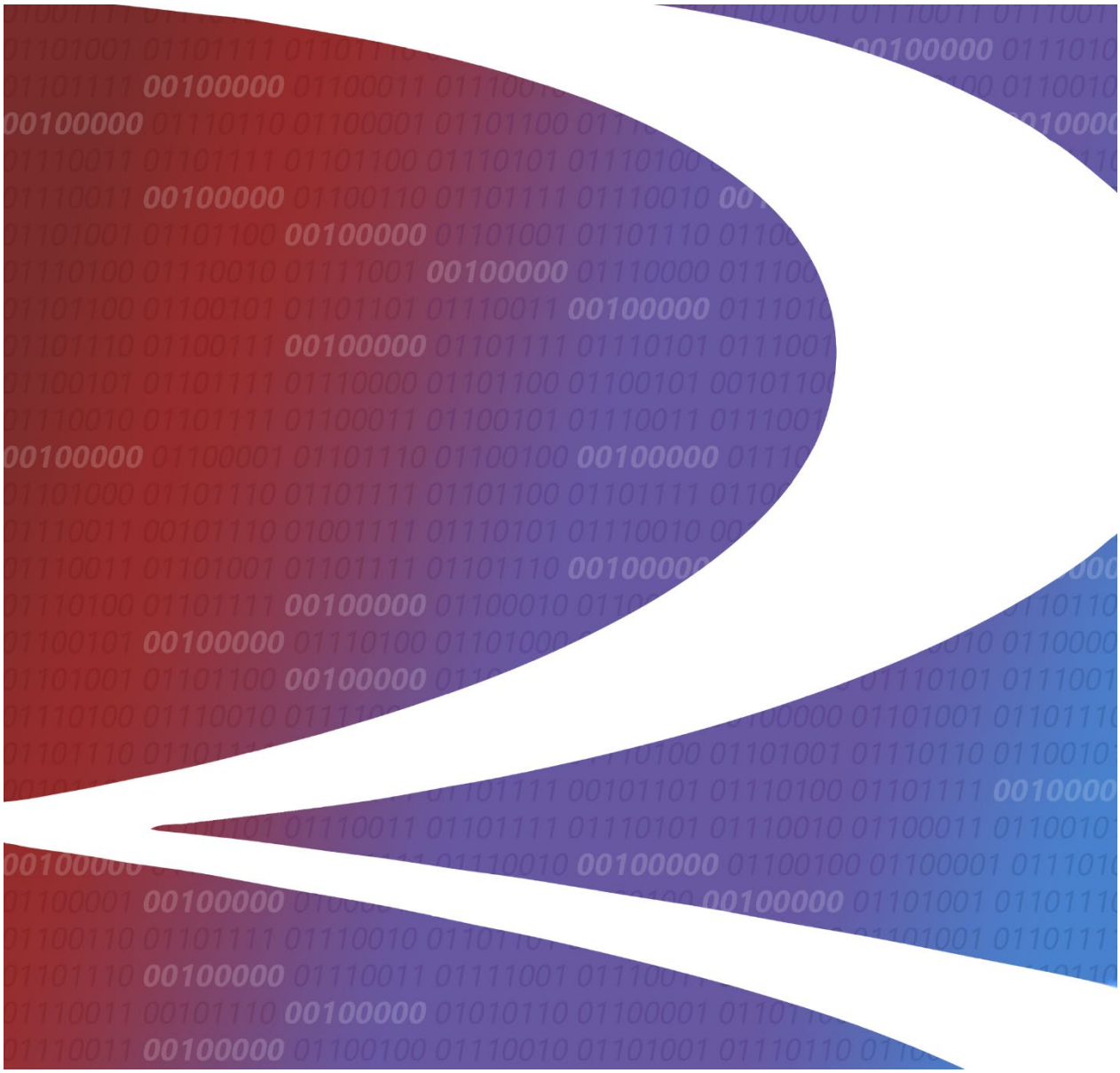


Locomotive Health and Status User Guide

Last Updated: January 2024

Table of Contents

List of Exhibits

Learning about LMIS

Locomotive Management Information System (LMIS) is an application that helps users view and manage information about locomotives. Locomotive Health and Status is an application module within LMIS.

Overview

Locomotive Health and Status enables users to assess a locomotive's capability quickly and efficiently by viewing the automated Umler® Characteristics, Federal Inspection Status and Subsystem Health Status for a locomotive. You can also create a Subsystem Health Report as well as view and manage their Foreign Repair Authorizations. This document describes how to use Locomotive Health and Status through the following major sections:

- Getting Started describes how to access and log in to the system.
- Working with Equipment describes how to view and manage locomotive information as described in the following sections:
  - Viewing Umler Characteristics
  - Viewing Federal Inspection Status Information
  - Viewing Equipment Status Information
  - Viewing Subsystem Status Information
  - Creating a Health Report
- Managing Foreign Repair Authorizations describes how to view your own foreign repair authorizations and grant foreign repair authorizations to other railroads.
- Appendix A. Using Locomotive Health and Status on a Mobile Device describes how to use the mobile interface.

For additional information, contact the Railinc Customer Success Center (see Accessing the Railinc Customer Success Center).

System Requirements

For information about the system requirements of Railinc web applications and for information about downloading compatible web browsers and file viewers, refer to the *Railinc UI Dictionary*.

Accessing the Railinc Customer Success Center

The Railinc Customer Success Center provides reliable, timely, and high-level support for Railinc customers. Representatives are available to answer calls and respond to emails from 7:00 a.m. to 7:00 p.m. Eastern time, Monday through Friday, and provide on-call support via pager for all other hours to ensure support 24 hours a day, 7 days a week. Contact us toll-free by phone at 877-RAILINC (1-877-724-5462) or send an email directly to csc@railinc.com.

Getting Started

LMIS uses Railinc Single Sign-On (SSO) to manage permissions. To access SSO, view the Railinc portal at https://public.railinc.com and select **Customer Login** at the top right of the page.

Registering to Use Railinc SSO

Each LMIS user must register to use Railinc Single Sign-On (SSO). If you are not already registered, refer to the *Railinc Single Sign-On and Launch Pad User Guide* for more information. Once you have completed SSO registration, request access to LMIS within SSO.

Requesting Access to LMIS Launch Pad

After you receive authorization to use Railinc SSO, you must request general access to LMIS Launch Pad by following instructions in the *Railinc Single Sign-On and Launch Pad User Guide*.

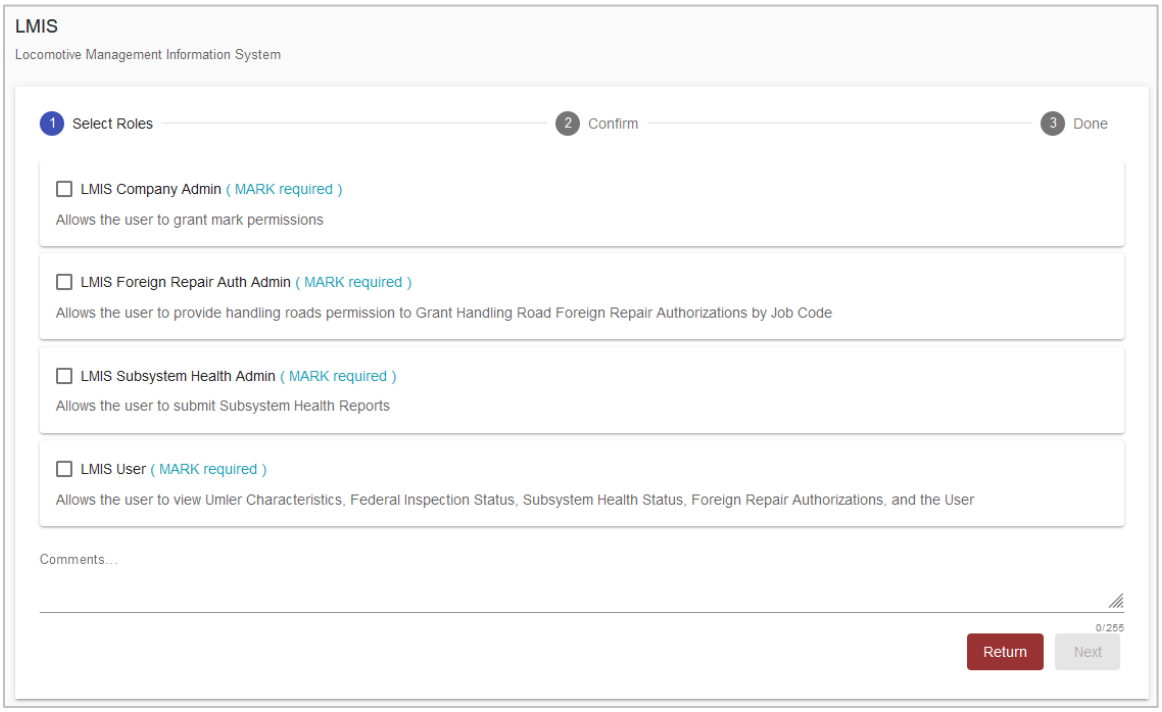
Your level of access and authorization for LMIS is determined when you request access through Railinc SSO. Exhibit 1 shows a complete list of LMIS roles as seen in SSO.

Exhibit 1. User Roles and Tasks

Task	Description
LMIS User	This role enables users to view Umler Characteristics, Federal Inspection Status, Subsystem Health Status, Foreign Repair Authorizations, and the User Guide. Users must request access under the mark that they represent.
LMIS Subsystem Health Admin	This role enables users to submit Subsystem Health Reports.
LMIS Company Admin	This role enables users to grant mark permissions.
LMIS Foreign Repair Auth Admin	This role enables users to provide handling roads permissions to Grant Handling Road Foreign Repair Authorization by Job Code.

Your assigned user role determines what functions you can perform. User roles are assigned by Railinc through the Single Sign-On interface (Exhibit 2).

Exhibit 2. LMIS Request Permission



Choose your role and enter the mark for your railroad. Select **Next** to proceed. Once you receive email notification of access, you can log on and begin using Locomotive Health and Status.

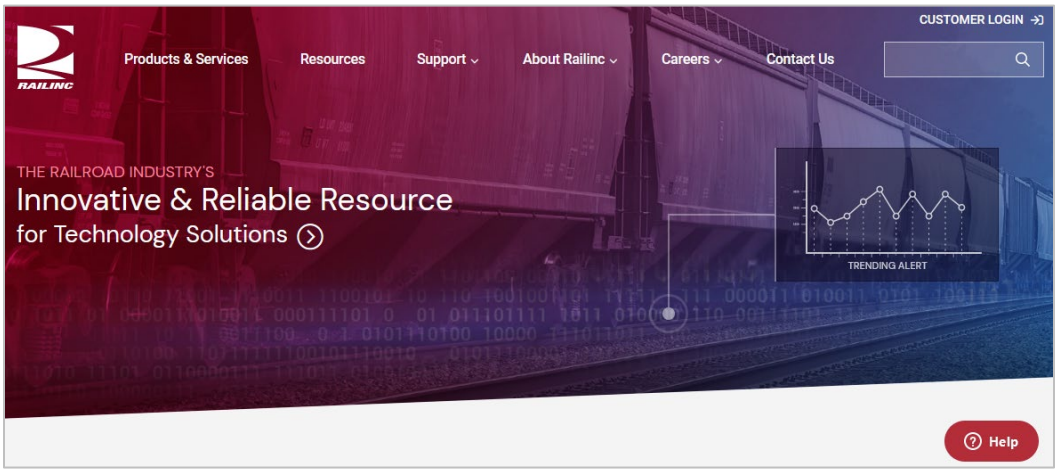
Logging In

Use the following procedure to log into Locomotive Health and Status:

1. Open your internet browser.

2. Enter the following URL: https://public.railinc.com. The Railinc Welcome page is displayed (Exhibit 3).

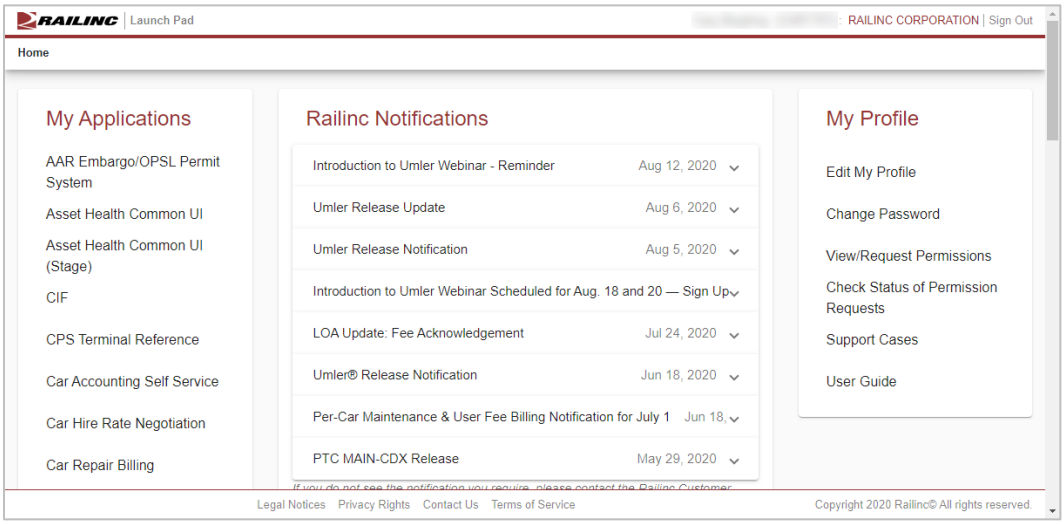
Exhibit 3. Railinc Welcome Page



3. Select **Customer Login** at the top right. The Railinc Account Access panel is displayed.

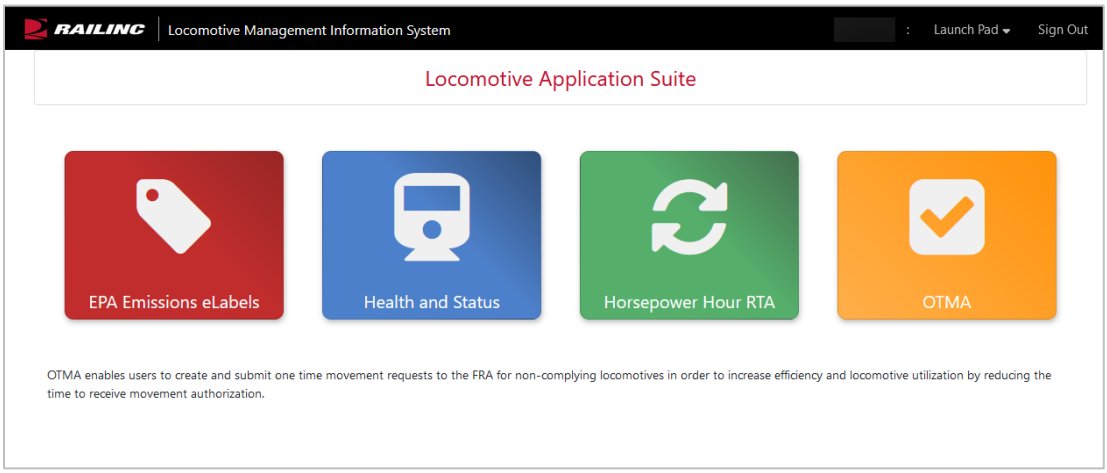
4. In the Account Access panel, enter your **User ID** and **Password**. Select **Sign In**. The Railinc Launch Pad is displayed (Exhibit 4).

Exhibit 4. Railinc Launch Pad



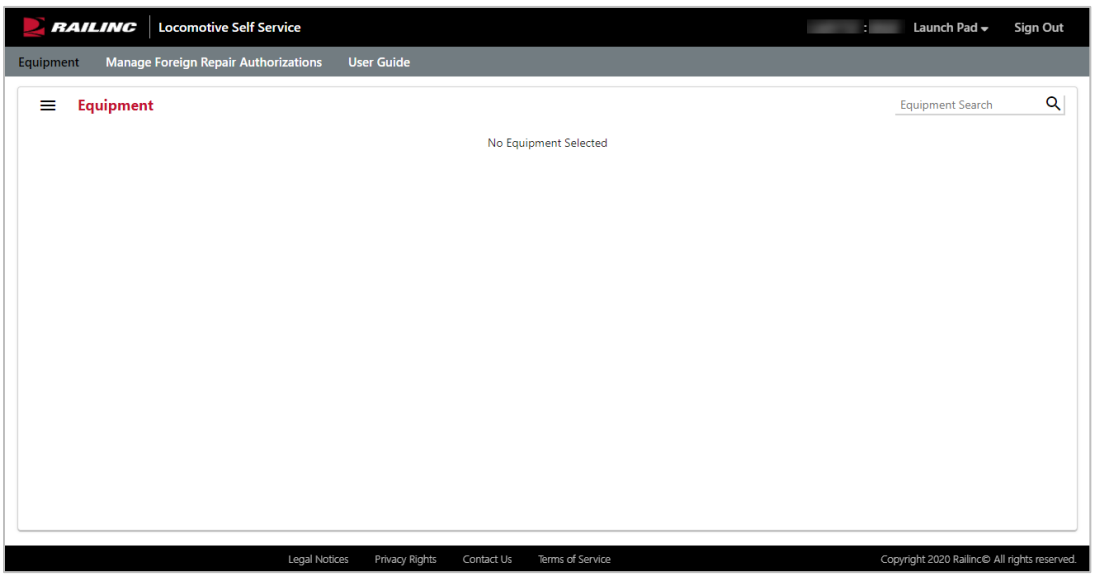
5. Under **My Applications**, select **Locomotive Management Information System**. The LMIS Home page is displayed (Exhibit 5).

Exhibit 5. LMIS Home Page



6. Select **Health and Status**.

Exhibit 6. Locomotive Health and Status Home Page



Locomotive Health and Status has a menu bar with the following options:

Equipment	Search Equipment IDs, view last known location, view Umler Characteristics, view Federal Inspection Status, and view/report Subsystem Health Status.
Manage Foreign Repair Authorizations	View/grant foreign equipment repair authorizations to other railroads and view the railroads for which you have been granted foreign repair authorizations.
User Guide	View the *Locomotive Health and Status User Guide* (this document).

Logging Out

Select the **Sign Out** link to end an LMIS session.

Working with Equipment

When first opened, Locomotive Health and Status displays the Equipment page with no equipment selected (Exhibit 6). The first step is to search for the equipment you want to work with.

Searching for Equipment

In the Equipment Search field, enter an equipment ID, several equipment IDs separated by commas, or a range of equipment IDs.

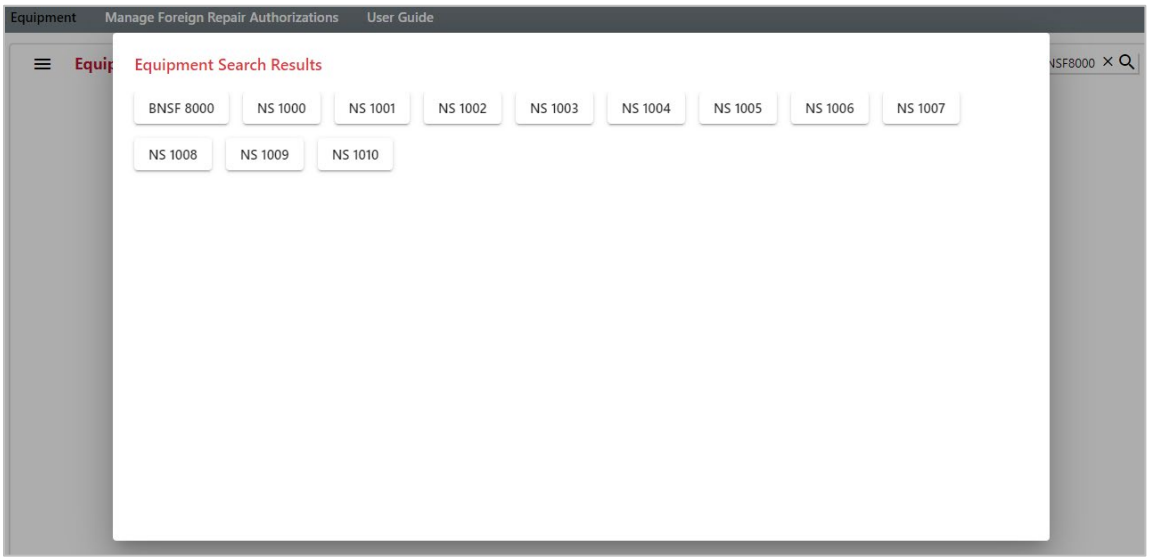
The following are examples of valid equipment ID search strings:

- NS1000
- NS1000, NS1005, NS1010, BNSF8000
- NS1000-1010, BNSF8000

Select the search icon (🔍) or press Enter. The results are displayed in the Equipment Search Results pop-up (Exhibit 7).

Note: If you enter a single equipment ID, information about the equipment is displayed directly on the Equipment page (Exhibit 8).

Exhibit 7. Equipment Search Results Pop-up

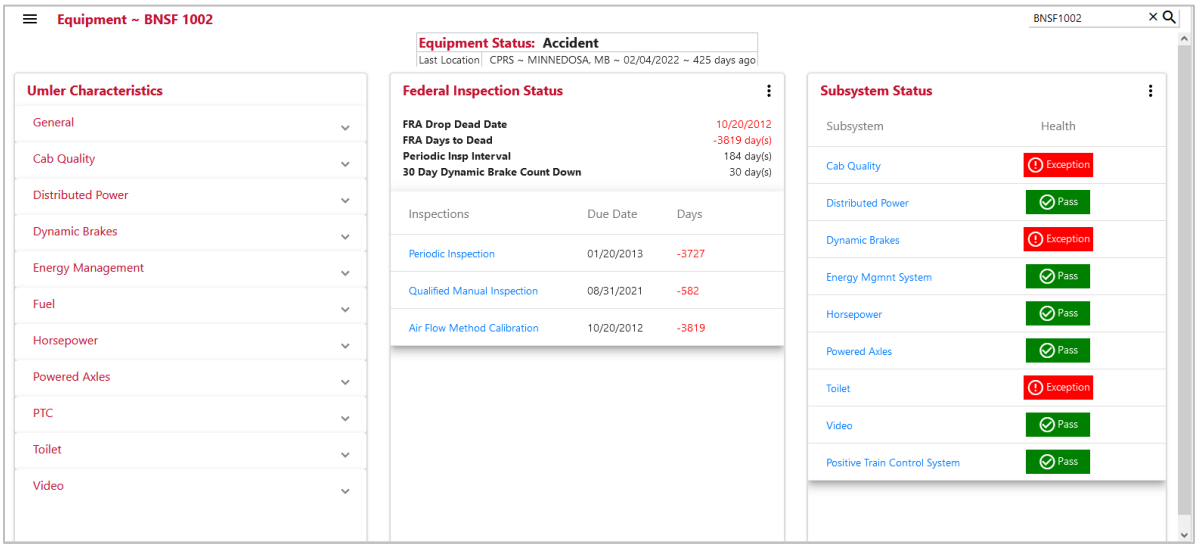


The Equipment Search Results pop-up displays the equipment IDs returned by your search if you searched for multiple equipment IDs. This pop-up can display up to 50 equipment IDs.

Note: No information is displayed for any equipment IDs that are not locomotives or are not valid for some other reason.

Select an equipment ID from the search results to view information about that piece of equipment (Exhibit 8).

Exhibit 8. Equipment Page Showing Locomotive Information



The Equipment Page shows information for a single locomotive, including the following:

- Last location and geographic heading, if applicable, based on TRAIN II movement events
- Umler Characteristics
- Federal Inspection Status
- Subsystem Status

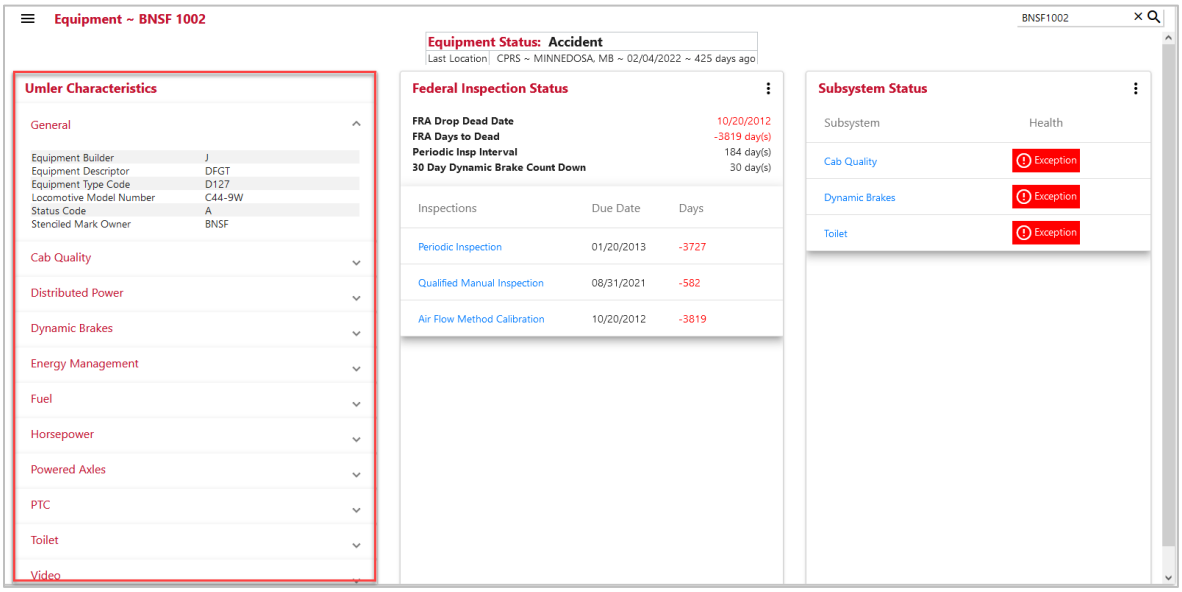
You can select the Equipment Menu icon (☰) to see additional options, including:

- Last Search – Redisplays the Equipment Search Results pop-up (Exhibit 7).
- Launch Umler – Performs an Umler Search for the selected piece of equipment (provided you have the proper Umler permissions).
- Creating a Health Report – Enables you to create a new Subsystem Health Report for the selected piece of equipment.

Viewing Umler Characteristics

The Umler Characteristics panel (highlighted in Exhibit 9) displays physical characteristics information about the selected locomotive. Select the down arrow of an Umler characteristic to view the details. If the subsystem is not configured in Umler, then the Umler Characteristics section will not be populated. Refer to the **Locomotives** section in the *Umler Data Specification Manual* for additional information.

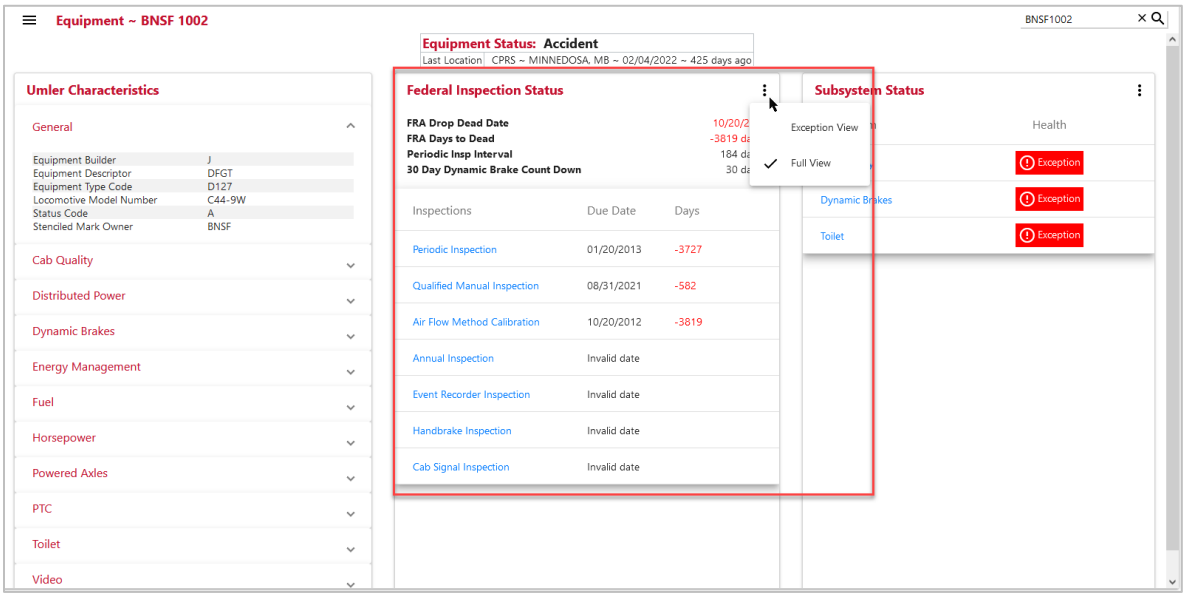
Exhibit 9. View Umler Characteristics



Viewing Federal Inspection Status Information

The Federal Inspection Status panel (highlighted in Exhibit 10) displays information about the required federal inspections for the selected locomotive. This allows users to view locomotive federal inspection due dates and validate federal data against the Bluecard. Refer to the **Locomotives** section in the *Umler Data Specification Manual* for additional information.

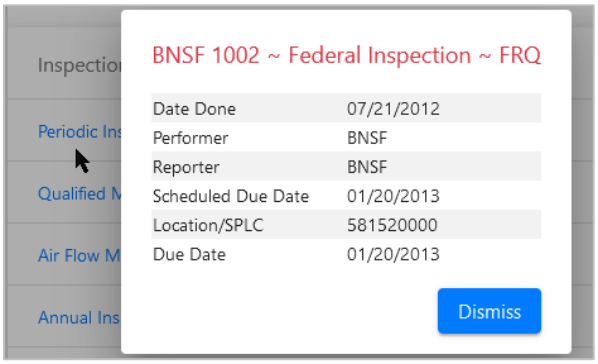
Exhibit 10. View Federal Inspection Status



By default, Locomotive Health and Status displays the **Exception View**, which only shows exceptions (i.e., problems). To change the view, select the vertical ellipsis (⋮). Select **Full View** to view the current status of all subsystems.

Select the link of an inspection name to view details about that inspection (Exhibit 11).

Exhibit 11. View Federal Inspection Status Details



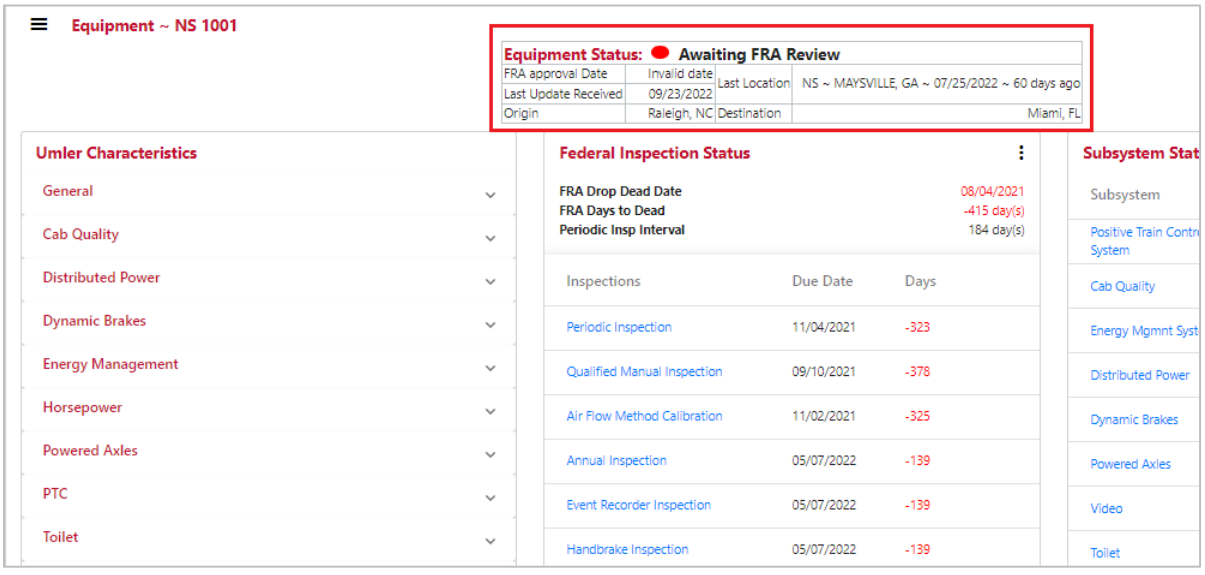
Select **Dismiss** to close the Federal Inspection Status Details pop-up.

Viewing Equipment Status Information

The Equipment Status panel (Exhibit 12) displays information about the equipment level severity and One Time Movement Authority/Federal Railroad Administration (OTMA/FRA) status of the selected locomotive. This information comes from the OTMA/FRA applications and cannot be edited in LMIS.

For OTMA/FRA requests awaiting FRA review, the **FRA Approval Date**, **Last Update Received**, **Origin**, **Destination**, the locomotive's **Last Location** and **Last Geographic Heading**, if applicable, are displayed in **Equipment Status**.

Exhibit 12. Equipment Status Panel



Refer to the Creating a New Locomotive OTMA Request section of the *LMIS OTMA User Guide* for additional information.

When there is no equipment severity or OTMA status to display, **Equipment Status** displays the locomotive's **Last Location** and **Last Geographic Heading**, if applicable.

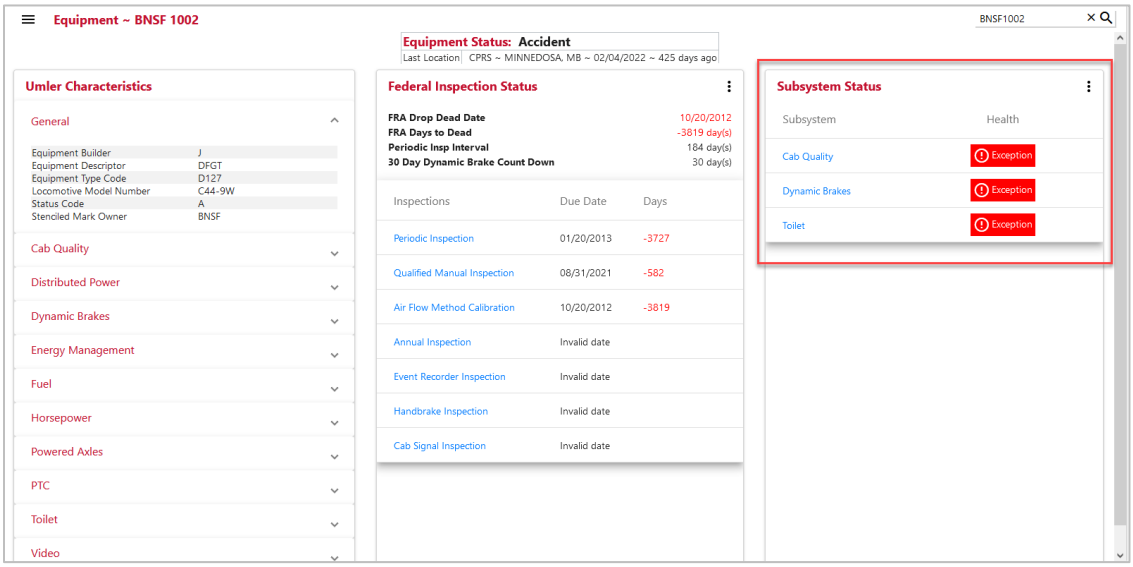
Exhibit 13. Equipment Status

Equipment Status: Accident	
Last Location	CPRS ~ LETHBRIDGE, AB ~ 11/03/2023 ~ 25 days ago
Last Geographic Heading	NW ~ 10/18/2023 22:52

Viewing Subsystem Status Information

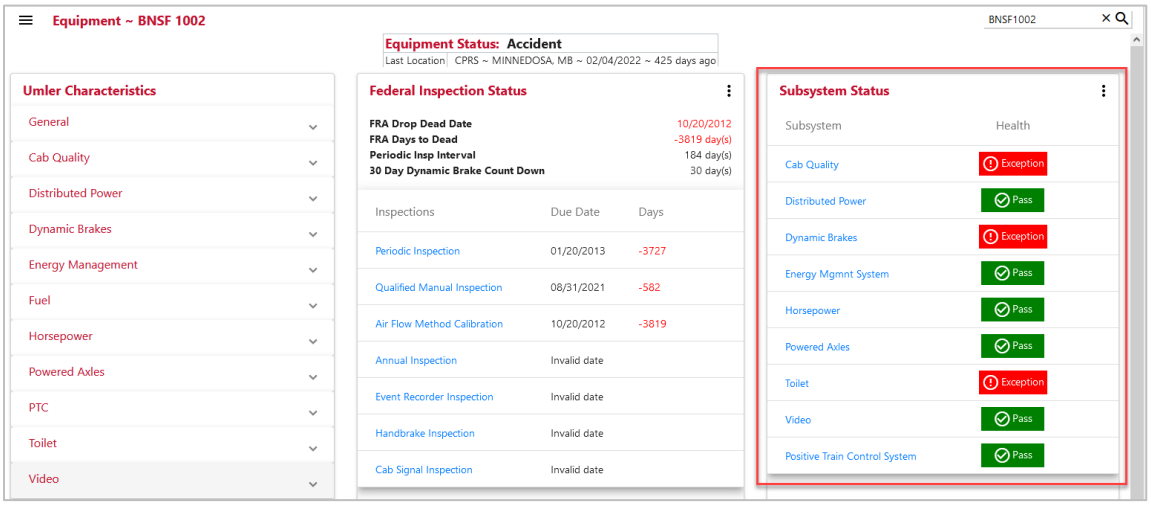
The Subsystem Status panel (highlighted in Exhibit 14) displays information about the health status of the subsystems for the selected locomotive. Refer to the **Locomotives** section in the *Umler Data Specification Manual* for additional information.

Exhibit 14. Exception View of Subsystem Status



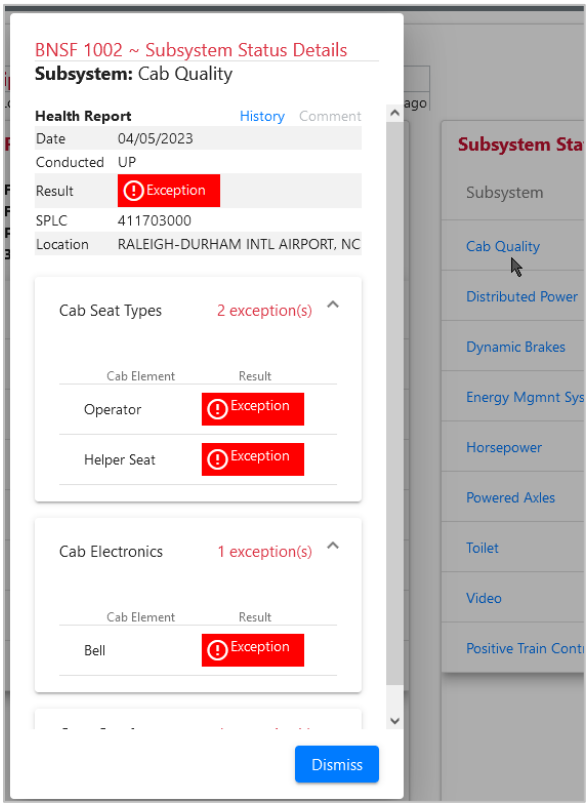
By default, Locomotive Health and Status displays the **Exception View**, which only shows exceptions (i.e., problems). To change the view, select the vertical ellipsis (⋮). Select **Full Status View** to view the current status of all subsystems (Exhibit 15). Select **History View** to view the status history all subsystems.

Exhibit 15. Full Status View of Subsystem Status



Select the link of a subsystem name to see details about the subsystem inspection (Exhibit 16).

Exhibit 16. View Subsystem Status Details

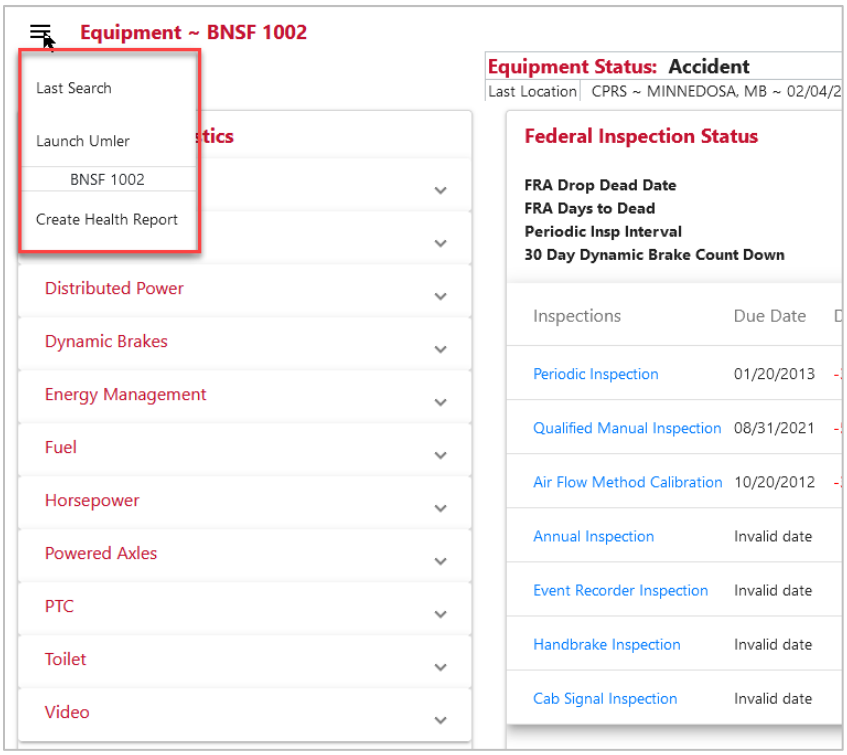


Select **Dismiss** to close the Subsystem Status Details pop-up.

Creating a Health Report

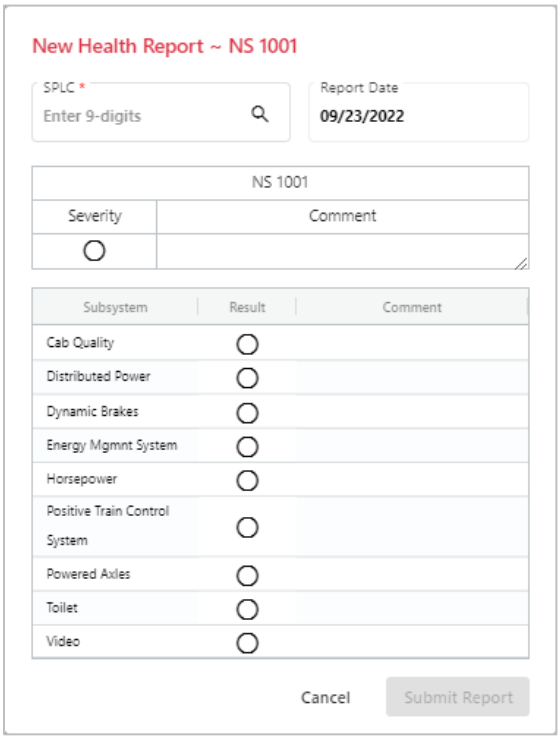
You can create a new Health Report and update the Equipment or Subsystem Health Status for equipped subsystems of any locomotive. To do this, select the Equipment Menu icon (☰) and then select **Create Health Report** as shown in Exhibit 17.

Exhibit 17. Create Health Report Menu Item



After you select **Create Health Report**, the New Health Report pop-up is displayed (Exhibit 18).

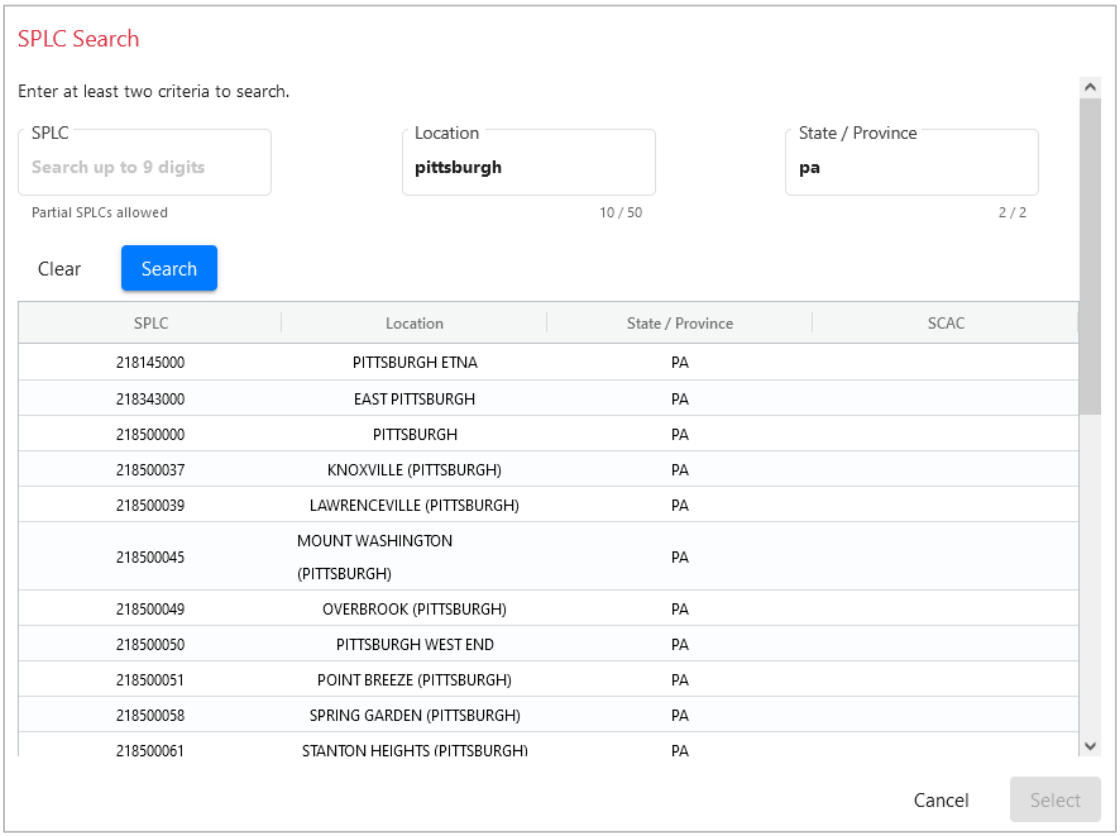
Exhibit 18. New Health Report Pop-up



If the subsystem is not equipped in Umler, then the subsystem will not be populated in the Create Health Report. The Health Report requires the inclusion of a Standard Point Location Code (SPLC). Select the search icon (🔍) to look up the SPLC where the subsystem health was tested. The SPLC Search pop-up is displayed (Exhibit 19).

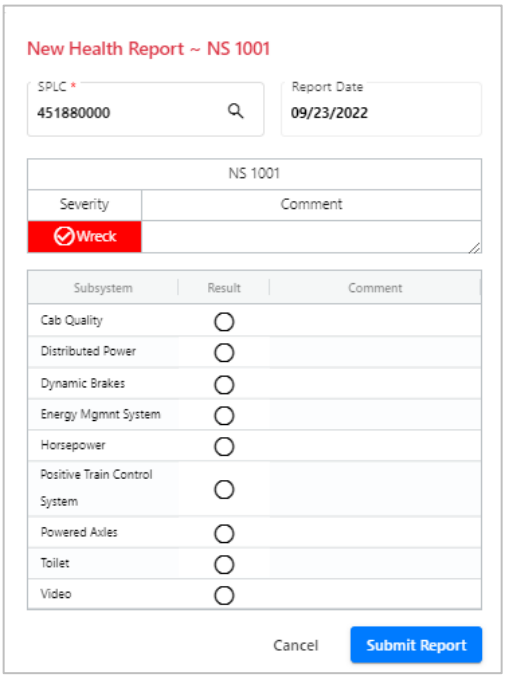
Note: If you know the SPLC where the subsystem health was tested, simply enter it to skip the SPLC Search pop-up.

Exhibit 19. SPLC Search Pop-up



Complete the **Location** and **State/Province** fields and select **Search**. Locomotive Health and Status displays a list of SPLC's matching the information you entered. Select the **SPLC** you need and select the **Select** button. The New Health Report pop-up is redisplayed with the SPLC field completed. Select the **Result** column for the subsystem(s) you want to report.

Exhibit 20. New Health Report

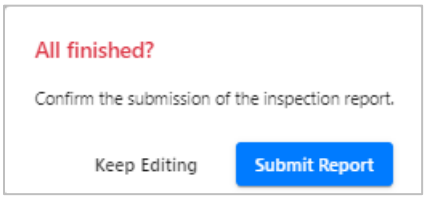


Select the **Severity** column to display the equipment severity you want to report. Select once for a green **Pass** indicator, select twice for a red **Accident** indicator, select three times for red **Wreck** indicator (pictured above), and select four times to clear all indicators.

Entering a comment in the **Comment** column saves your comments to the database but your comments won't be displayed in the application.

Select **Submit Report**. A confirmation pop-up is displayed. Select **Submit Report** again to confirm (Exhibit 21).

Exhibit 21. New Health Report



The Equipment Health Status is updated. The **Equipment Severity Status** is displayed along with any current OTMA/FRA information.

Exhibit 22. Equipment Severity Status

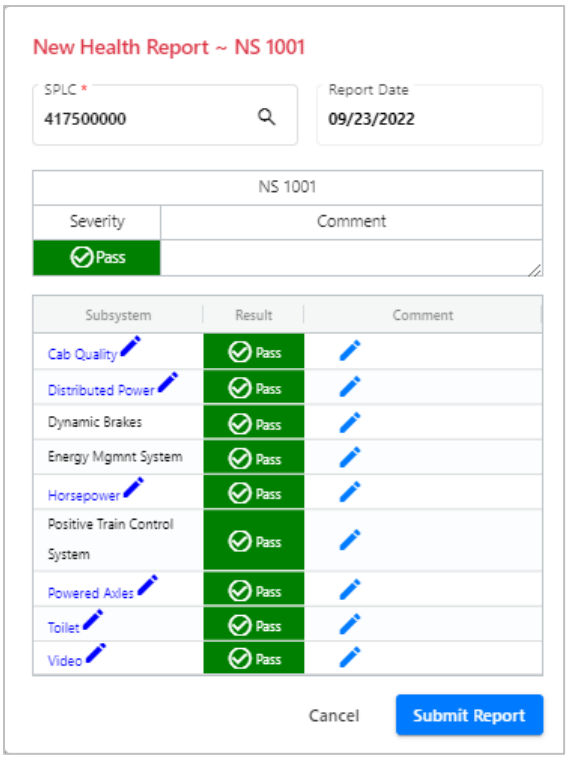
Equipment Status: Wreck Awaiting FRA Review			
FRA approval Date	Invalid date	Last Location	NS ~ MAYSVILLE, GA ~ 07/25/2022 ~ 60 days ago
Last Update Received	09/23/2022		
Origin	Raleigh, NC	Destination	Miami, FL

You can also create a new Health Report and update the Subsystem Health Status for equipped subsystems of any locomotive. If the subsystem is not equipped in Umler, then the subsystem will not be populated in the Create Health Report.

In the Health Report, select the **Result** column for the subsystem(s) you want to report.

Select once for a green **Pass** indicator, select twice for a red **Exception** indicator, or select three times to clear all indicators (Exhibit 23).

Exhibit 23. New Health Report Overview With Results Selected



For each of the subsystems below, you have the option to enter a unique detailed mechanical report. When a **Result** is selected for a subsystem, a pencil icon appears next to the subsystem in the **Subsystem** column. Select the pencil icon next to the subsystem to open and enter a detailed report for one or more of the following:

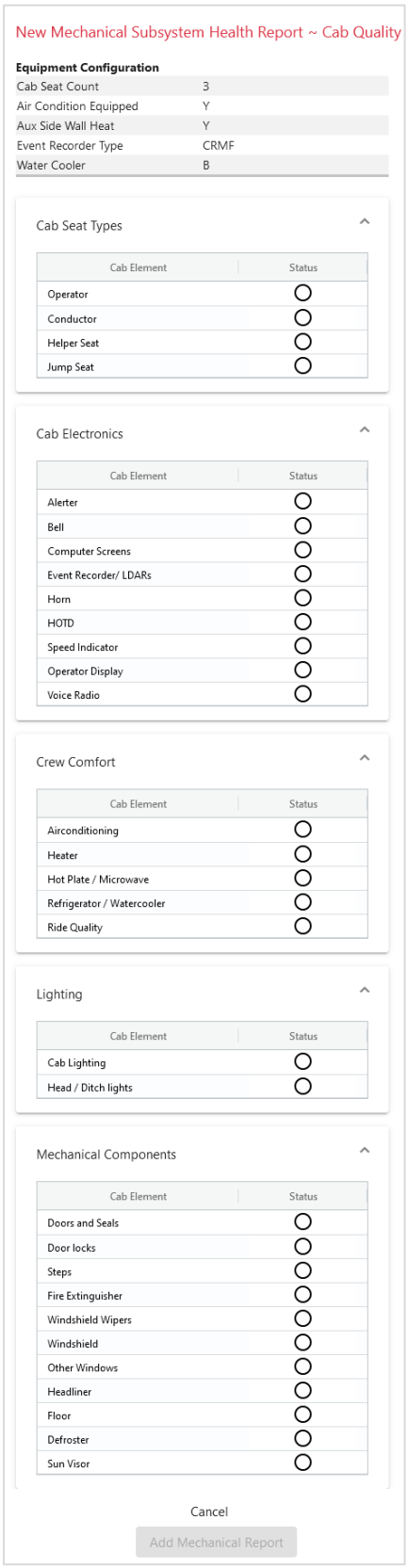
Cab Quality

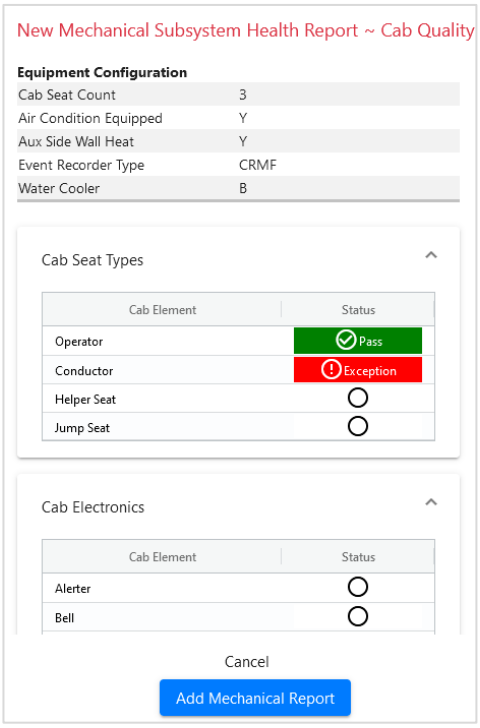
Cab Quality covers elements within a locomotive's cab. Cab Quality Umler characteristics appear at the top in the **Equipment Configuration** section for the locomotive you have selected.

Select the down arrow to open and view the available cab elements of one or more Cab Quality components. Some elements are specific to country, for example, in the **Crew Comfort** section, **Hot Plate/Microwave** and **Refrigerator/Watercooler** are not required for U.S. locomotives but are required for Canadian locomotives.

Select the **Status** column for the Cab Element you want to report. Select once for a green **Pass** indicator, select twice for a red **Exception** indicator, or select three times to clear.

Exhibit 24. Cab Quality Cab Elements





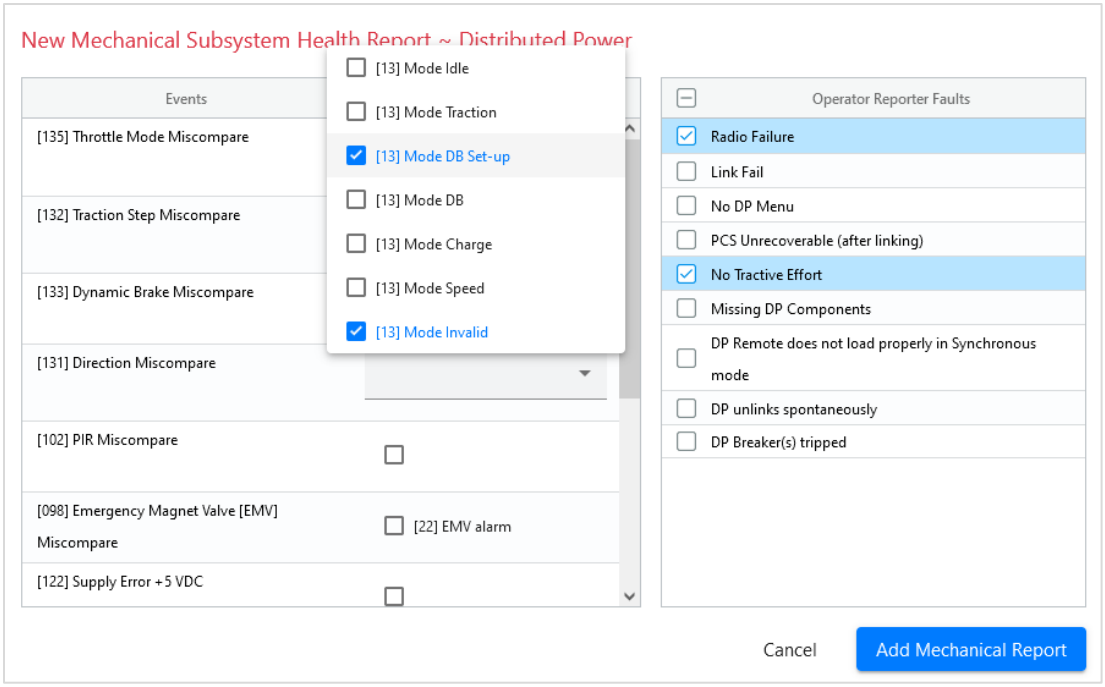
When you are done selecting all the elements that you want to report on, select the **Add Mechanical Report** button to complete your report and select **Submit Report** to confirm this subsystem mechanical report.

Distributed Power

Distributed Power is multiple locomotives in a train consist that communicate with each other wirelessly. In the background, they have a map of the terrain of the track. For efficiency in fuel and velocity, one locomotive may need to increase in velocity and another locomotive may need to decrease in velocity or brake to keep the train running smoothly on the track. For this, Distributed Power has various events, alarms, and faults to track in this section to improve technology and operations for the locomotive you have selected.

Hover over each event in the **Events** column and each **Fault** in the **Operator Reporter Faults** section to view a detailed definition. Events with more than one alarm have a drop-down list to select from in the **Alarms** column.

Exhibit 25. Distributed Power Event, Alarm and Fault Types



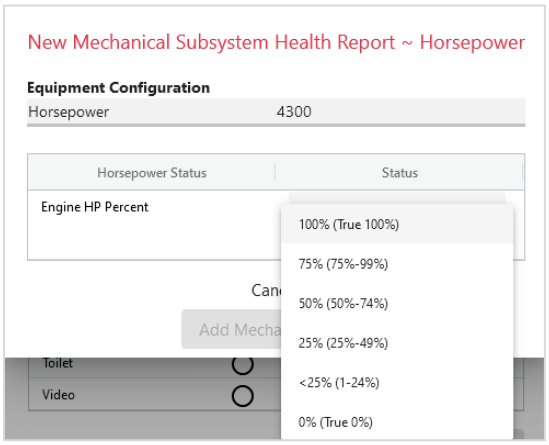
When you are done selecting all the elements that you want to report on, select the **Add Mechanical Report** button to complete your report and select **Submit Report** to confirm this subsystem mechanical report.

Horsepower

Horsepower covers the percentage of horsepower coming from the engine. Horsepower Umler characteristics appear at the top in the **Equipment Configuration** section for the locomotive you have selected.

If the locomotive loses a traction motor, you can report the percentage of lost traction in this section.

Exhibit 26. Horsepower Percentage Status



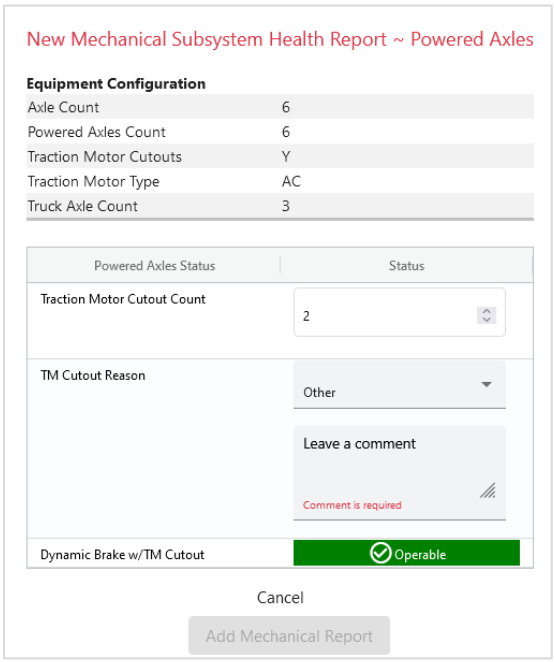
When you are done selecting the status percentage, select the **Add Mechanical Report** button to complete your report and select **Submit Report** to confirm this subsystem mechanical report.

Powered Axles

Powered Axles covers the traction motors statuses. Powered Axles Umler characteristics appear at the top in the **Equipment Configuration** section for the locomotive you have selected. In the **Status** column, the **Traction Motor Cutout Count** must be greater than zero and cannot be larger than the axle count in Umler (shown in the Equipment Configuration section). When **Other** is selected for **TM Cutout Reason**, you are required to enter a comment to explain the reason.

To report **Dynamic Brake with TM Cutout**, select the **Status** column. Select once for a green **Pass** indicator, select twice for a red **Exception** indicator, or select three times to clear.

Exhibit 27. Powered Axles Status



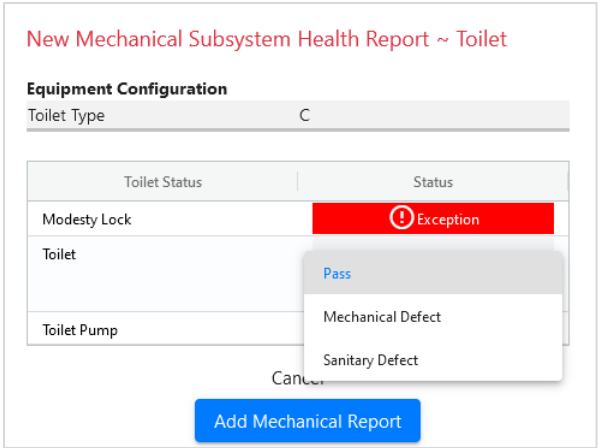
When you are done selecting all the elements that you want to report on, select the **Add Mechanical Report** button to complete your report and select **Submit Report** to confirm this subsystem mechanical report.

Toilet

Toilet covers the components of a toilet. Toilet Umler characteristics appear at the top in the **Equipment Configuration** section for the locomotive you have selected.

Select the **Status** column for the Toilet Status you want to report. Select once for a green **Pass** indicator, select twice for a red **Exception** indicator, or select three times to clear. For **Toilet**, select the appropriate status from the drop-down list.

Exhibit 28. Toilet Status



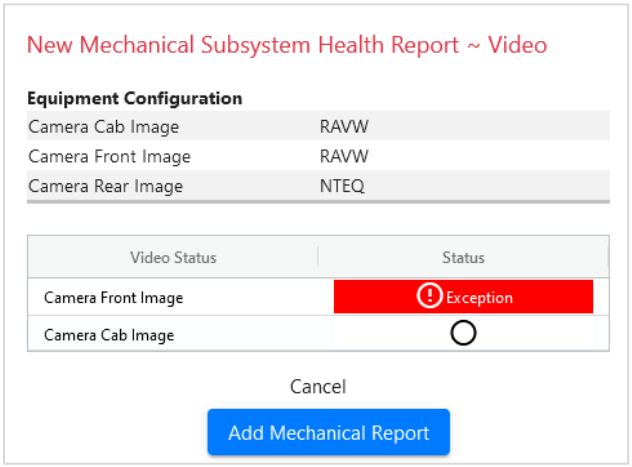
When you are done selecting all the elements that you want to report on, select the **Add Mechanical Report** button to complete your report and select **Submit Report** to confirm this subsystem mechanical report.

Video

Video covers the components of a video cameras in the locomotive. Video Umler characteristics appear at the top in the **Equipment Configuration** section for the locomotive you have selected.

Select the **Status** column for the Video Status you want to report. Select once for a green **Pass** indicator, select twice for a red **Exception** indicator, or select three times to clear.

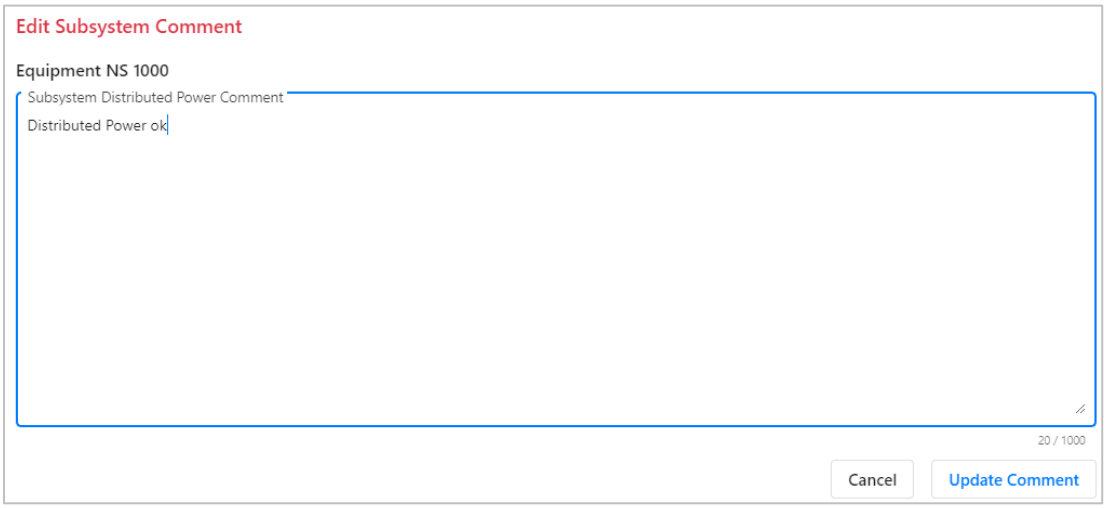
Exhibit 29. Video Status



When you are done selecting all the elements that you want to report on, select the **Add Mechanical Report** button to complete your report and select **Submit Report** to confirm this subsystem mechanical report.

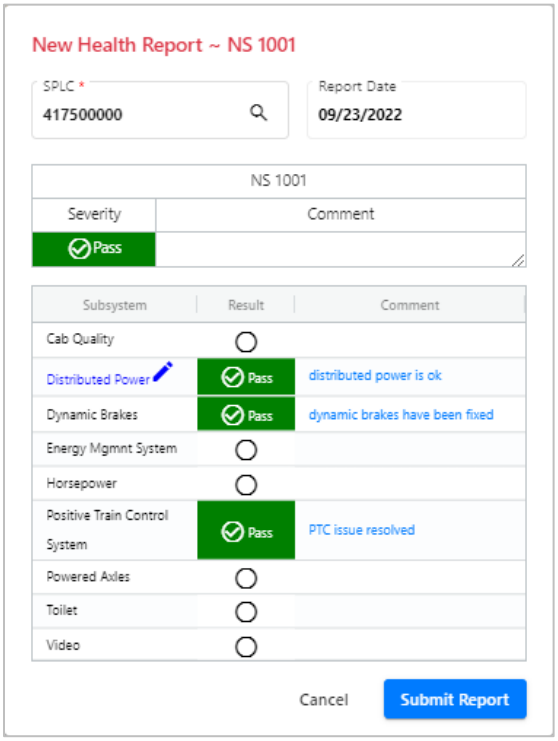
Each subsystem has a comment field (Exhibit 23) that allows you to enter a comment that describes the subsystem health. Select the comment icon (✎) in the **Comment** column to enter a comment. The Edit Subsystem Comment pop-up is displayed (Exhibit 30).

Exhibit 30. Edit Subsystem Comment Pop-up



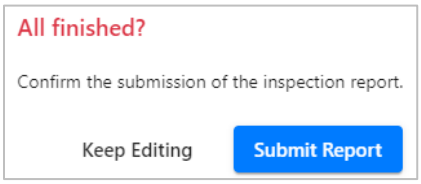
Enter a comment describing the subsystem health and select **Update Comment**. The New Subsystem Health Report pop-up is redisplayed with the Comment field completed (Exhibit 31).

Exhibit 31. New Health Report With Comments



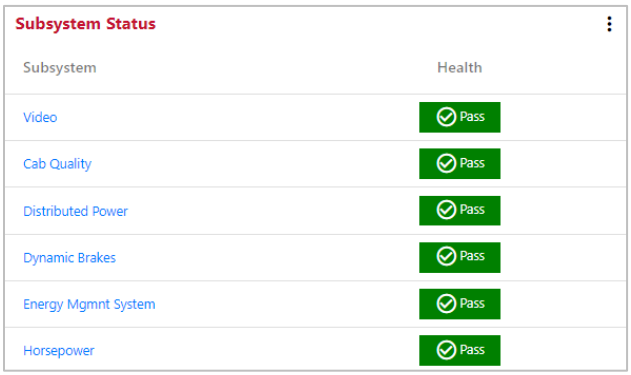
Select **Submit Report**. A confirmation pop-up is displayed (Exhibit 32).

Exhibit 32. New Health Report Confirmation Pop-up



Select **Submit Report** again to save the report and update the Equipment page (Exhibit 33).

Exhibit 33. Subsystem Health Status Updated

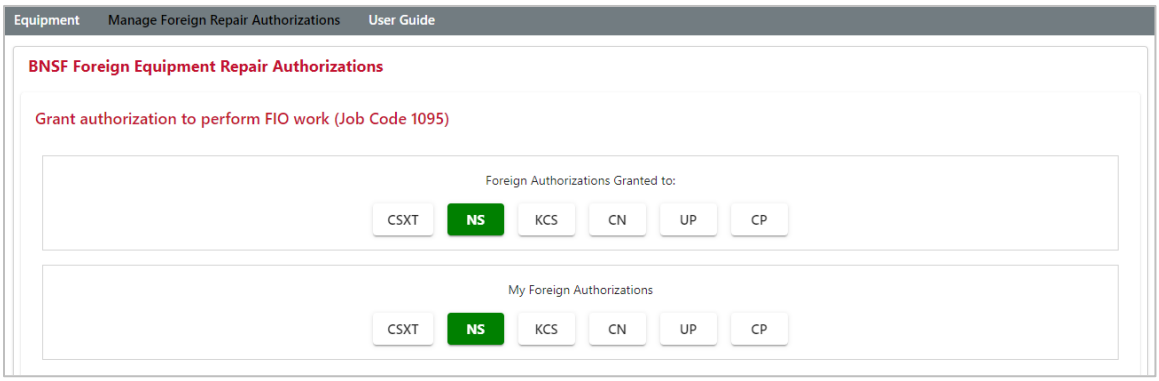


Tip! You can select the vertical ellipsis (⋮) and then select **History View** to see the status history.

Managing Foreign Repair Authorizations

Select **Manage Foreign Repair Authorizations** from the Locomotive Health and Status menu bar to view and grant foreign equipment repair authorizations to other railroads as well as view the railroads for which you have been granted foreign repair authorizations (Exhibit 34).

Exhibit 34. Manage Foreign Repair Authorizations Page



The **Foreign Authorizations Granted to** section shows, in green, the railroads that you have granted authorization to perform foreign repairs.

You can grant authorizations to additional railroads by simply selecting their mark in the **Foreign Authorizations Granted to** section. Locomotive Health and Status displays a message confirming the change (Exhibit 35) and updates the **Foreign Authorizations Granted to** section (Exhibit 36).

Exhibit 35. Foreign Repair Authorization Granted Message

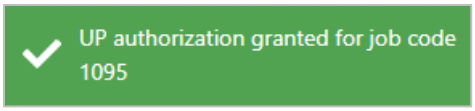
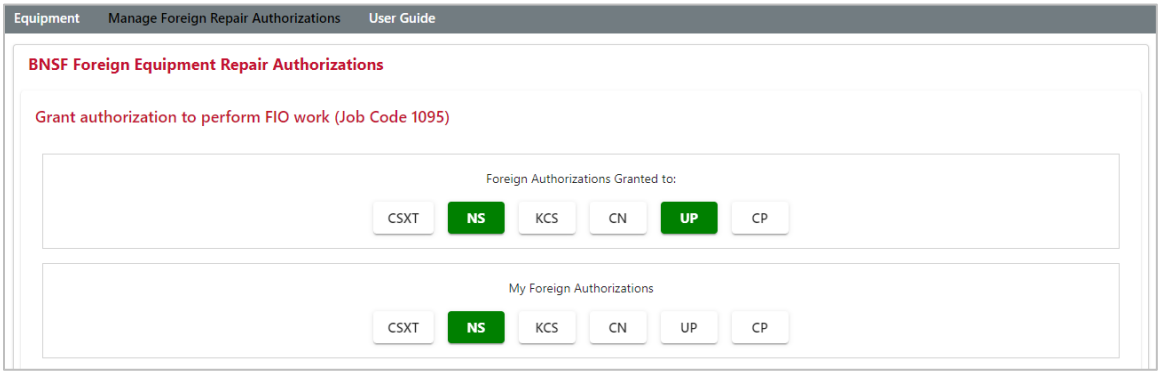


Exhibit 36. Manage Foreign Repair Authorizations With Added Authorization



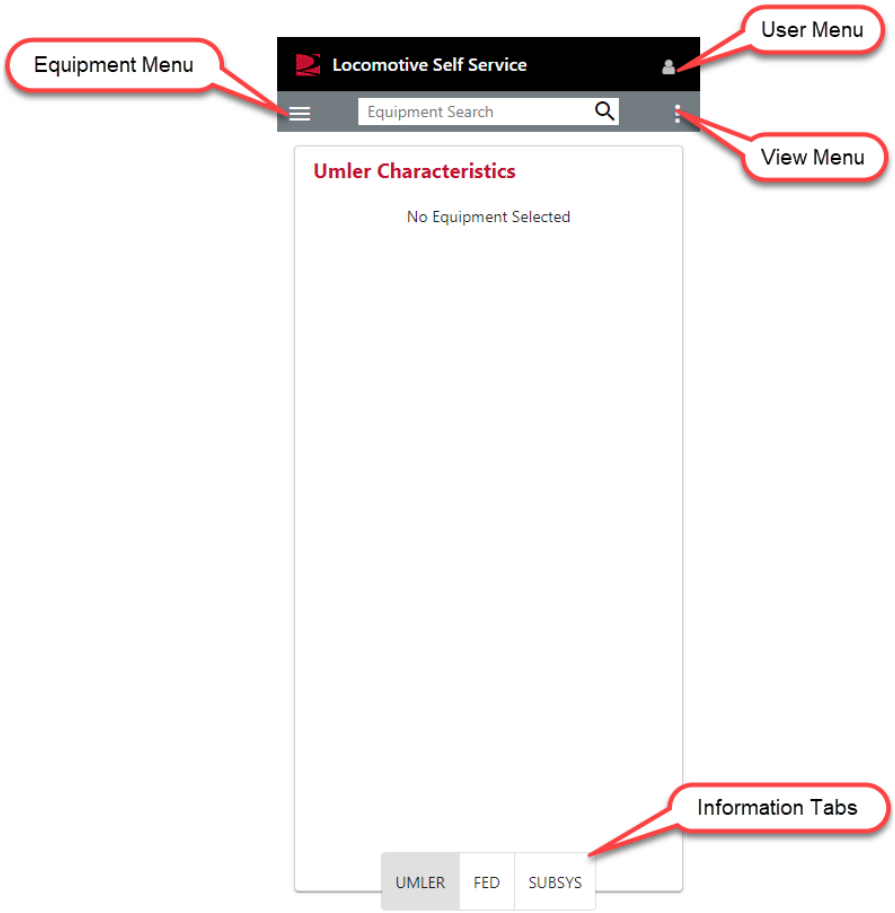
You can remove the authorizations you have granted by selecting a green highlighted mark in the **Foreign Authorizations Granted to** section.

The **My Foreign Authorizations** section shows, in green, the railroads that have granted you authorization to perform foreign repairs. This section is view only – you cannot perform any actions in this section.

Appendix A. Using a Mobile Device

When you use Locomotive Health and Status on a mobile device, all of the functionality is available; however, there are a few differences in the user interface. Exhibit 37 identifies the screen elements of the Locomotive Health and Status mobile interface.

Exhibit 37. Mobile Interface Screen Elements



The User Menu icon ( ) enables you to view your logged in user ID, view your mark, and select Sign Out.

The Equipment Menu icon ( ) enables you to see additional options, including:

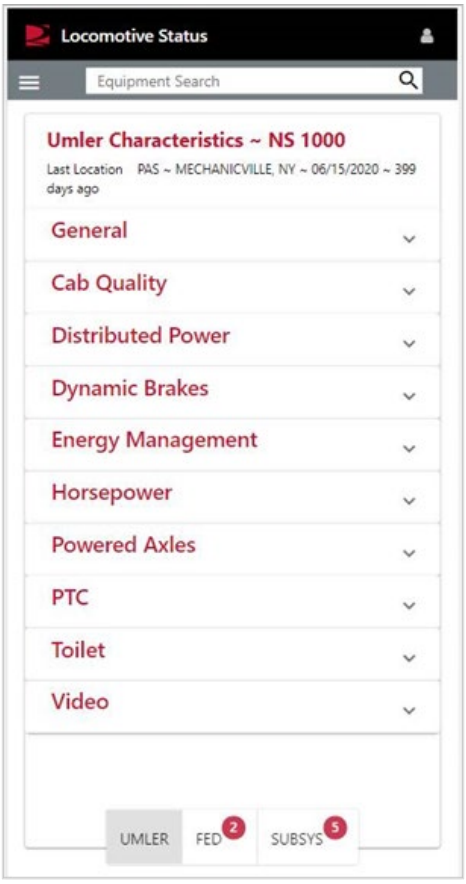
- Last Search – Redisplays the Equipment Search Results pop-up (Exhibit 7).
- Launch Umler – Performs an Umler Search for the selected piece of equipment (provided you have the proper Umler permissions).
- Equipment Status – Redisplays the Equipment Status (if you are on another screen).
- Managing Foreign Repair Authorizations – Enables you to view/grant foreign equipment repair authorizations to other railroads and view the railroads for which you have been granted foreign repair authorizations.

- User Guide – View the *Locomotive Health and Status User Guide* (this document).
- Creating a Health Report – Enables you to create a new Subsystem Health Report for the selected piece of equipment.

The View Menu (⋮) enables you to switch views when viewing the Federal Inspection Status and the Subsystem Health Status. Depending on the status you are viewing, you can switch between **Exception View**, **Full Status View**, and **History View**. See Viewing Federal Inspection Status Information and Viewing Subsystem Status Information for more information.

The Information Tabs enable you to switch between viewing Umler Characteristics, Federal Inspection Status information, and Subsystem Status information (Exhibit 38).

Exhibit 38. Mobile Interface Showing Umler Characteristics



If numbers are present on the FED and/or SUBSYS tabs, this indicates the number of exceptions present on the tabs.