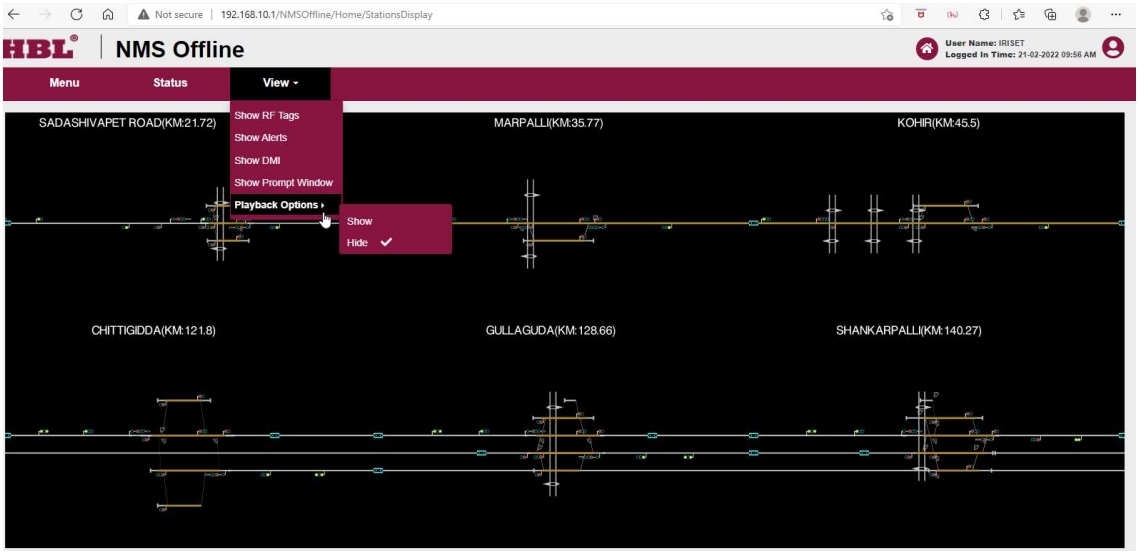

Fig 8. Selection of Playback option

2. After clicking on the show the screen will have an option for selection of log to display the previous events as shown in fig 9.

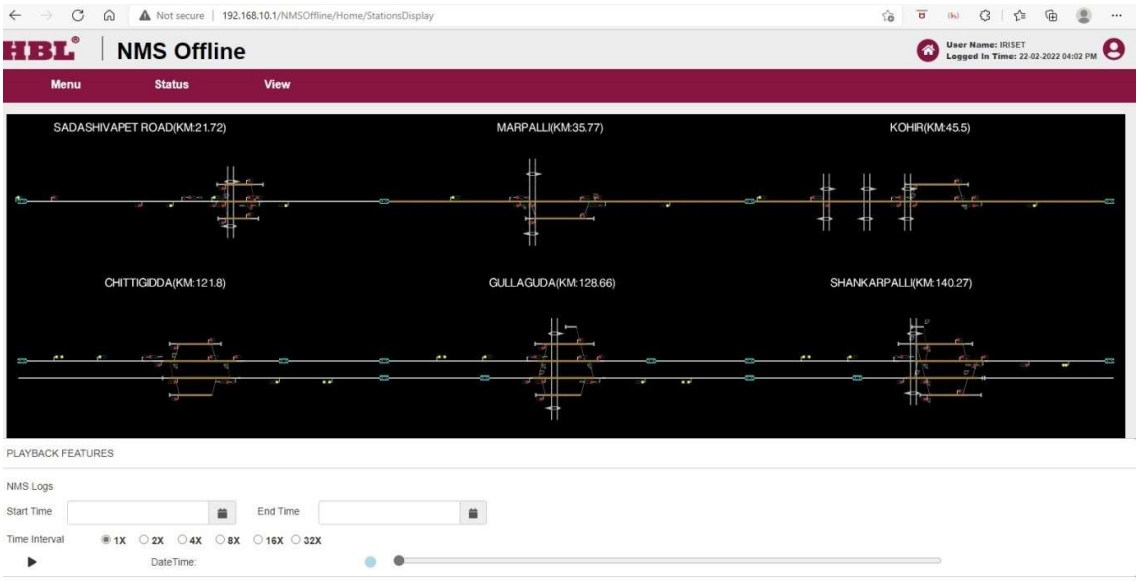

Fig 9. Selection of log screen

3. Using log selection option the start & end time are selected depending upon the requirement and when play button is selected screen will go to the previous time & events will start to play on the screen as shown in fig 10 .

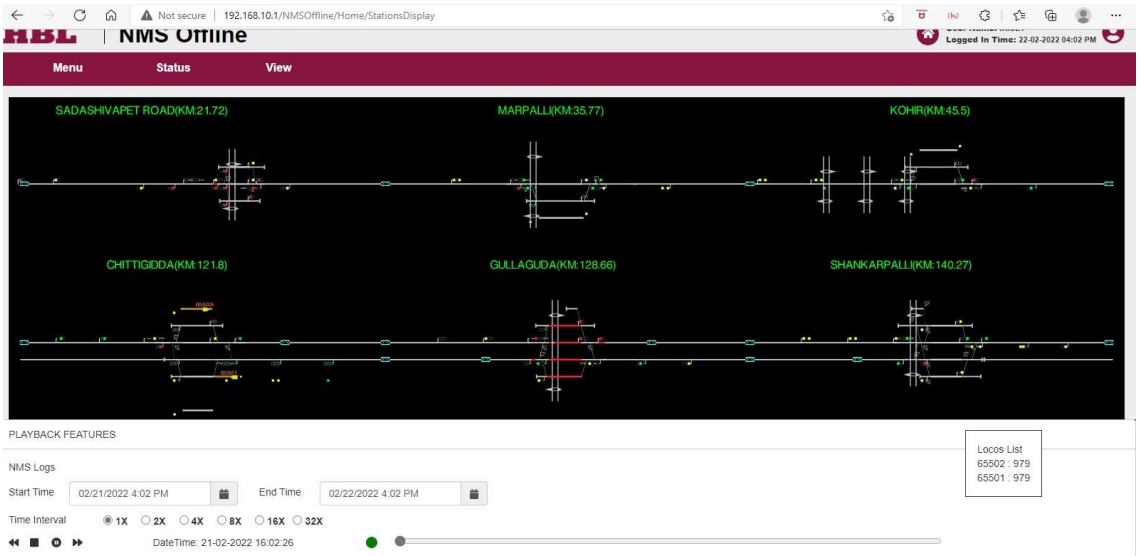

Fig. 10 Playback screen

Playback speed can be varied according to selection available.Playback can be paused ,stopped also using timer slider it can be played for a particular time .

4. All the other option which were available while online NMS like RFID tags , Prompts , Relaystatus ,loco status ,DMI& Alerts can be seen as per selection while replay of events .

(iii) To get different types of reports using the report generation system.

For getting various report for different events , first 3 steps are common as explained earlier , Specific steps required for generating reports are given below :-

1.Report generation system is selected from app selection screen as shown in fig 2.

2.To generate a report for a particular time , From & to time is selected as shown in figure 11, and apply button is clicked

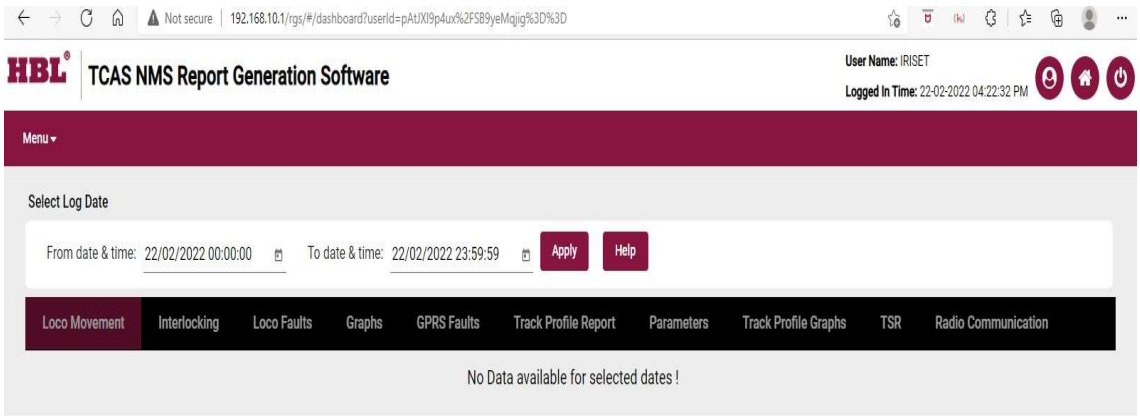

Fig .11 Report generation time selection

3.If the database will have the information for the selected date a prompt message will confirm for the same as shown in fig 12.

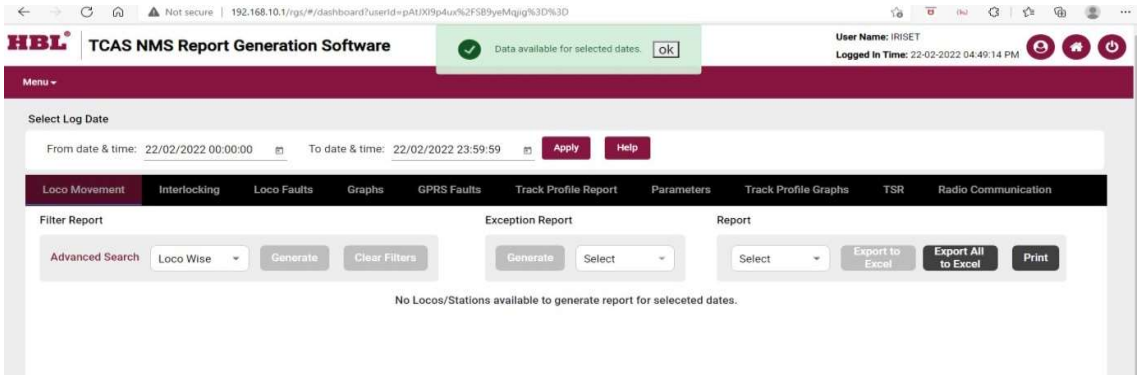

Fig .12 Availability of data screen.

4.Now report for various events like , Loco movement , Interlocking ,Loco faults , Graphs, GPRS faults ,Track Profile report ,Parameters & Radio Communication can be obtained /populated using the appropriate selections. One has to generate the report every time on selection of some parameters afterward a report will be generated .

5. Report generated can be exported also on suitable format.

Exercise

2. Draw the NMS Connectivity Block Diagram.

Date: **Signature of the Trainee**