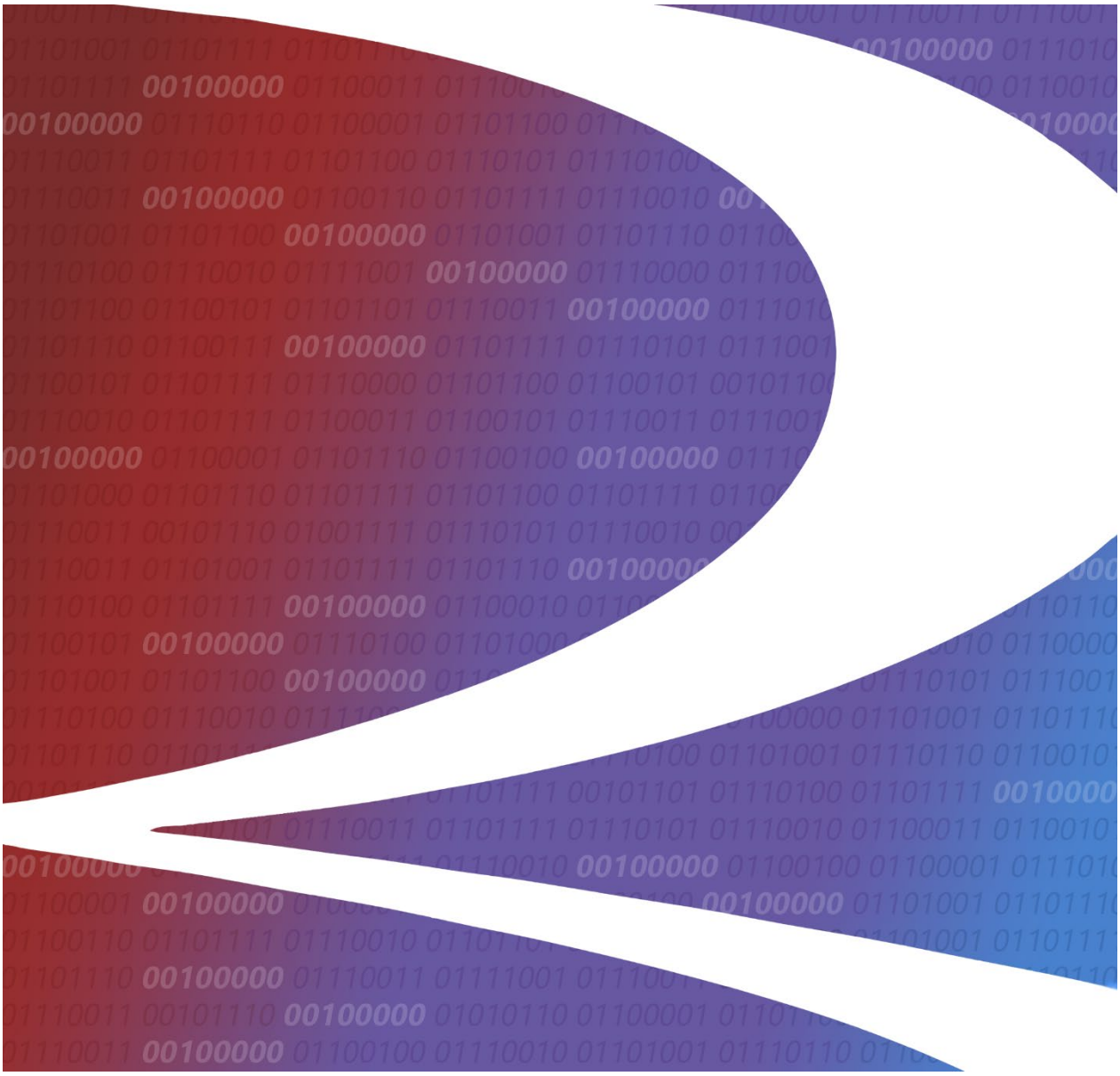


Asset Health Common User Interface User Guide

Last Updated: December 2025

Table of Contents

List of Exhibits

Learning About the Asset Health Common UI

The Asset Health Common UI (User Interface) is a Railinc web application that provides access to several Asset Health tools. This user guide describes the Wayside Analysis, the Detector Registry, and the Detector Subscription Tool functions.

This document describes how to use the Asset Health Common UI through the following sections:

- Overview provides basic information about the system.
- Getting Started describes how to access and log in to the system.
- Wayside Analysis describes how to view wheel and bearing temperature data and gain insight into wheel and brake functionality.
- Detector describes how to view current and historical detector information.
- Detector Subscription Tool describes how to request subscriptions for HBD data. It also describes how to approve and reject subscription requests.
- Wayside Detector Map describes how to find detector types, data and locations for better planning and spacing of detectors.
- Appendix A. Frequently Asked Questions provides information in a question-and-answer format.
- Appendix B. Working with FindUs.Rail provides information on how to register at FindUs.Rail to receive notification emails.

A glossary and index follow the major sections.

To access the *Asset Health Common User Interface User Guide* (this document) at any time, select the **Documentation** menu item from the main menu.

Overview

The Asset Health Common User Interface provides access to several tools for tracking asset health, including the Detector Registry, the Wayside Analysis, the Detector Subscription Tool and the Wayside Detector Map.

Detectors are automatically registered through the auto-registration process. Railroads use the Detector Registry to view their registered wayside detectors, and then use the Wayside Analysis to view, analyze, and annotate detector readings. Railroads use Detector Subscription Tool to share data.

The Wayside Analysis tool provides a graphic representation of wayside detector readings and enables analysts to record their observations regarding those readings. Wayside Analysis includes readings from Wheel Temperature Detectors (WTDs) and Hot Box Detectors (HBDs) and displays wheel and bearing temperatures in the form of a graph. These readings can be merged with readings from Automatic Equipment Identification (AEI) detectors.

Wayside Analysis data arrives in a road-specific Message Queue in XML format. The system saves the data and then parses it. Next, the system applies business rules to the data and saves it in the Reads Repository. Depending on the results of applying the business rules, the system performs calculations on wheel temperature data, creates truck-level Brake Health Data Summaries, and sends the data summaries to the Equipment Health Management System (EHMS) where they can be viewed. If certain business rules fail, the system logs errors and does not create a data summary. Bearing temperature data is displayed graphically for wayside analysis only – no data summaries are created for bearing temperature data.

Railinc provides a message (MQ) channel that accepts detector read requests in the XML wayside format. The XML request contains detector information along with the wayside readings. The detector information is registered in the repository automatically. This channel supports both adding and updating WTD, HBD, and AEI detectors.

The Detector Registry provides current and historical views of registered railroad wayside detectors and their attributes. Railroad standardizing organizations such as Railinc use this registry to track detector health. Detector owners and administrators can query and view details about current and historical detector registrations and inspect changes between versions.

The Detector Subscription Tool enables railroads to share data from HBDs and subscribe to receive train passing data from HBDs owned by other railroads. The owner railroads can approve or reject the subscription requests as well as view already approved subscription requests.

The Wayside Detector Map enables railroads to share data about detector types and locations for better planning and spacing of detectors.

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 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

Access the Asset Health Common UI by using Railinc SSO (Single Sign-On) that provides convenient access to a variety of Railinc products. To get started, go to the Railinc portal at https://public.railinc.com/ and select **Customer Login** in the top right of the home page. To log into SSO, enter your **User ID** and **Password** in the fields and select **Sign In**.

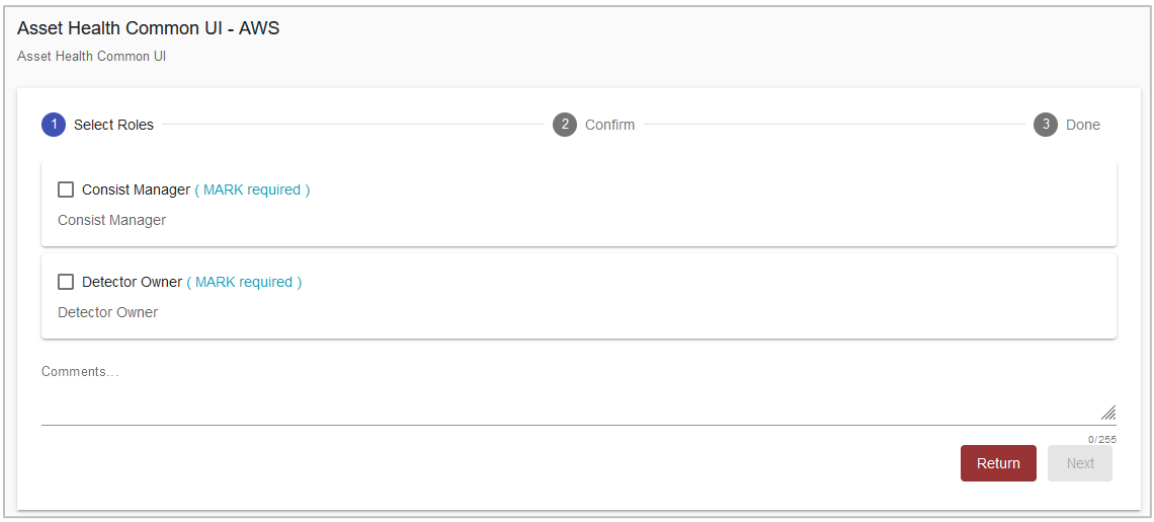
1. If you do not already have a Railinc SSO user ID and password, refer to the *Railinc Single Sign-On User Guide*. Go to https://public.railinc.com/ and select the **Customer Login** > **Need Help Signing in?** > **Create an Account Now** links to create an account. Once you have access to Railinc SSO, you must request access to the Asset Health Common UI in the next step.

2. If you do not have access to Asset Health Common UI, request access by following instructions in the *Railinc Single Sign-On User Guide*. See Learning About User Roles for information about the available levels of access. To gain user-level access to the Detector Registry, Wayside Analysis, and the Subscription Service, specify that you want the Detector Owner role and enter your railroad company ID. When you have received email notification confirming your access, you can log on and begin using the system.

Learning About User Roles

Your assigned user role determines what functions you can perform. User roles are assigned by Railinc through SSO in the Launch Pad.

Exhibit 1. SSO Request Permission



Role applicable for detector owners (railroads):

- **Detector Owner** – Enables users to access the user interface and work with detectors and data owned by their railroad. This role also enables access to Wayside Analysis and the Subscription Service.

Any additional roles listed apply to other applications that are accessed through the Asset Health Common User Interface. For EHMC members, see Roadmap Roles and Quarantine Roles.

Logging In

To log into the Asset Health Common User Interface:

1. Open the browser.

   Note: For the best performance while viewing the Wayside Analysis graphs, use the Google Chrome browser. Firefox performs similarly but is slightly slower than Chrome.

2. Open the Railinc portal at https://public.railinc.com.

3. Log in to SSO (at upper right). The Railinc Launch Pad is displayed.

4. In the **My Applications** section, select **Asset Health Common UI**. The Asset Health Home page is displayed (see Exhibit 2). This page provides access to the Wayside Analysis and the Detector Registry.

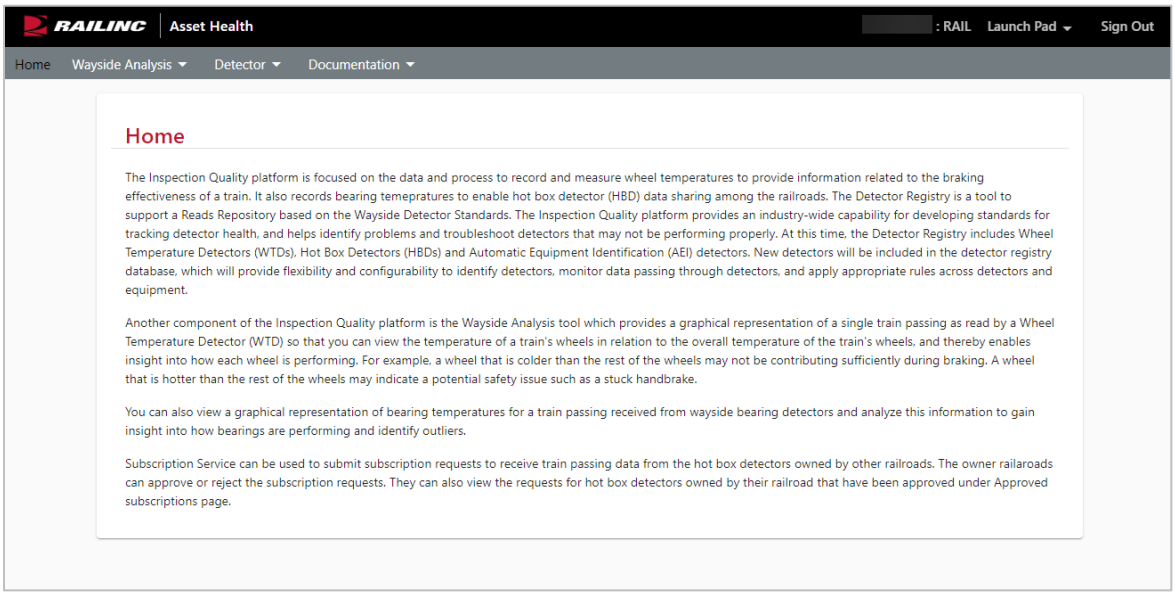
Logging Out

Select the **Sign Out** link to end an Asset Health session and return to the SSO Login Page.

Viewing the Asset Health Home Page

The Asset Health Home page is displayed immediately following a successful login to the system. If you have been granted the Detector Owner role, you can access the Wayside Analysis, the Detector Registry, and the Detector Subscription Tool. Return to the Home page at any time by selecting the **Home** menu item.

Exhibit 2. Asset Health Home Page



From this page, you can perform the following tasks:

Begin an analysis	Select the **Wayside Analysis** menu item. See Wayside Analysis for details.
View the list of registered detectors	Select **Detector** from the menu and then select **View Registry** from the drop-down menu. See Detector for details.
Request a subscription to data from Hot Box Detectors owned by another railroad.	Select **Detector** > **Detector Subscription Tool** > **Request Subscriptions** from the main menu. See Request Subscriptions for details.
Approve or reject a subscription request for data from Hot Box Detectors owned by your railroad.	Select **Detector** > **Detector Subscription Tool** > **Manage Requests** from the main menu. See Manage Requests for details.
Unsubscribe from approved subscriptions to data from Hot Box detectors owned by another railroad	Select **Detector** > **Detector Subscription Tool** > **My Subscriptions** from the main menu. See My Subscriptions for details.

View a list of approved subscriptions to data from Hot Box Detectors owned by your railroad.	Select **Detector** > **Detector Subscription Tool** > **Manage Requests** from the main menu. Select the **Approved** button in the top right. See View Requests for details.

Wayside Analysis

Wayside Analyses provide a graphical representation of a single train passing as read by a Wheel Temperature Detector (WTD) or Hot Box Detector (HBD) so that you can view the temperature of a train's wheels in relation to the overall temperature of the train's wheels. This information provides insight into how each wheel is performing. For example, a wheel that is colder than the rest of the wheels may not be contributing sufficiently during braking. A wheel that is hotter than the rest of the wheels may indicate a potential safety issue such as a stuck handbrake.

You can also view a graphical representation of bearing temperatures for a train passing received from wayside bearing detectors and analyze this information to gain insight into how bearings are performing and identify outliers.

For the best results, use Google Chrome as your browser.

See the following sections for details:

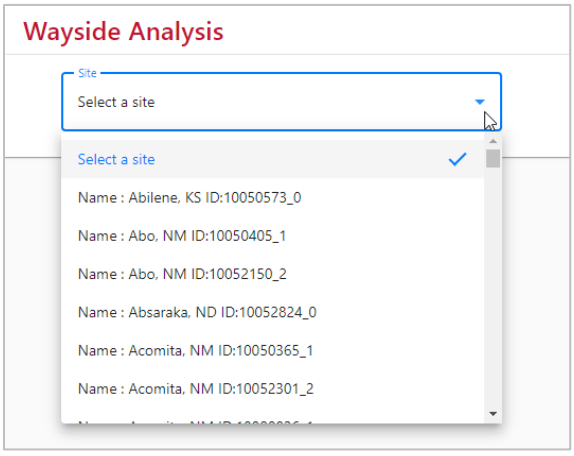
- View Wayside Analyses describes how to view Wayside Analysis information.
- Wayside Analysis Readings and Calculations contains detailed information about the readings and calculations associated with Wayside Analysis.
- Train Pass CSV Upload provides the specifications for uploading train pass data to EHMS.

View Wayside Analyses

Use the following procedure to work with Wayside Analyses:

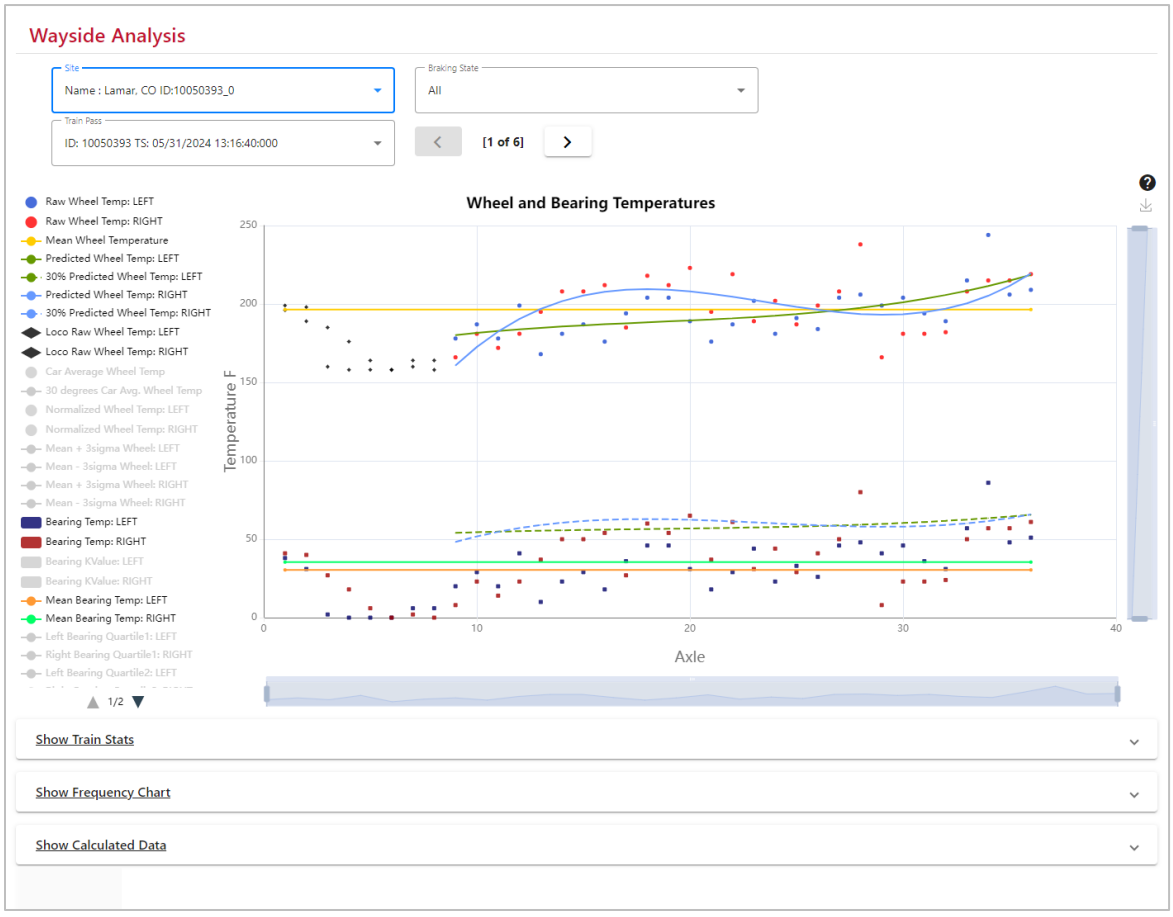
1. Select **Wayside Analysis** > **Wayside Data Analysis** from the main menu. The Select a Site page is displayed.

Exhibit 3. Wayside Analysis - Select a Site



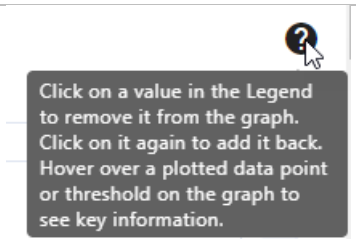
2. From the **Select a Site** drop-down, select the **Detector ID** for which you want to view readings. The Wayside Analysis page for the site you selected is displayed.

Exhibit 4. Wayside Analysis



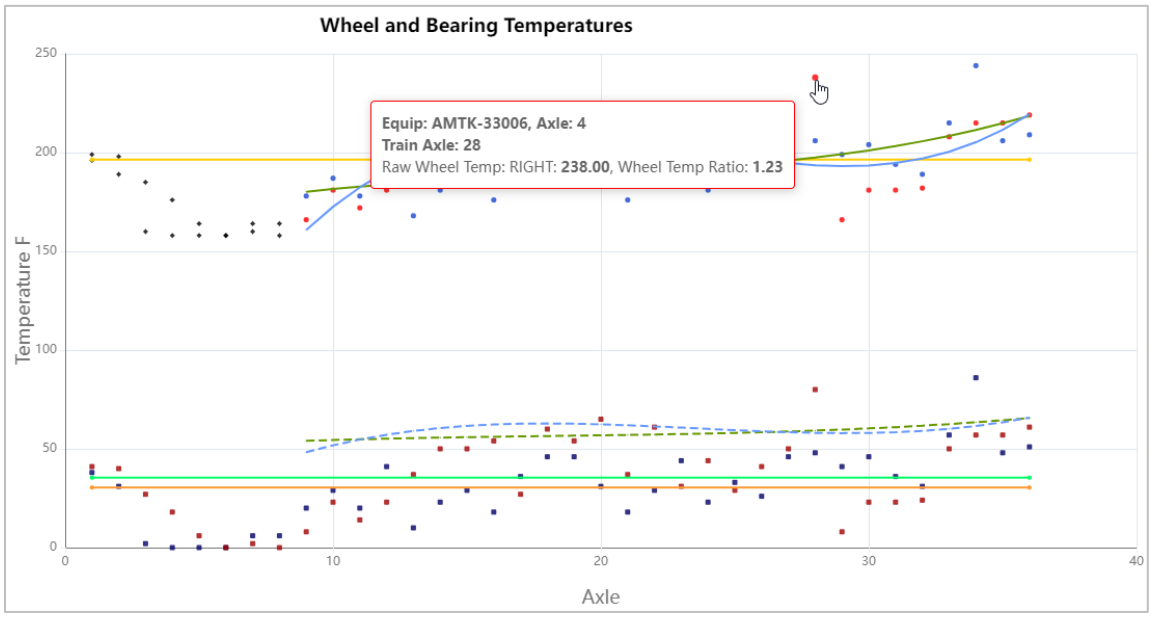
Navigate the Graph

Site	Select a site (detector) from the **Site** drop-down list.
Train Pass	Select a train pass (timestamp or Train ID) from the **Train Pass** drop-down list.
Braking State	Select All, Braking or Undetermined from the **Braking State** drop-down list.
Reset Zoom	Returns the graph to the default viewing size.
?	Displays helpful tips:

	
Download	Select the down arrow to save the graph as an image.
Legend	Select values in the left-side legend to remove or add them to the graph. See Wayside Analysis Legend for details.
Graph	The graph plots temperature readings on the y-axis with axle count on the x-axis. Hover over data points to show their details.
Show/Hide Train Stats	Displays or hides a table of train statistics (Exhibit 6).
Show/Hide Frequency Chart	Displays or hides a chart showing numbers of wheels within certain temperature ranges (Exhibit 7).
Show/Hide Calculated Data	Displays or hides a table of calculated data by equipment IDs (Exhibit 8) that are plotted in the graph.

3. Hover your mouse over a plotted data point or a threshold (for example, a dotted line) to see detailed information as shown below. These pop-ups display key information about the underlying data.

Exhibit 5. Graph Hover Displays Pop-up Details



4. Select **Show Train Stats** to see summary statistics for the selected train.

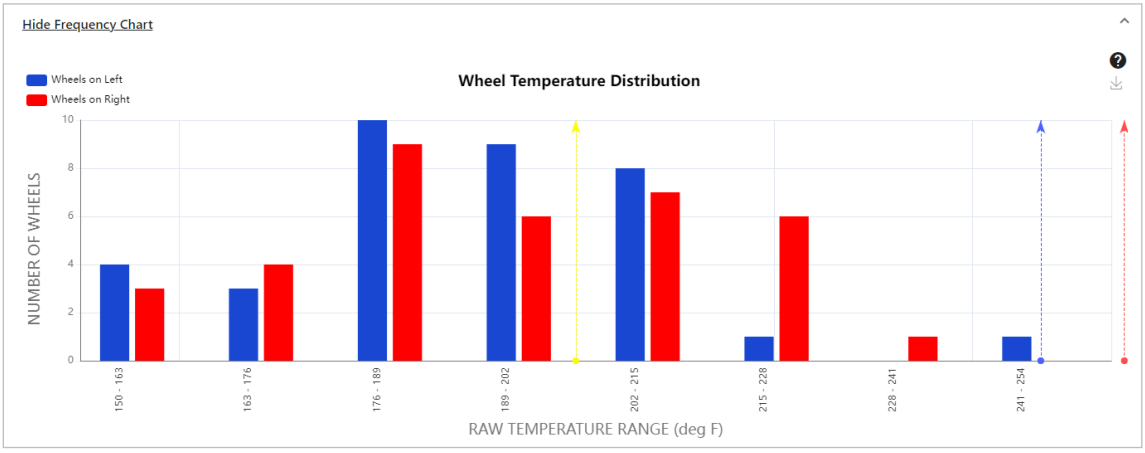
Exhibit 6. Train Stats

Hide Train Stats

Braking State: **Undetermined**	LCL L/R: **187/185 | LCL Threshold:**100	IQR L/R: **23/31**	UCL L/R: **202/208 | UCL Threshold:**30	IQR Threshold: **50**
Train Mean Temp: **196.446**	Mean Wheel Temp L: **194.143**	Normalized Mean Temp L: **196.446**	STD DEV L: **15.636**	Comp Factor L: **1.012**
Car Axle Count: **28**	Mean Wheel Temp R: **198.75**	Normalized Mean Temp R: **196.446**	STD DEV R: **18.446**	Comp Factor R: **0.988**
Mean Bearing Temp L: **30.417**	Mean Bearing Temp R: **35.417**	Bearing Quartile1 L: **18**	Bearing Quartile1 R: **23**	Bearing Quartile2 L: **31**
Bearing Quartile2 R: **37**	Bearing Quartile3 L: **44**	Bearing Quartile3 R: **50**		

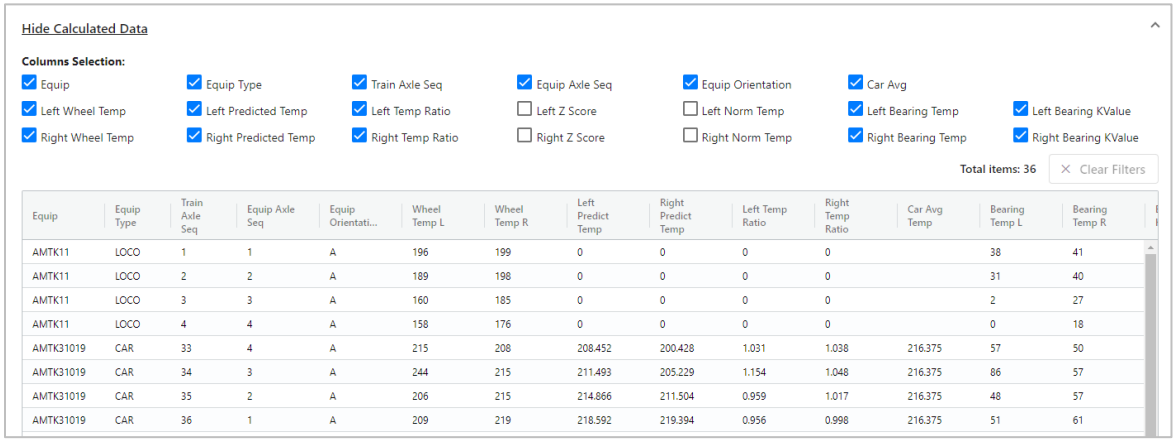
5. Select **Show Frequency Chart** to view a chart that shows the raw data points (the number of wheels) that are within certain temperature ranges. This helps you understand how the data is distributed, understand possible patterns, and make decisions about data. The red and blue dotted lines represent three standard deviations away from the mean train wheel temperature. The yellow dotted line represents the mean train wheel temperature. Data points that are outside of their respective blue or red dotted line may be considered to be outliers.

Exhibit 7. Wayside Analysis - Frequency Chart



6. Select **Show Calculated Data** to view a table that shows columns of data for equipment IDs by axle sequence as well as calculations. You can select checkboxes to determine which columns to display.

Exhibit 8. Wayside Analysis - Calculated Data



Equip	Equip Type	Train Axle Seq	Equip Axle Seq	Equip Orientati...	Wheel Temp L	Wheel Temp R	Left Predict Temp	Right Predict Temp	Left Temp Ratio	Right Temp Ratio	Car Avg Temp	Bearing Temp L	Bearing Temp R
AMTK11	LOCO	1	1	A	196	199	0	0	0	0		38	41
AMTK11	LOCO	2	2	A	189	198	0	0	0	0		31	40
AMTK11	LOCO	3	3	A	160	185	0	0	0	0		2	27
AMTK11	LOCO	4	4	A	158	176	0	0	0	0		0	18
AMTK31019	CAR	33	4	A	215	208	208.452	200.428	1.031	1.038	216.375	57	50
AMTK31019	CAR	34	3	A	244	215	211.493	205.229	1.154	1.048	216.375	86	57
AMTK31019	CAR	35	2	A	206	215	214.866	211.504	0.959	1.017	216.375	48	57
AMTK31019	CAR	36	1	A	209	219	218.592	219.394	0.956	0.998	216.375	51	61

The Calculated Data table shows columns of raw and calculated values. See the descriptions below. Values in these columns (excluding Locomotive data) are interpreted by the system, which creates data summaries as appropriate and sends them to the Equipment Health Management System (EHMS), where they can be viewed and acted upon.

Exhibit 9. Calculated Data Table Values

Column	Description
Equip	The Equipment Number associated with the locomotive or car.
Equip Type	The type of equipment (either locomotive or car).
Train Axle Seq	The sequence of train axles in the order in which they pass by the detector.
Equip Axle Seq	The sequence of axles for a particular piece of equipment in the order in which they pass by the detector (based on the number of axles per car as submitted in the MQ request). This sequence could count up or count down depending on the orientation of the equipment.
Equip Orientation	The orientation of the equipment – whether the "A" end or "B" end passes the detector first.
Left Wheel Temp/Wheel Temp L	Actual raw wheel temperature (degrees above ambient) on the left rail. This value can also be observed in the graph by hovering over a raw temperature data point.
Right Wheel Temp/Wheel Temp R	Actual raw wheel temperature (degrees above ambient) on the right rail. This value can also be observed in the graph by hovering over a raw temperature data point.
Left Predicted Temp	Calculated/expected value (degrees above ambient) for that left axle on the train. This value can also be observed in the graph by hovering over a solid temperature line.
Right Predicted Temp	Calculated/expected value (degrees above ambient) for that right axle on the train. This value can also be observed in the graph by hovering over a solid temperature line.
Left Temp Ratio	Actual raw wheel temperature value divided by the predicted value for the left train axle. This value can also be observed in the graph by hovering over a raw temperature data point.
Right Temp Ratio	Actual raw wheel temperature divided by the predicted value for the right train axle. This value can also be observed in the graph by hovering over a raw temperature data point.
Left Bearing Temp	Actual raw bearing temperature value (degrees above ambient) on the left rail. This value can also be observed in the graph by hovering over a raw temperature data point.

Column	Description
Right Bearing Temp	Actual raw bearing temperature value (degrees above ambient) on the right rail. This value can also be observed in the graph by hovering over a raw temperature data point.
Left Bearing K Value	Statistical indicators that definite relative variation of one measurement to the population, using all bearing on Left side of Train as basis
Right Bearing K Value	Statistical indicators that definite relative variation of one measurement to the population, using all bearing on Left side of Train as basis
Car Avg	Average of all the raw wheel temperatures on a car.
Left/Right Norm Temp	This is based on CP's method. To compensate for some hot wheel detector sites using one sensor and others using two and other rail variances, the individual wheel temperature values on each rail are shifted or compensated using a rail-based compensation factor to move to a common average in between. This compensation only occurs if both sides are within a specific range; otherwise, they are treated as two different populations.

Z-Scores

The Z-Score for each wheel temperature is the wheel temperature minus the compensated normalized mean divided by the compensated standard deviation for that side of the rail.

Note: Based on the CP method, the system calculates a Z-Score for each wheel temperature that is (wheel temperature – compensated normalized mean for the rail side) / compensated standard deviation for the rail side.

$$\frac{(\text{wheel temperature}) - (\text{compensated normalized mean for the rail side})}{\textit{compensated standard deviation for the rail side}}$$

K Values

Bearing K Value for Left and Right side: K Values are statistical indicators that define relative variation of one measurement to the population. The train side K Value is calculated using the formula:

Kt = (Tb-Q3_t) / (Q3_t - Q1_t), *where*

Kt is the train side K Value for Left/Right side of the train

Tb = Temperature of bearing

Q3_ t = Third Quartile

Q1_t = First Quartile

Wayside Analysis Readings and Calculations

This section describes how to use the Wayside Analysis legend to control the information that is displayed in the graph and provides the methods used to determine the train braking state and cold wheel status.

Wayside Analysis Legend

The table below describes the readings and calculations that are available for display in the Wayside Analysis. Certain readings and calculations are hidden by default and are indicated by a strikethrough line in the legend, which is located at the left of the graph. To display a reading that is hidden (or to hide a reading that is displayed), select the name of the reading in the legend.

Exhibit 10. Readings/Calculations Available for Display

Readings/Calculations to Display	Description
Raw Wheel Temperature: LEFT / RIGHT	These are the actual wheel temperature values sent from the railroads for the left and right rails.
Normalized Wheel Temperature: LEFT / RIGHT	This is based on CP's method. To compensate for some hot wheel detector sites using one sensor and others using two and other rail variances, the individual wheel temperature values on each rail are shifted or compensated using a rail-based compensation factor to move to a common average in between. This compensation only occurs if both sides are within a specific range; otherwise, they are treated as two different populations.
Car Average Wheel Temperature	This calculation is based on CN's method. Short brown lines are graphed representing the average wheel temperature of each car.
30 degrees Car Avg. Wheel Temp.	This is CN's threshold for determining cold cars. It is represented as a dashed brown line at 30 degrees. Any car located below this line is considered an outlier by CN.
Locomotive Raw Wheel Temp.: LEFT / RIGHT	Locomotive's raw wheel temperature values displayed as an X. These values do not contribute to the train mean temperature and are excluded when calculating the rail side averages in the CP algorithm.
Mean + 3sigma Wheel: LEFT / RIGHT	This is CP's threshold for determining hot wheels for the rail side. This line represents 3 standard deviations from the normalized rail side average. Any wheel temp located above this line is considered an outlier by CP.

Readings/Calculations to Display	Description
Mean - 3sigma Wheel: LEFT / RIGHT	This is CP's threshold for determining cold wheels for the rail side. This line represents 3 standard deviations from the normalized rail side average. Any wheel temperature located below this line (if the train average temperature is greater than 200) is considered an outlier by CP.
Mean Wheel Temperature	Mean wheel temperature for the entire train computed across all the raw reads, excluding locomotive values.
Bearing Temp LEFT/RIGHT	These are the actual bearing values sent from the railroads for the left and right rails.
Mean Bearing Temp LEFT/RIGHT	Mean bearing temperature for the left/right sides of the train computed across all the raw bearing reads for that side.
Bearing Quartile1 Left/Right	Median of all the bearing temperature values below the Median for Left and Right sides.
Bearing Quartile2 Left/Right	Median of all the bearing temperature values for Left and Right sides.
Bearing Quartile3 Left/Right	Median of all the bearing temperature values above the median for Left and Right sides.
Predicted Wheel Temperature	Calculation using 3rd order polynomial to predict what the temperature should be at that axle.
30% Predicted Wheel Temp	This is the threshold for determining cold wheels. The threshold is 30% of the predicted wheel temperature at that axle. Any wheel temperature located below this line is considered an outlier.

Train Braking State and Cold Wheel Determination

In order to identify cold wheels on a train, the train must be in a braking state. The train braking state is determined using two factors: 95% confidence interval, using a lower confidence level (LCL) and the interquartile range (IQR). The train sides are calculated separately, and then the two sides are compared. Both sides have to be greater than the LCL and IQR thresholds for the train to be considered braking. Only wheel temperatures from cars are included in the calculations.

When considering all the wheels that comprise a truck, if the average of the ratios is greater than or equal to the threshold of 0.3 then the truck is considered to be qualified (good). If the average of the ratios is less than the threshold of 0.3 then the truck is considered to be undetermined

(potentially ineffective brakes). For a car to be considered qualified, all trucks need to be qualified. **Note:** This definition is subject to change.

Definitions/Formulas/Thresholds to Determine Braking State

Confidence Interval (CI) provides an estimated range of values that is likely to include the actual (but unknown) population parameter. The formula used to calculate the 95% lower confidence interval for median is:

LCL = n x (0.5) - 1.96 x square root (n x 0.5 x 0.5), where n = number of axles.

To calculate, sort the car wheel temperatures for the train side from smallest to largest, and then get the wheel temperature at the position identified by LCL.

For example: For the left side of train, number of axles = 608, lower CI limit is 280; so, the value of the sorted wheel temp at the 280th axle is 310.

The **interquartile range** is a measure of statistical dispersion being equal to the difference between the upper and lower quartiles. The formula is:

- Q1 = (N-1) X 0.25
- Q3 = (N-1) X 0.75
- To calculate, sort the car wheel temperatures for the train side from smallest to largest then get the wheel temperature at the positions identified by Q1 and Q3
- IQR = Q3 - Q1

Thresholds

If both thresholds of both train sides are greater than the thresholds, the train braking state is considered "braking"; otherwise, it is "undetermined".

- LCL > 100
- IQR > 50

Definitions/Formulas/Calculations/Threshold to Determine Cold Wheels

The calculation for the **wheel temperature ratio** for each wheel is:

- actual wheel temp / predicted wheel temp
  - *from 3rd Order Polynomial, evaluated as a function of each rail*

Threshold

If the truck average wheel temperature ratio is greater than or equal to the threshold, the truck is considered "qualified".

- truck average wheel temperature ratio >= **0.3**

Polynomial regression is a form of linear regression in which the relationship between the independent variable *x* and the dependent variable *y* is modelled as an *n*th order polynomial. **3rd Order Polynomial** fits a nonlinear relationship between the value of *x* and the corresponding conditional mean of *y*. The formula is:

$Y = a + bx + cx^2 + dx^3$, where x = axle sequence number and y = the predicted wheel temperature

Notes:

- The train sides are calculated separately.
- Only wheel temperatures from cars are included in the calculations.

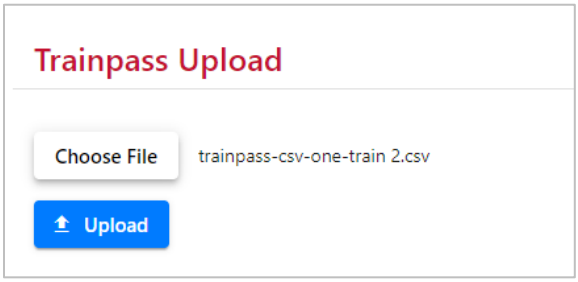
Train Pass CSV Upload

To upload your Train Pass data to Asset Health, the file must be a CSV file and follow the CSV File Specifications prior to upload and use the following procedure:

1. Select **Wayside Analysis** > **Trainpass CSV Upload** from the main menu. The Trainpass Upload page is displayed.

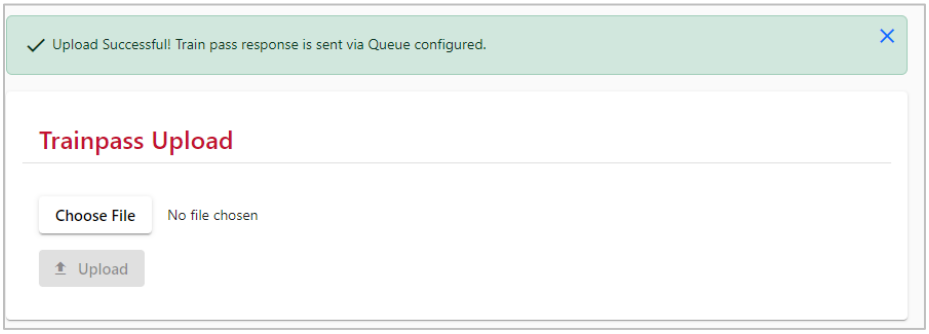
2. Select **Browse** and select the CSV file from your computer. When the file is selected, the name of your file appears on the screen.

Exhibit 11. File Selected for Train Pass Upload



3. Select **Upload** to upload the file. A success message will appear for successfully uploaded files. If your file does not successfully upload, check that your file has .CSV as the extension and that it follows the CSV File Specifications.

Exhibit 12. Successful Train Pass Upload



CSV File Specifications

To successfully upload your data, the CSV file must follow these data specifications:

Detector Id	alphanumeric field - up to 40 characters
Detector Name	alphanumeric field
Latitude	numeric field - up to 20 digits, including special characters
Longitude	numeric field - up to 20 digits, including special characters
Detector Track Number	numeric field
Detector Track Side	alphabetic field - 1 character
Train Passing Date	date/time field in mm/dd/yyyy hh:mm format
Train Direction	alphabetic field - 1 character
Total Number of Equipment	numeric field - up to 4 digits
Train Axle Number	numeric field/renamed
Equipment Train Sequence Number	numeric field
Equipment Initial	alphabetic field - up to 4 characters
Equipment Number	numeric - up to 6 digits
Equip Type Code	alphabetic - 1 character
Orientation	alphabetic - 1 character, A or B
Num of Axles	numeric - 4 digits
AAR Axle Number	numeric - 4 digits
AAR Axle Name	numeric - 4 digits
Train Side	L or R
Equipment Side	L or R
Wheel Temperature DegF	numeric field
Bearing Temp DegF	numeric - 3 digits

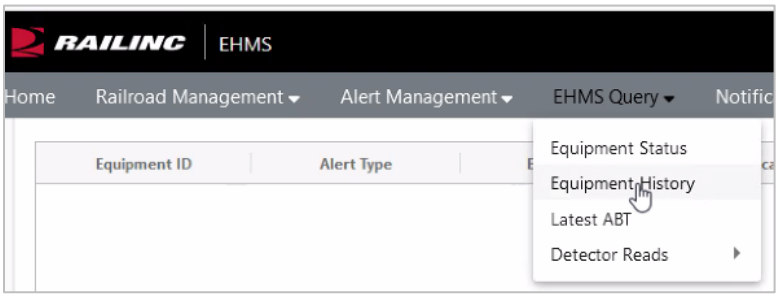
View Upload in EHMS

After a successful upload to Asset Health, the data from your file can be viewed in EHMS. Use the following procedure to view your data in EHMS:

1. From Asset Health, use the **Launch Pad** drop-down list in the upper right to select **EHMS**.

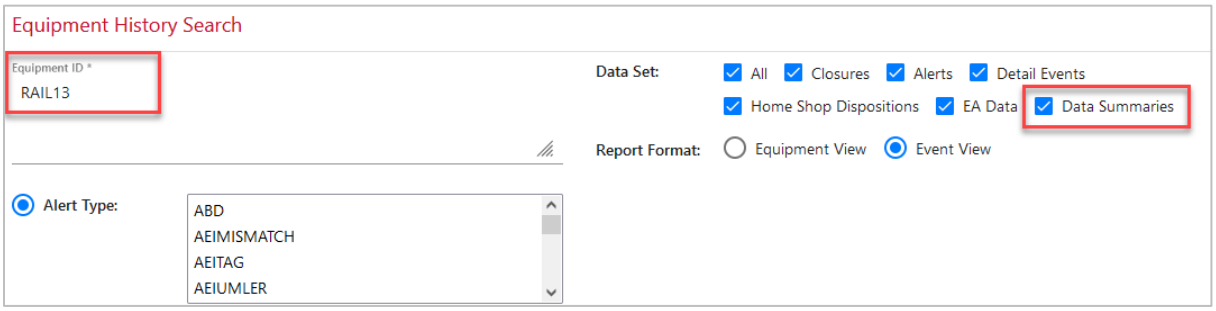
2. In EHMS, select **EHMS Query** > **Equipment History**.

Exhibit 13. EHMS Menu



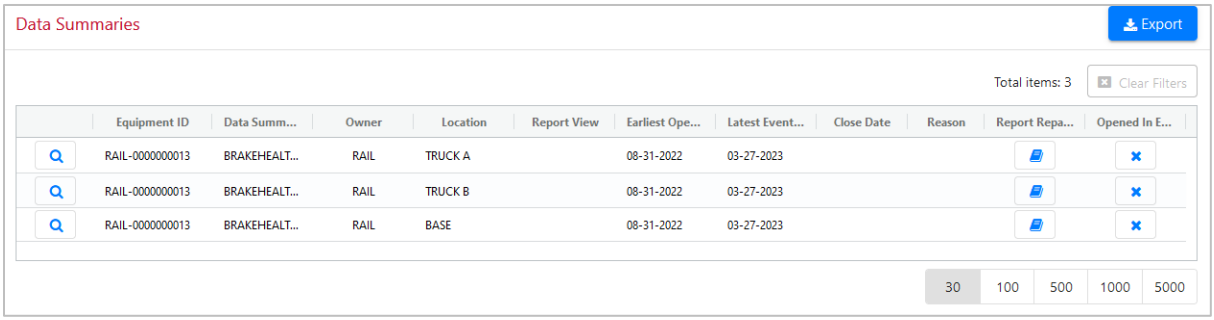
3. The Equipment History Search displays. Enter the **Equipment ID**. In the Data Set section, select **All** or **Data Summaries**. Select **Search**.

Exhibit 14. EHMS Equipment History Search



4. Scroll down to the **Data Summaries** section to view your uploaded data.

Exhibit 15. View Train Pass Data in EHMS



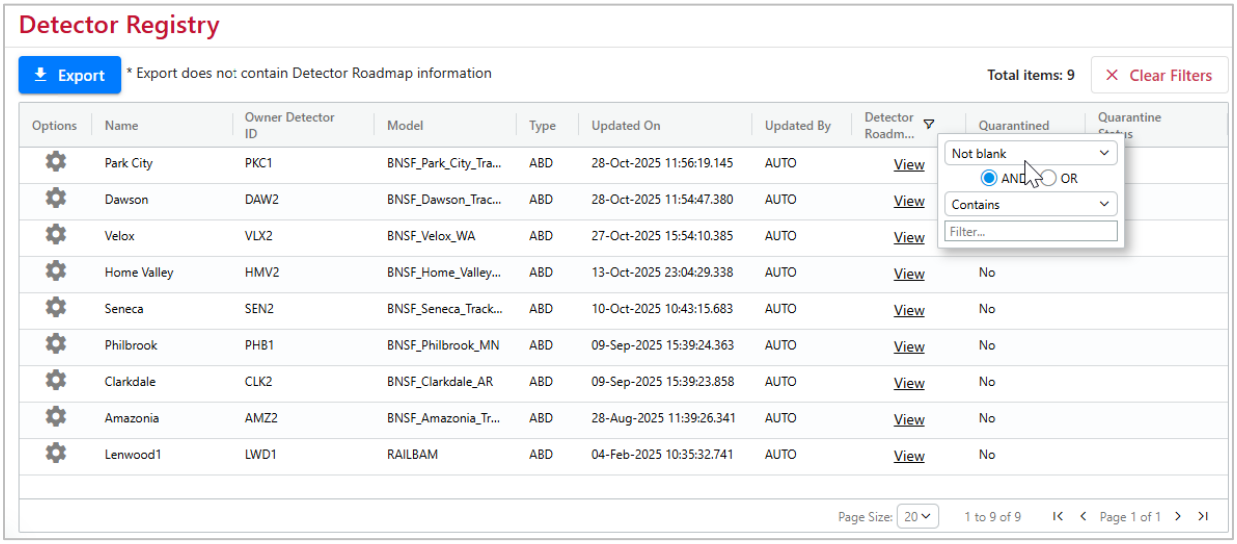
Detector

View Registry

The Detector Registry enables you to view the detectors registered to your railroad. Use the following procedure to view the Detector Registry:

1. Select **Detector** > **View Registry** from the main menu. The Detector Registry contains a scrollable list of detectors along with the Owner Detector ID, Model, Type, Updated On (date of last update), and Updated By.

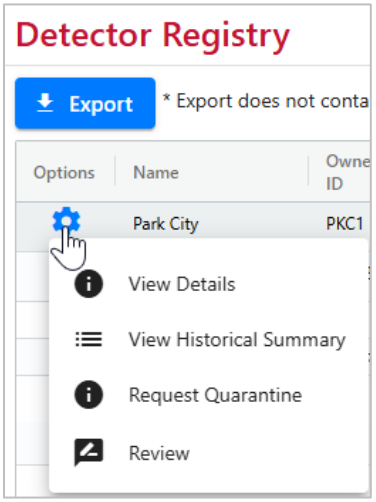
Exhibit 16. Detector Registry



The **View** link in the Detector Roadmap column shows that the detector is mapped to an approved detector roadmap.

For additional information about a detector, select the options wheel next to the detector name:

Exhibit 17. Detector Options Wheel

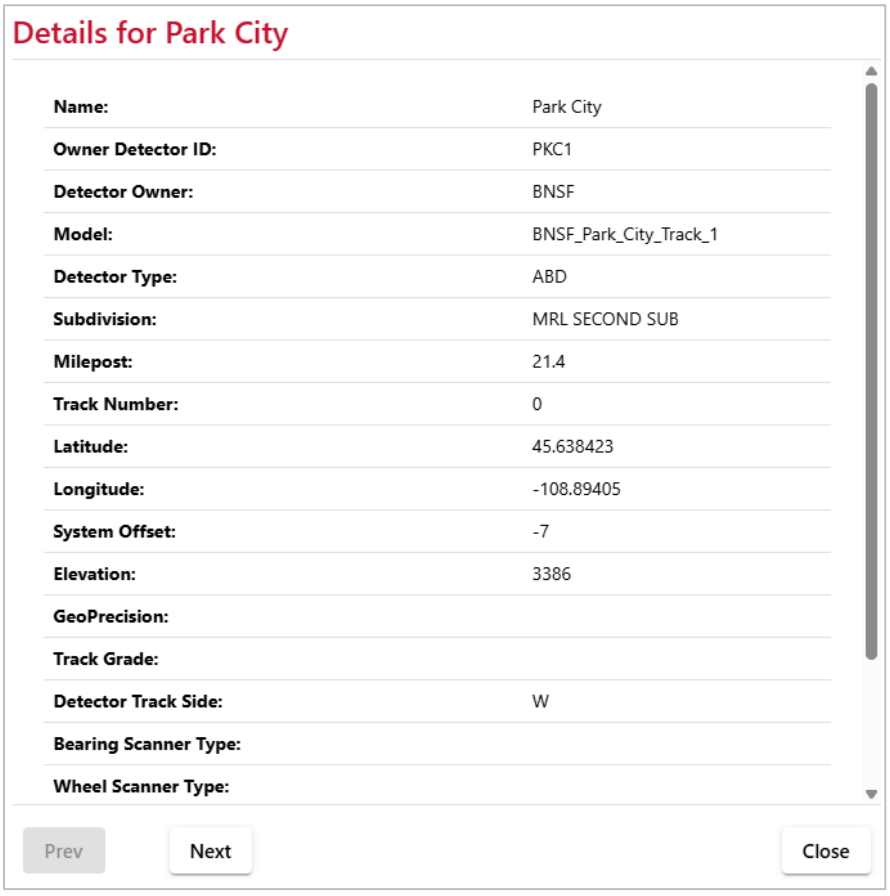


- View Details to view the detector details, including all attributes associated with the detector selected.
- View Historical Summary to view the attribute values previously associated with the detector selected.
- Request Quarantine to submit a request to quarantine/unquarantine the detector selected. This function is only available to assigned EHMC members.
- Review to review validation dates for Defect Types and approve. This function is only available for ABD detectors.

View Details

Select **View Details** from the wheel drop-down menu (Exhibit 17) to view all the attributes associated with the detector selected.

Exhibit 18. Detector Registry Details



You can use the **Prev** and **Next** buttons to view details for the next detector in the list. Select **Close** when you have finished viewing detailed detector information. See below for descriptions of the detector details.

Exhibit 19. Detector Details Headings

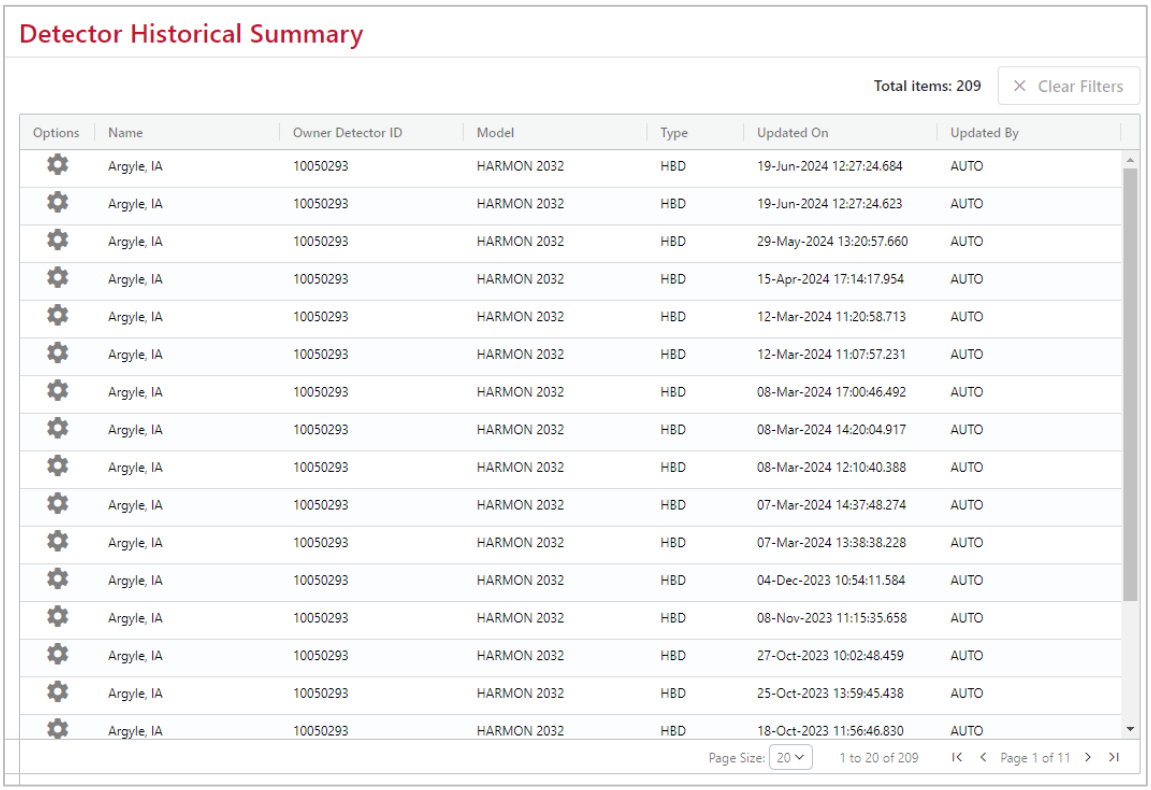
Details Heading	Description
Name	The Carrier Name for the detector. This may be a location name.
Owner Detector ID	The unique identifier for the detector of a given type as assigned by the detector owner. This ID can be in various formats (e.g., numeric or alphanumeric).
Detector Owner	The name of the Carrier who owns the detector, and on whose network the detector is located.
Model	The model of the detector.
Detector Type	The major type code for the detector (e.g., WILD, WTD, AEI, HBD, etc.).
Subdivision	The name of the Subdivision on the Carrier Network where the detector is located.
Milepost	The network location where the detector is located.
Track Number	The Sidetrack Number where the Detector is located. RIS2 naming convention.
Latitude	Latitude of the origin point for a track, accurate to within a few inches.
Longitude	Longitude of the origin point for a track, accurate to within a few inches.
System Offset	The difference in hours from UTC or GMT for the location of the detector.
Elevation	Elevation in feet above sea level of the location of the detector.
GeoPrecision	Guaranteed accuracy of the geography coordinates expressed in plus/minus number of feet.
Track Grade	Percentage grade of the track at the detector location as reported by Carrier's convention (e.g., 5 equals 5%).
Detector Track Side	Train timetable direction of the detector orientation relative to the track used to determine train side based on train direction. Should be perpendicular to train direction (e.g., should be north or south for an east/west track).

Details Heading	Description
Bearing Scanner Type	Type of scanner the bearing temperature detector has on this hot box detector. This field is blank if the hot box detector does not have a bearing scanner.
Wheel Scanner Type	Type of scanner the wheel temperature detector has on this hot box detector. This field is blank if the hot box detector does not have a wheel scanner.
ABD Detector Type	Examples: RailBAM or TADS.
Number of Microphones on Left Rail	The number of microphones reporting. Left rail for an observer facing the direction of the train.
Number of Microphones on Right Rail	The number of microphones reporting. Right rail for an observer facing the direction of the train.

View Historical Summary

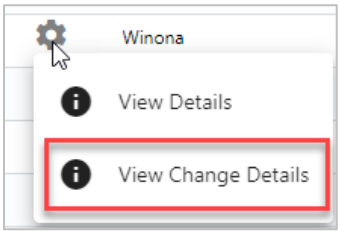
To view historical attribute values as in an Audit Trail, select **View Historical Summary** from the options wheel menu (Exhibit 17). The Detector Historical Summary page is displayed with a summary of the attribute values associated with the detector selected.

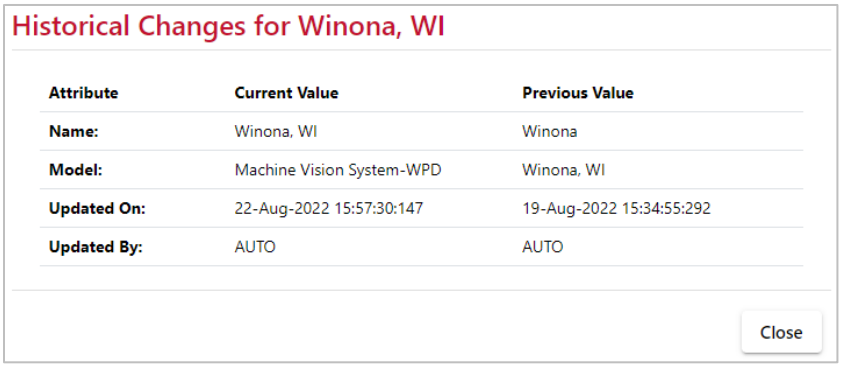
Exhibit 20. Detector Historical Summary



The first item in the list is the most recent. Select the options wheel menu and **View Details** to see the attributes associated with a detector at a given date and time, as shown in the **Updated On** column. If changes have been made to detector attributes, the options wheel menu displays an additional selection for recent time points – View Change Details. Select **View Change Details** to view Historical Changes for the selected detector.

Exhibit 21. Historical Changes

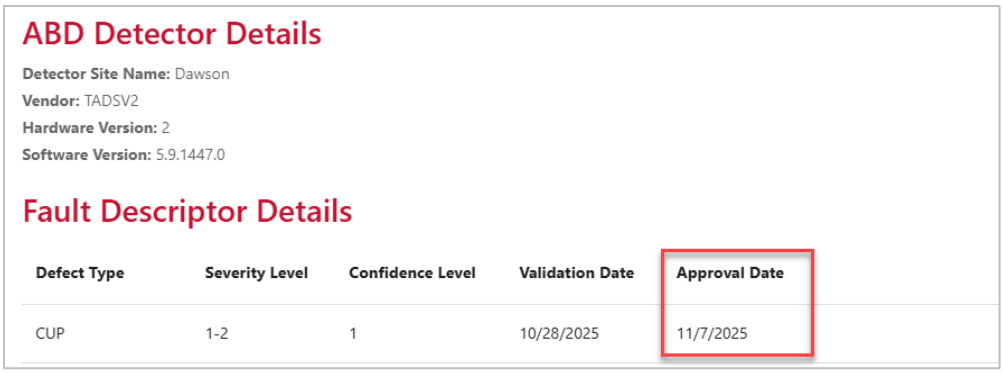




Review

Detector Owners can review and approve validated Fault Descriptor Details for their company's detectors by selecting **Review** from the options wheel menu (Exhibit 17). Alert generation begins on the Approval Date (not the Validation Date) onward.

Exhibit 22. Approved Fault Descriptor Details

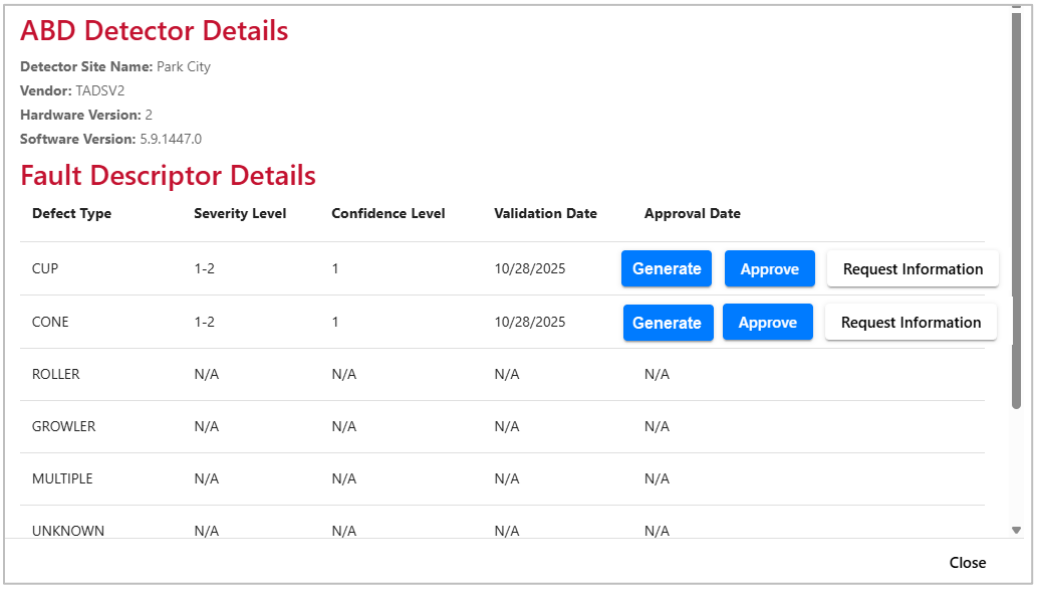


When the Configuration Manager has validated the Defect Type, the **Validation Date** is updated. Once the Defect Type has a Validation Date, Detector Owners can generate the Alert Event Audit Report on demand by selecting the **Generate** button for up to three (3) days (Exhibit 23). After three (3) days, the Alert Event Audit Report is automatically emailed to the Detector Owner for their review. If they agree with the Alert Event Audit Report, they can approve by selecting the **Approve** button. The **Approve** button is available for up to ten (10) days.

Detector Owners can contact the EHMS Business team by selecting the **Request Information** button with any questions or concerns.

If the Detector Owner has not approved the Fault Descriptor Details after ten (10) days, the system will automatically approve it for them and send them an email that it has been approved.

Exhibit 23. Review and Approve Fault Descriptor Details



Register/Update a New Detector

A new detector is automatically registered whenever a wayside passing file is submitted by that detector. Every time a file is submitted from a previously registered detector, the attributes for that detector are updated if the values are different.

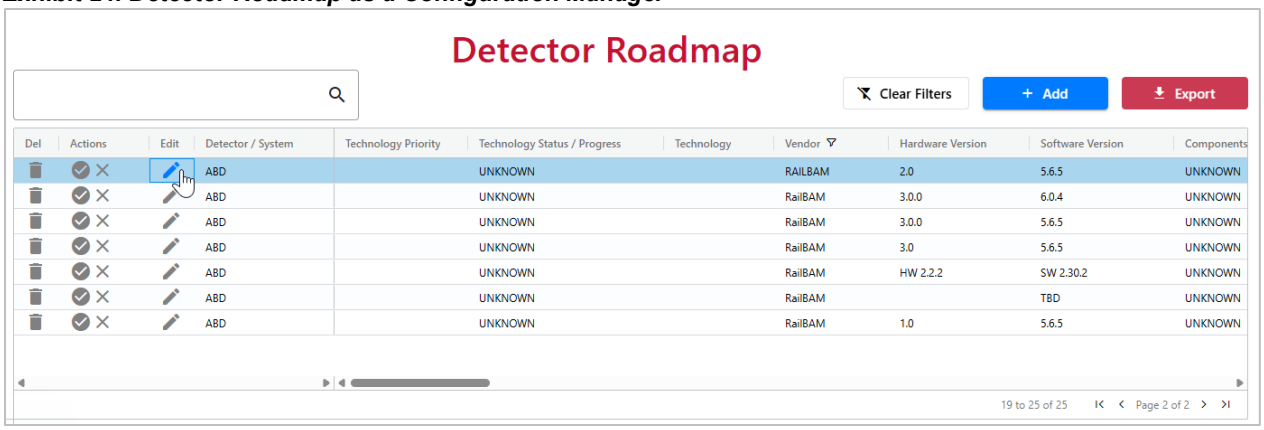
Detector Roadmap

The Detector Roadmap function is available only to assigned EHMC (Equipment Health Management Committee) members. See Roadmap Roles for details about EHMC roadmap roles.

To view the Detector Roadmap for various detector types, use the following procedure:

1. Select **Detector** > **Detector Roadmap** from the main menu. The Detector Roadmap page displays a list of detector roadmaps and their elements for each detector type across all railroads.

Exhibit 24. Detector Roadmap as a Configuration Manager



2. Hover over the column header to display the stack icon. Use the stack icon to filter the selected column.

3. To export the list of detectors and their elements, select the **Export** button and select **Open** or **Save**.

To add a new detector roadmap, select the + **Add** button. See Add a Detector Roadmap for more information.

To edit a detector roadmap, select the pencil icon in the **Edit** column next to the detector roadmap that you want to edit. All required fields are marked with an asterisk (*). Make changes to the appropriate fields and select **Save**. The Detector Roadmap displays with the edited detector roadmap.

To approve a detector roadmap (Configuration Manager only), Select the check icon in the **Actions** column next to the detector roadmap that you want to approve. A pop-up window confirmation asks if you want to approve the roadmap selected. Select **Approve** to approve, otherwise select **Cancel**. Selecting the check icon to approve a roadmap for ABD detectors may result in a **Warning**. This is a

reminder that sufficient ABD teardowns have not been related to the roadmap. Follow the procedure to Add Fault Descriptor Details After Teardown Approvals first and then return to approve the roadmap. When a roadmap exists without inspection records in Asset Health Common UI, select **Proceed** to approve.

To reject a detector roadmap (Configuration Manager only), select the x icon in the **Actions** column next to the detector roadmap that you want to reject. A pop-up window confirmation asks if you want to reject the roadmap selected. Select **Reject** to reject, otherwise select **Cancel**.

To remove a detector roadmap, select the trash can icon in the **Del** column next to the detector roadmap that you want to delete. A pop-up window confirmation asks if you want to delete the roadmap selected. Select **Delete** to delete, otherwise select **Cancel**. When the detector roadmap is deleted, it is permanently removed from the Detector Roadmap page.

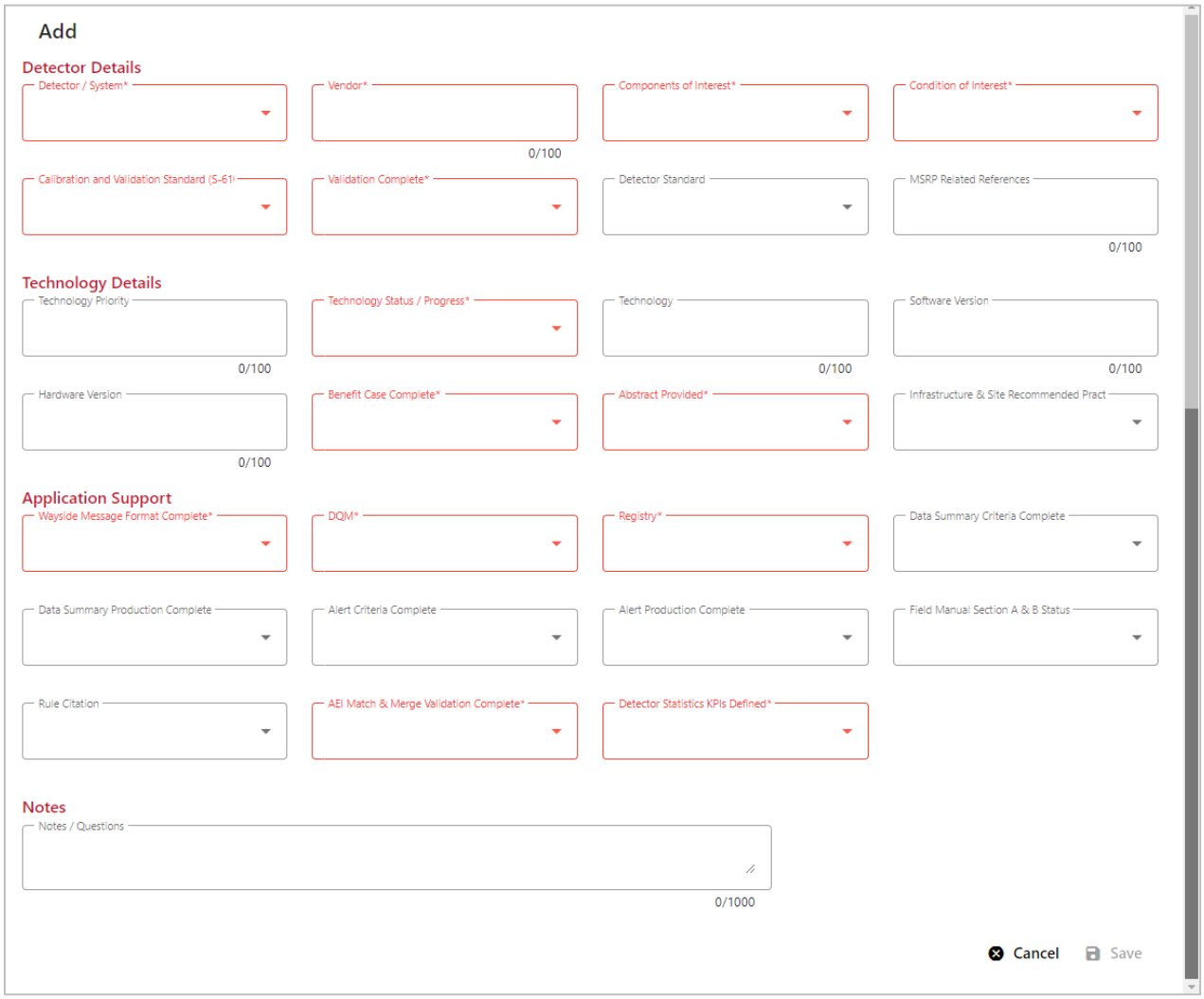
Add a Detector Roadmap

To add a detector roadmap to the Detector Roadmap, you must be granted access by the EHMC. See Roadmap Roles for role details. Use the following procedure to add a detector:

1. Select **Detector** > **Detector Roadmap** from the main menu. The Detector Roadmap page displays a list of detector roadmaps and their elements across all railroads.

2. Select the + **Add** button. The Add form displays. All mandatory fields are marked in red and with an asterisk (*).

Exhibit 25. Add Detector



3. Enter all required fields and select **Save**. The Detector Roadmap displays with the added detector.

Add Fault Descriptor Details After Teardown Approvals

Note: This function is only available for ABD detectors.

This function is for Configuration Managers only. Once you have approved Teardown Inspections (as shown in Configuration Managers), the fault descriptor details must be added to the detector in the Detector Roadmap using the following procedure:

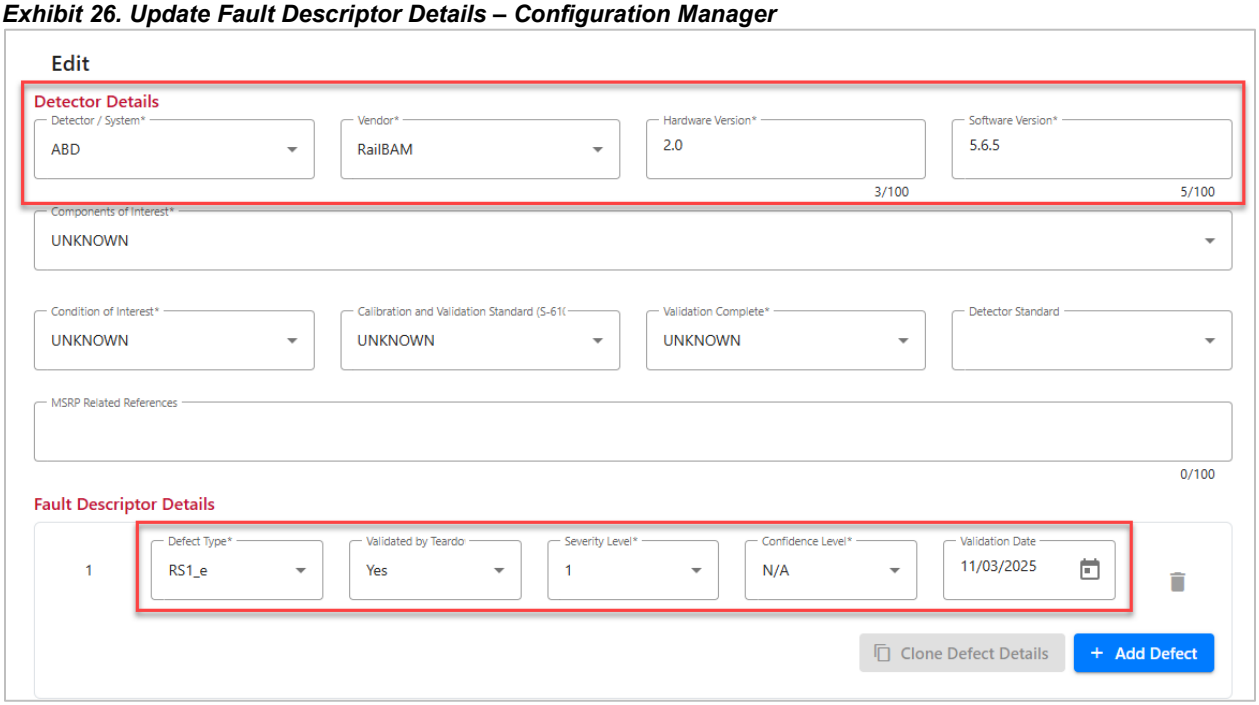
1. Select **Detector** > **Detector Roadmap** from the main menu. The Detector Roadmap displays a list of detectors and their elements for all railroads.

2. Using the filters, find the appropriate detector that matches the **Vendor**, **Hardware Version** and **Software Version** of the Teardown Inspections that you have verified and approved (Exhibit 24).

3. Select the pencil icon to edit the appropriate detector.

4. In the **Fault Descriptor Details** section add the **Defect Type** for the approved Teardown, select **Yes** for **Validated**, select the **Severity Level** and select the **Date** it was validated. The Validation Date cannot be a future date.

Exhibit 26. Update Fault Descriptor Details – Configuration Manager



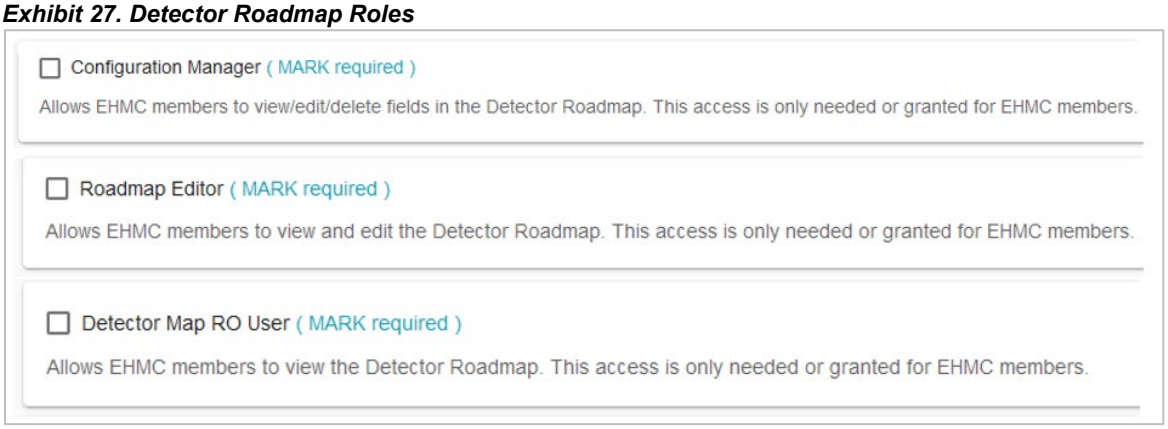
5. Select **Add Defect** to add additional **Defect Types** if additional defect types of Teardowns have been approved.

6. Select **Save** to save the updates. Once the updates are saved, the detector can be approved.

Roadmap Roles

Your assigned user role determines what functions you can perform. Roadmap roles are assigned by the EHMC.

Exhibit 27. Detector Roadmap Roles



Roles applicable for detector roadmap:

- **Configuration Manager** – Enables assigned EHMC members to view, add, edit and delete data in the Detector Roadmap, and allows them to approve or reject teardown inspection data.
- **Roadmap Editor** – Enables assigned EHMC members to view and edit the Detector Roadmap.
- **Detector Map RO User** – Enables assigned EHMC members to view the Detector Roadmap (view only).

Quarantine Requests

Access to request and approve quarantine options for detectors is available only to assigned EHMC (Equipment Health Management Committee) members. See Quarantine Roles for details about EHMC quarantine roles. Understand the difference between quarantine and unquarantine:

- If one or more detectors need to be shut down (for example, to be moved or serviced), you can request/approve to have them quarantined. When you choose to quarantine a detector, data from the detector will not create alerts and data summaries when it is sent to Railinc.
- When quarantined detectors are ready to come back online, you can request/approve to have them unquarantined. When you choose to unquarantine a detector, data from the detector will create alerts and data summaries when it is sent to Railinc.

Request Quarantine

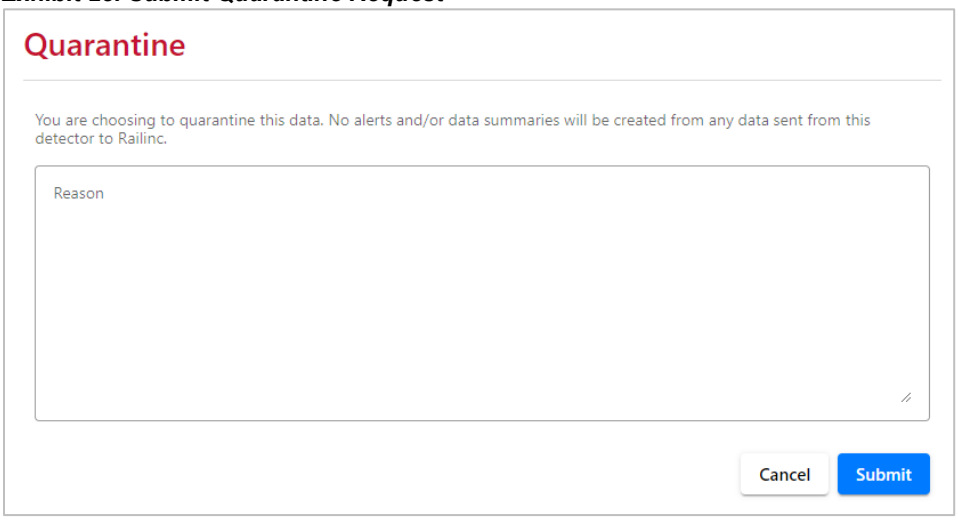
To submit a request to quarantine or unquarantine a detector, you must be granted access by the EHMC. See Quarantine Roles for role details. Use the following procedure to request to quarantine or unquarantine:

1. Select **Detector** > **View Registry** from the main menu (Exhibit 16). The Detector Registry is displayed.

2. Select the wheel drop-down list next to the detector name (Exhibit 17) that you want to quarantine or unquarantine. Select **Request Quarantine** or **Request Unquarantine** from the drop-down list.

3. The **Quarantine** (shown below) or **Release From Quarantine** pop-up is displayed.

Exhibit 28. Submit Quarantine Request



4. Enter a reason to quarantine or release from quarantine and select **Submit**.

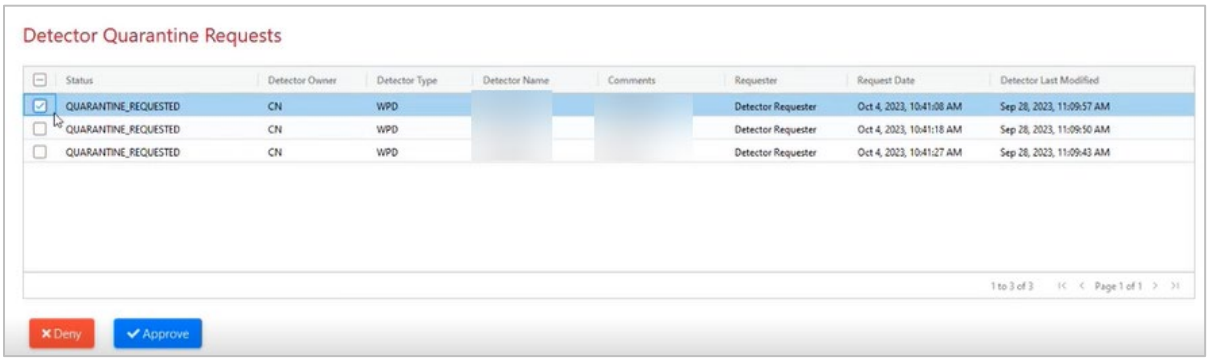
Approve/Deny Quarantine Requests

To approve or deny quarantine/unquarantine requests, you must be granted access by the EHMC. See Quarantine Roles for role details.

Once a request is submitted to quarantine/unquarantine a detector, the request must be approved. If the requester has also been granted approver access, the request is automatically approved when it is submitted. Otherwise, use the following procedure to approve or deny requests to quarantine/unquarantine detectors:

1. Select **Detector** > **Quarantine Requests** from the main menu. Detector Quarantine Requests is displayed. Any quarantine and unquarantine requests awaiting approval will also be listed on this page.

Exhibit 29. Approve/Deny Quarantine Request

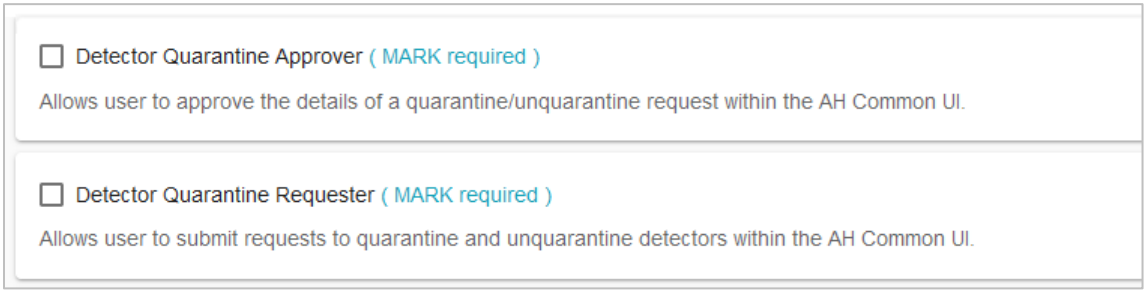


2. Select the checkbox in the first column of the requests you want to approve and select the **Approve** button. You can also select requests that you want to deny and select the **Deny** button.

Quarantine Roles

Your assigned user role determines what functions you can perform. Quarantine roles are assigned by the EHMC.

Exhibit 30. Detector Quarantine Roles



Roles applicable for detector quarantine:

- **Detector Quarantine Approver** – Enables assigned EHMC members to approve the details of a quarantine/unquarantine request within Asset Health Common UI.

- **Detector Quarantine Submitter** – Enables assigned EHMC members to submit requests to quarantine/unquarantine detectors within Asset Health Common UI.

ABD Validation

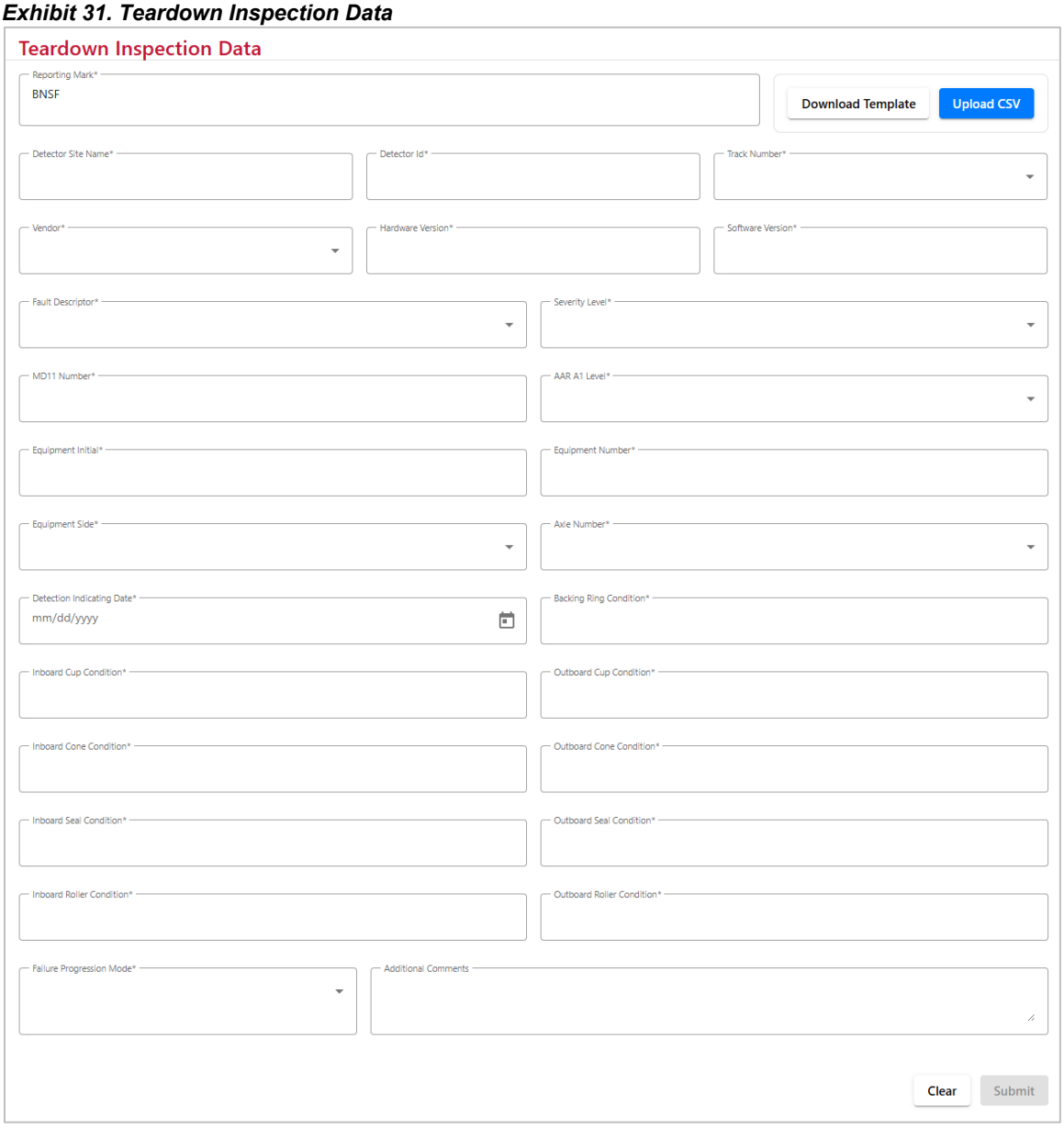
Teardown Inspection Data Entry and Upload

To enter or upload inspection reports, you must have Detector Owner access. Detector owners can submit inspection reports for bearing teardowns by entering one at a time using the Teardown Inspection Data form, or by uploading a CSV file with up to 200 inspection reports per upload. A CSV template is available for download.

Use the following procedure to submit inspection reports:

1. Select **Detector** > **ABD Validation** > **Teardown Inspection Data** from the main menu. The Teardown Inspection Data page is displayed.

Exhibit 31. Teardown Inspection Data



2. To manually submit an inspection report:
    a. Enter all mandatory fields marked with an asterisk.
    b. Once all required fields are entered, the **Submit** button will be available to select.
    c. Select **Submit**. If the submission is not successful, error messages are displayed to help you fix the entry and submit again until it is successful.
3. To bulk upload up to 200 inspection reports:
    a. Download the template by selecting the **Download Template** button and save it to your computer.
    b. Enter up to 200 inspections into the template (replace or remove examples) that you want to submit and save the file.
    c. Select **Upload CSV** and select the file with your entries.
4. Successfully submitted inspection reports can be viewed and deleted by using the ABD Fault Descriptor Validation search.

ABD Fault Descriptor Validation

Teardown Inspections submitted by any road for the same vendor/hardware/software/fault descriptor are visible for all roads.

Use the following procedure to search inspection reports:

1. Select **Detector** > **ABD Validation** > **Teardown Inspection Data** from the main menu. The Teardown Inspection Data page is displayed.

2. Select an entry for all fields for the **Search** button to be available. Select **Search**. The search results matching your criteria are displayed.

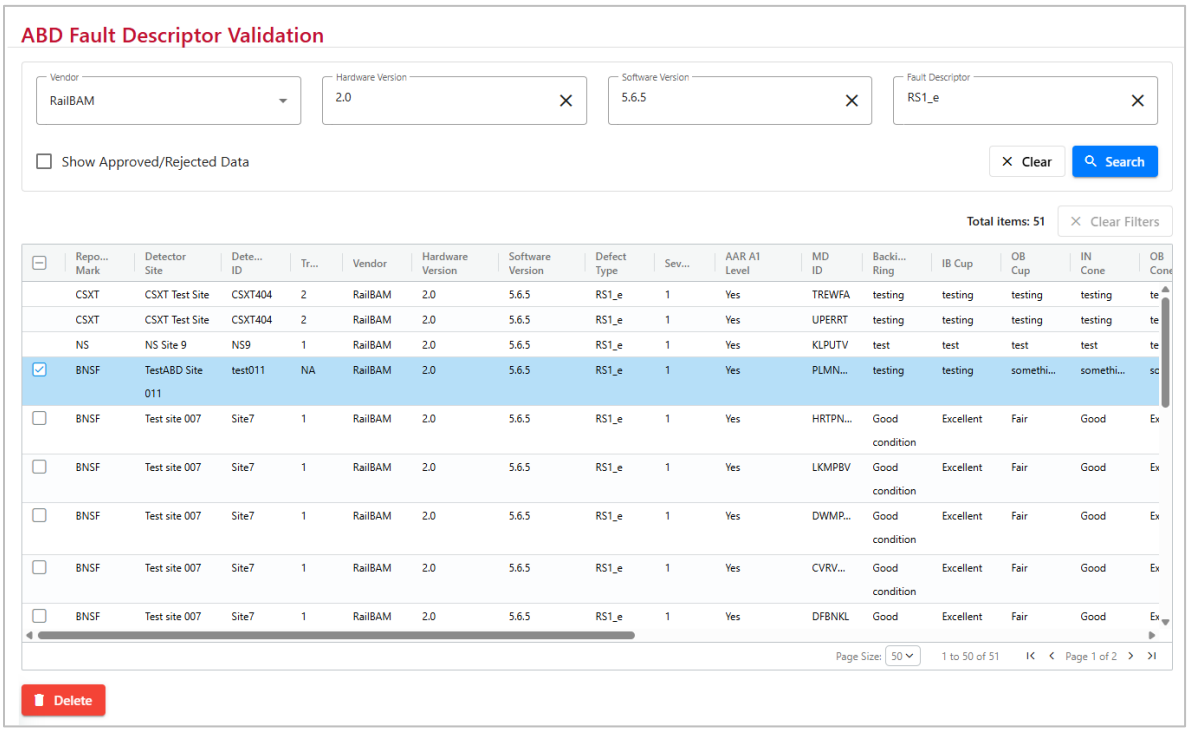
    - Detector Owners can permanently delete inspections made by their company.
    - Configuration Managers (WABL Committee Managers) can approve/reject inspections made by all companies and add/change/delete ABD vendors.

Detector Owners

Detector owners can select one or more of their company's inspections and select the **Delete** button to remove inspections. A confirmation pop-up will appear to confirm the delete. Select **Delete** again to permanently remove the inspections selected.

If an inspection is deleted by mistake, it can be added again via the Teardown Inspection Data Entry and Upload.

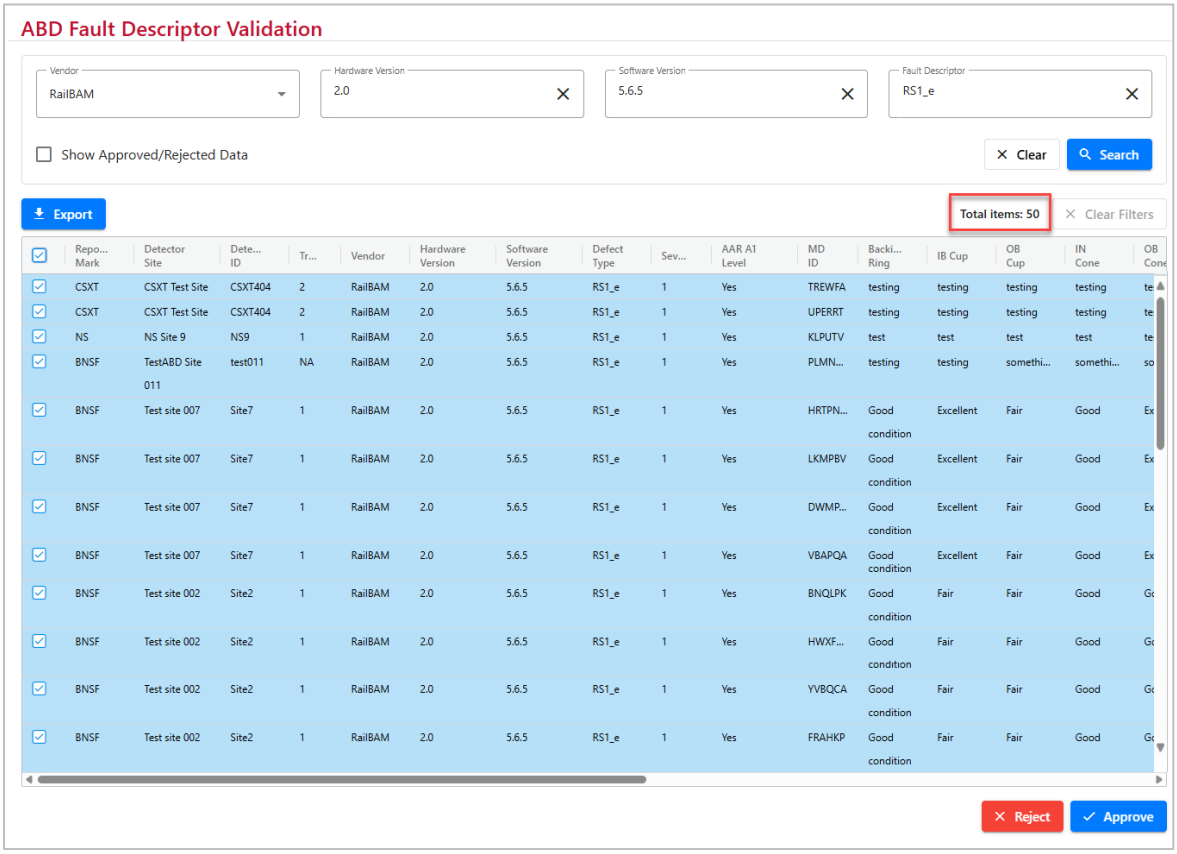
Exhibit 32. ABD Fault Descriptor Validation – Detector Owners



Configuration Managers

When 50 or more inspections have been submitted, the Configuration Manager will receive an email alert as a prompt to review them in Asset Health Common UI. The list can be saved to a file by selecting the **Export** button.

Exhibit 33. ABD Fault Descriptor Validation – Configuration Manager



To reject: The Configuration Manager can reject any number of inspections by selecting the checkbox(es) and the **Reject** button. A confirmation pop-up will appear to confirm the reject. Select **Reject** in the pop-up to reject the inspections selected.

To approve:
The Configuration Manager must select 50 or more inspections. Select all inspections by selecting the checkbox in the header. When 50 or more inspections have been selected for approval, select the **Approve** button. A confirmation pop-up will appear to confirm the approval. Select **Approve** in the pop-up to approve the inspections selected.

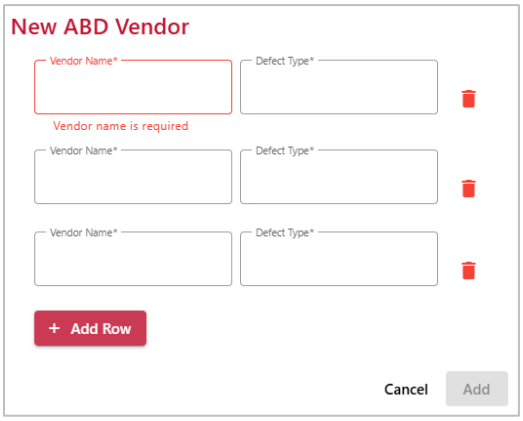
Once the teardown inspections are approved, the fault descriptor details of the approved must be added to the detector on the Detector Roadmap, using the procedure in Add Fault Descriptor Details After Teardown Approvals.

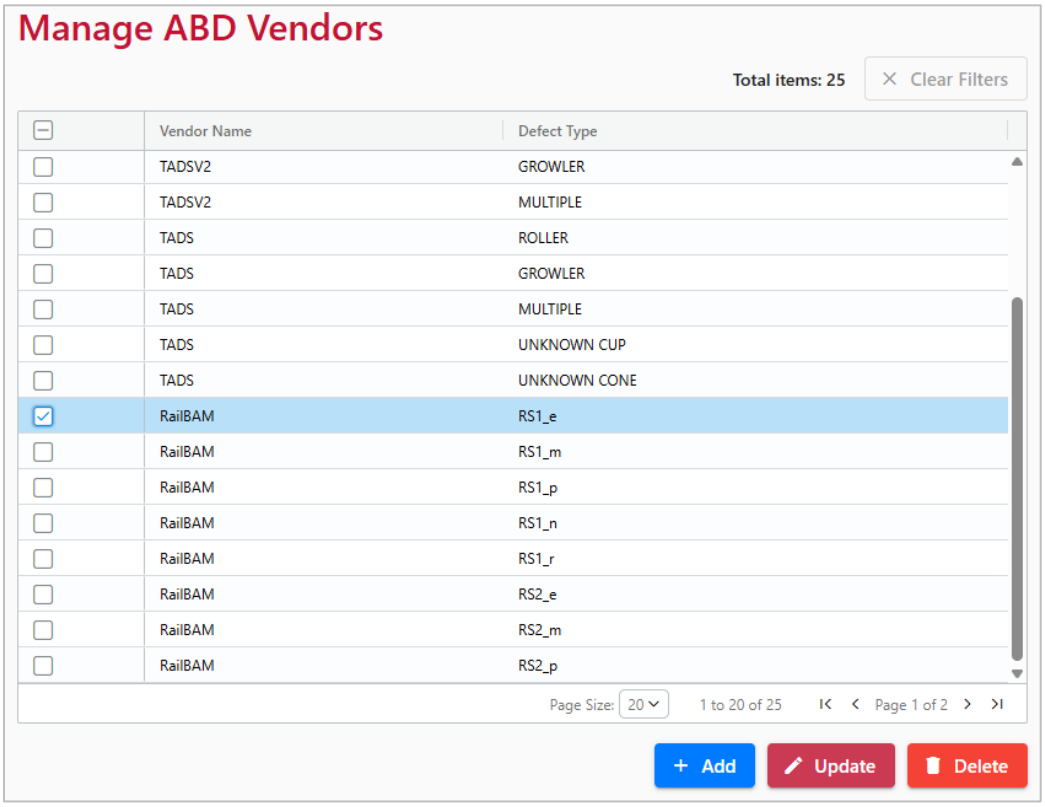
To add/change/delete ABD Vendors:
The Configuration Manager has the ability to add, change or delete ABD vendors and their defect types.

1. From the main menu, select **Admin** > **Manage ABD Vendors**.

2. To add one or more vendors, select **Add**. Enter the **Vendor Name** and **Defect Type**. Select **Add Row** to enter additional vendors. Use the trash icon to remove vendors. Select **Add**.

Exhibit 34. Manage ABD Vendors – Configuration Manager





3. To edit one or more vendors, select the checkbox(es) next to the vendor and select **Update**. Make the appropriate updates to the **Vendor Name** and/or the **Defect Type**. Select **Update**.

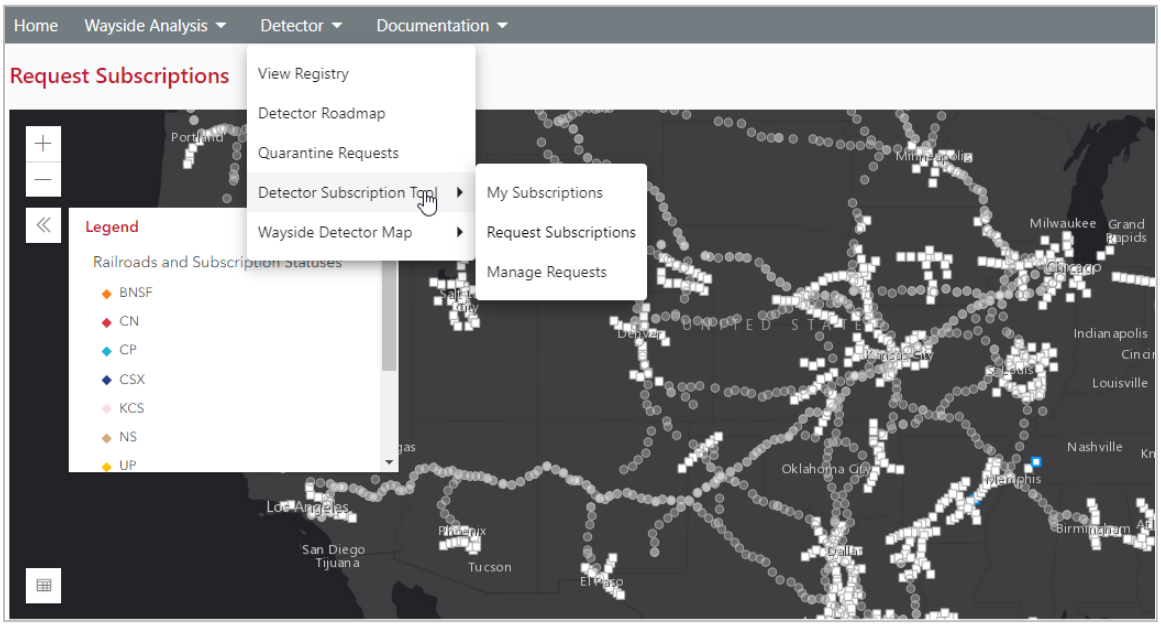
4. To delete one or more vendors, select the checkbox(es) next to the vendor and select **Delete**. A confirmation pop-up is displayed. Select **Delete** to permanently remove the vendor or **Cancel** to keep the vendor.

Detector Subscription Tool

The Detector Subscription Tool enables railroads to share data from Hot Box Detectors (HBDs) across railroads. Railroads can request access to data from HBDs owned by other railroads and manage (approve, reject or revoke) subscription requests of their HBD data from other railroads.

To access the map, select **Detector** > **Detector Subscription Tool** from the main menu.

Exhibit 35. Detector Subscription Tool Map, Menu and Legend



Select one of these options from for the list of menu items available for the Detector Subscription Tool.

- My Subscriptions is a view of the detector sites that your railroad is currently subscribed to and provides the ability to unsubscribe.
- Request Subscriptions describes how to request a subscription to receive data from HBDs owned both other railroads.
- Manage Requests describes how to view pending/approved/all subscription requests for data from HBDs owned by your railroad. This menu item also includes:
  - Approve or Reject Requests describes how to approve or reject subscription requests by other railroads to view data from HBDs owned by your railroad.
  - Revoke Approved Requests describes how to revoke approved subscription requests for data from HBDs owned by your railroad.

Select Home or another item from the main menu to leave the Detector Subscription Tool.

Navigating the Map

The map legend (Exhibit 35) provides a description of each item on the map. Select the list icon located in the bottom left to view the legend of subscription statuses. Select the double arrow that appears in its place to close. Status descriptions:

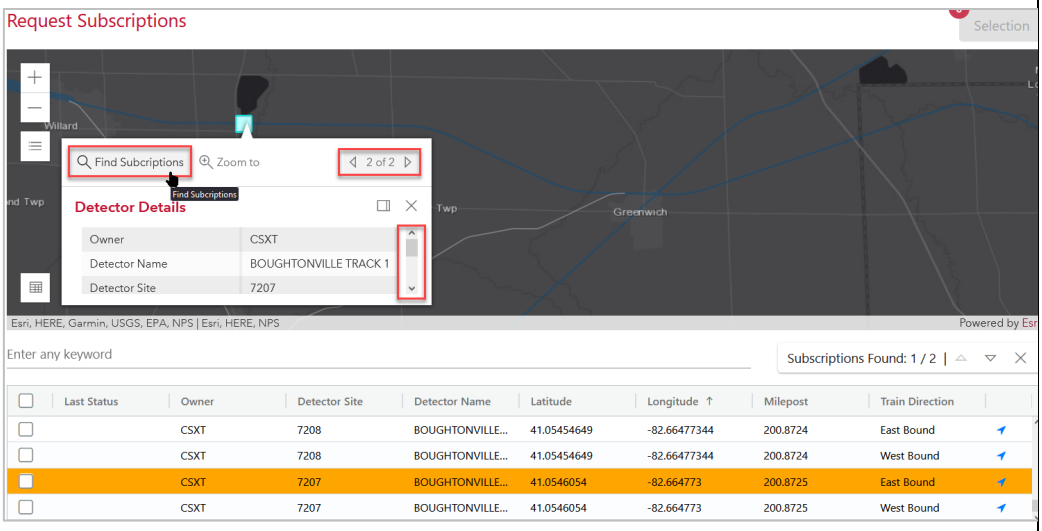
- **Square Not Subscribed**: You are not subscribed to the selected detector site
- **Partially Subscribe**d: You are subscribed to the selected detector site for one Train Direction (East Bound, West Bound, North Bound or South Bound)
- **Fully Subscribed**: You are subscribed to the selected detector from both Train Directions (i.e., East Bound and West Bound)

Last Sta...	Owner	Detect...	Detect...	Latitude	Lon...	Milepost	Train Di...
	CSXT	7207	BOUGHTO...	41.0546054	-82.664773	200.8725	East Bound
	CSXT	7207	BOUGHTO...	41.0546054	-82.664773	200.8725	West Bound

- **My Detectors**: Your railroad owns the detector site

Each shape on the map (described in the row above) represents one or more device sites. Select one to view the details of a device site in a pop-up box. Scroll down to view all the details. If the item contains more than one device site, you can page through them using the arrows on the right. Select **Find Subscriptions** to locate the detector highlighted in the table below the map.

Exhibit 36. Detector Details



Select the plus (+) and minus (-) buttons located to the left of the map to zoom in and out. Other options include:

- Double-click on the map to zoom in
- Use the scroll wheel of your mouse to zoom in (scroll up) and zoom out (scroll down)
- Left click with your mouse on the map to grab and drag it up/down and left/right

	Select the table icon in the bottom left to view the list of detectors and their details. Select the table icon again to hide it. Select the blue arrow in the right column to locate the device site on the map. 

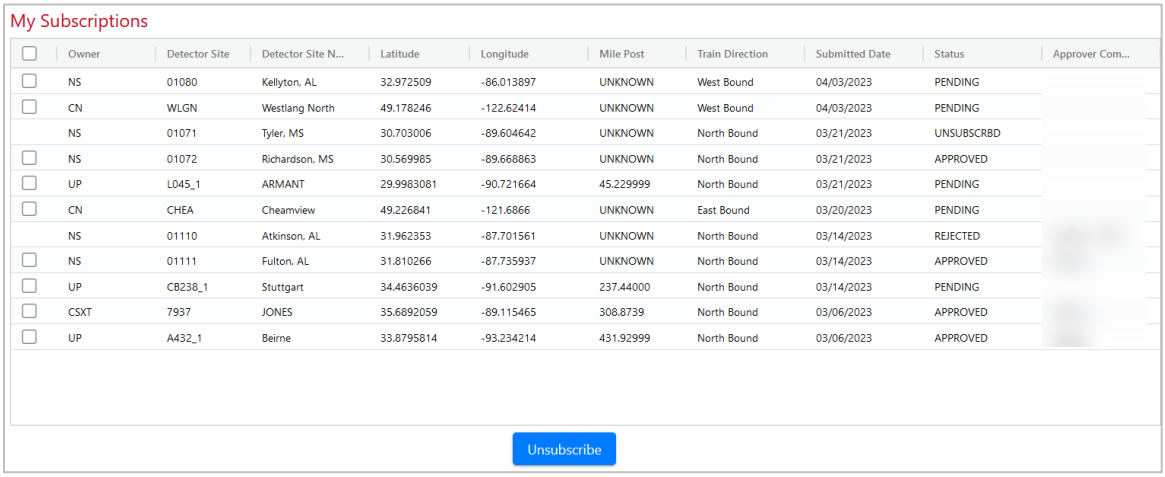
My Subscriptions

My Subscriptions lists the pending/approved/rejected/unsubscribed subscriptions that your railroad submitted for detectors owned by other railroads. My Subscriptions identifies the owner railroad, the detector site, detector site name, the latitude and longitude, mile post, train direction submitted date, status, and approver comments.

Use the following procedure to view and manage the detector sites subscribed by your railroad:

1. Select **Detector** > **Detector Subscription Tool** > **My Subscriptions** from the main menu. The My Subscriptions page is displayed.

Exhibit 37. My Subscriptions



2. Select the checkboxes of the detector sites for which you want to unsubscribe and select **Unsubscribe**.

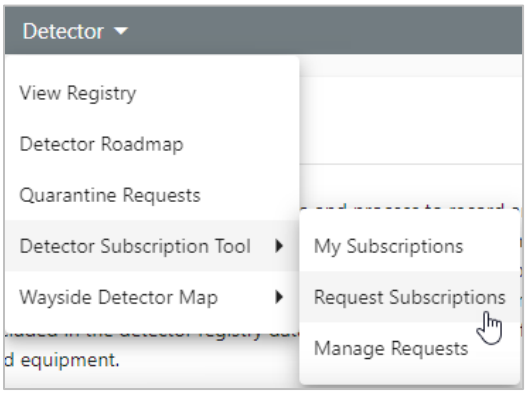
3. The Status for the detector site changes to UNSUBSCRBD.

Request Subscriptions

You can request access to view data on HBDs owned by other railroads by subscribing to the detector sites of your choice. Use the following procedure to request a new subscription:

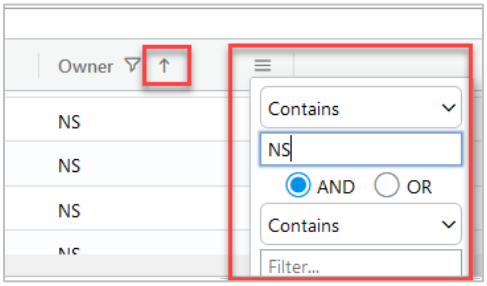
1. Select **Detector** > **Detector Subscription Tool** > **Request Subscriptions** from the main menu. The Request Subscriptions page is displayed.

Exhibit 38. Request Subscriptions Menu Item



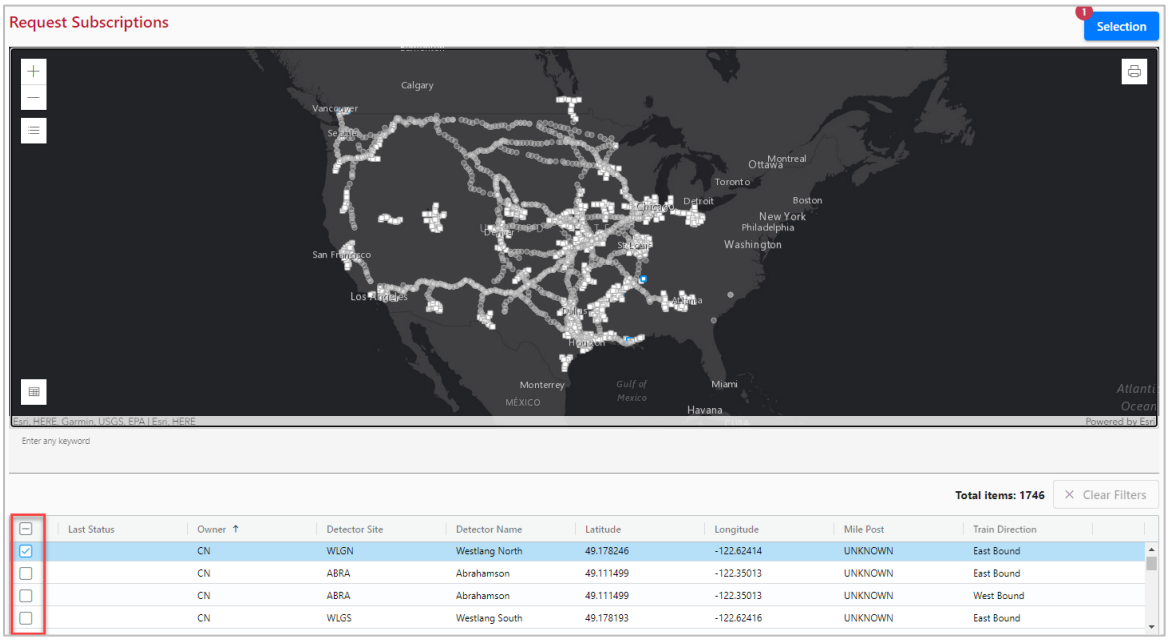
2. Select detectors from the table below the map or directly from the map. At least one checkbox must be selected for the **Selection** button in the top right to become active.

   - From the table, select one or more checkboxes for the detectors to which you want to subscribe. The number of selected detectors will appear next to the **Selection** button in the top right. Click on a column heading to sort the data in ascending and descending order. Use the triple bar icon that appears when you hover over any column heading to filter your search.



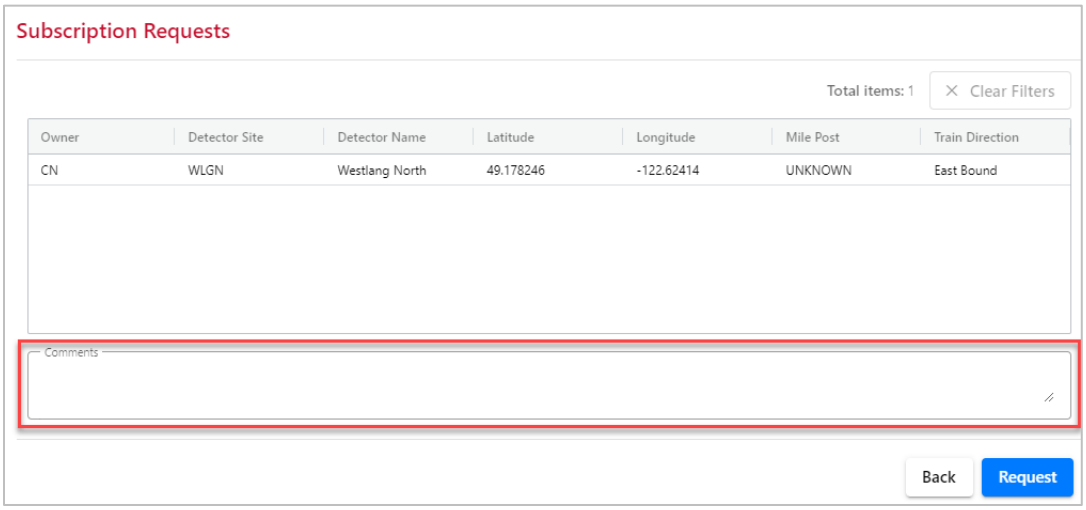
   - From the map, select a detector site to view the detector details (Exhibit 36). Select **Find Subscriptions** to highlight the device site in the table. See Navigating the Map for details about the map. Select the checkbox for the highlighted row to add it to your selection.

Exhibit 39. Request Subscriptions



3. Select **Selection**. The Subscription Requests pop-up displays the detectors you selected for subscription.

Exhibit 40. Subscription Requests



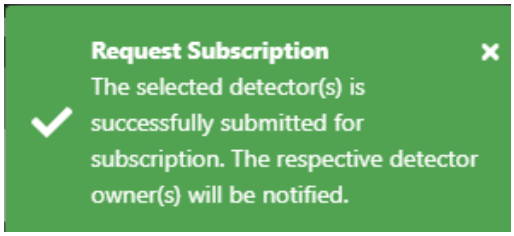
4. To change the subscription selection, choose **Back** and adjust the selection as needed.

5. You have the option to enter some notes or comments to the approver about your subscription request in the **Comments** field.

6. Select **Request** to subscribe.

7. A success message confirming your subscription is displayed in the upper right.

Exhibit 41. Successful Subscription Message



The approver is notified by email after the subscription request is successfully submitted. See Appendix B. Working with FindUs.Rail for information on how to register at FindUs.Rail to receive notification emails.

Manage Requests

View Requests

To view Pending requests, see Approve or Reject Requests for details.

To view Approved requests, see Revoke Approved Requests for details.

To view All requests:

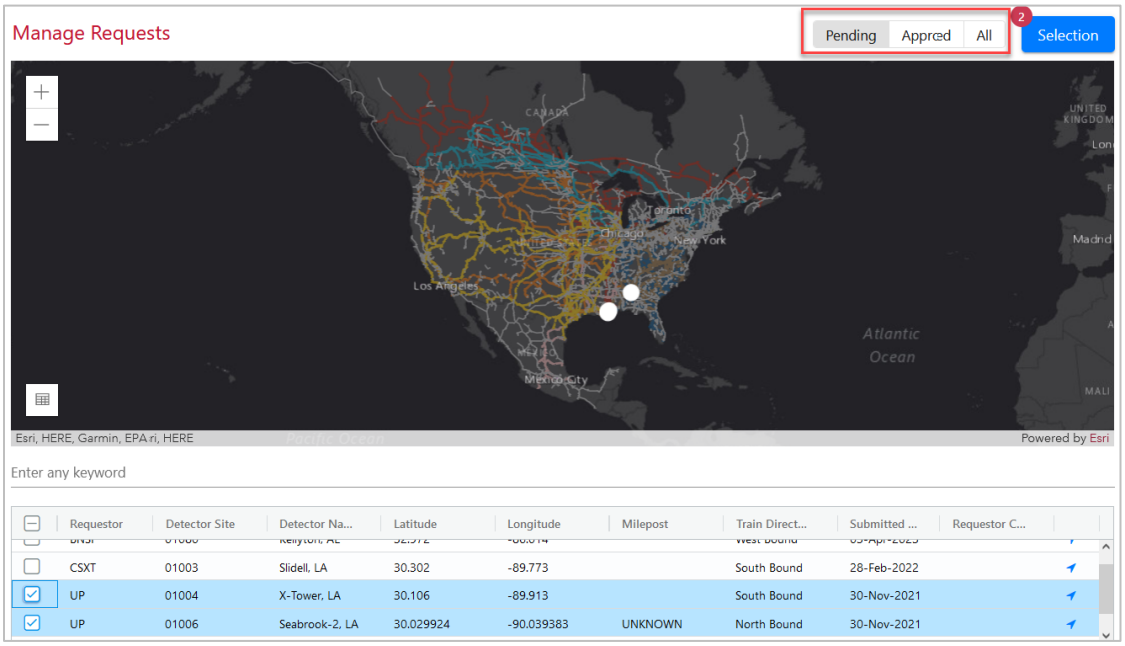
1. Select **Detector** > **Detector Subscription Tool** > **Manage Requests** from the main menu.
2. The Manage Requests page is displayed with the **Pending** subscriptions listed by default. Select **All** to view both Pending and Approved (All) requests from other railroads.

Approve or Reject Requests

Use the following procedure to approve or reject Pending subscription requests from other railroads:

1. Select **Detector** > **Detector Subscription Tool** > **Manage Requests** from the main menu. The Manage Requests page is displayed with the **Pending** subscriptions listed by default.

Exhibit 42. Manage Pending Requests

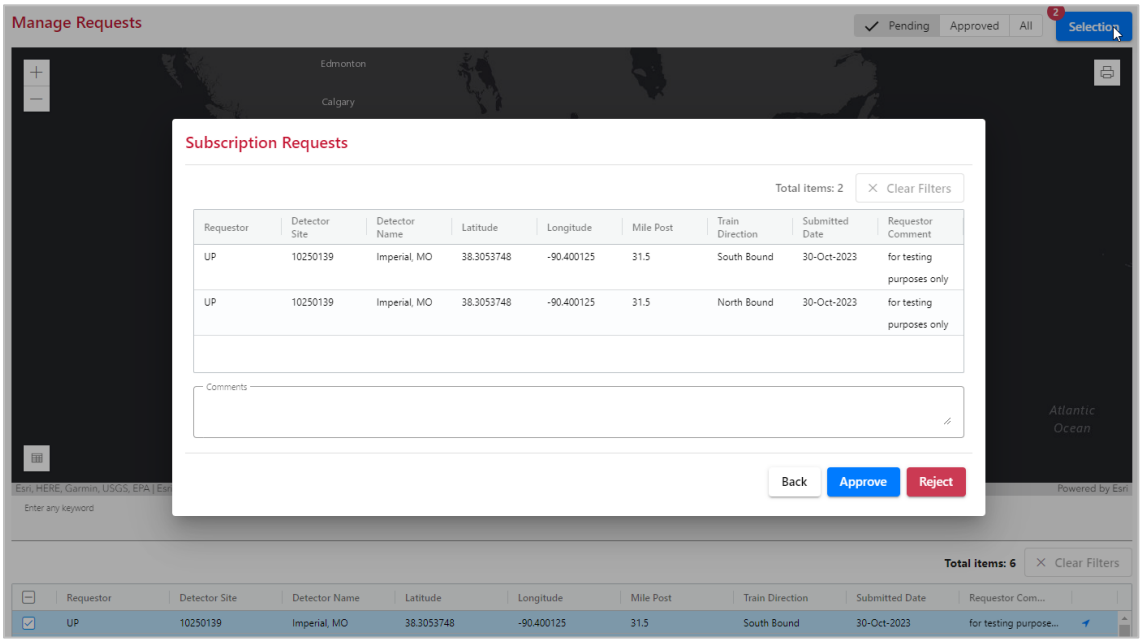


3. Click on a column heading to sort the data in ascending and descending order. Use the triple bar icon that appears when you hover over any column heading to filter your search.

4. Select one or more checkboxes of the requesting railroads and detector sites for which you want to approve the subscription request. The number of selected detectors will appear next to the **Selection** button in the top right.

5. Select **Selection**. The Subscription Requests pop-up displays one or more Pending detector sites that you selected.

Exhibit 43. Approve/Reject Requests



6. You have the option to enter some notes or comments to the requester about their subscription request in the **Comments** field.

7. Scroll to the bottom. Select **Approve** to approval all the requests listed or select **Reject** to reject all the requests in the list.

8. A success message confirming your subscription is displayed in the upper right.

Exhibit 44. Successful Approval Message

The subscriber is notified by email after the subscription request is successfully approved or rejected (see Appendix B. Working with FindUs.Rail for details on how to register at FindUs.Rail to receive notification emails).

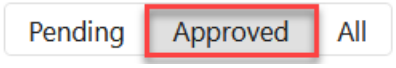
Revoke Approved Requests

The Approved selection shows the list of approved subscriptions for detectors owned by your railroad. It identifies the subscriber railroad, the detector site, detector name, the latitude and longitude, milepost, train direction, submitted date, decision date, and requestor comments.

As the detector owner, you can view and revoke one or more approved subscriptions using the following procedure:

1. Select **Detector** > **Detector Subscription Tool** > **Manage Requests** from the main menu. The Manage Requests page is displayed with the **Pending** subscriptions listed by default (Exhibit 42).

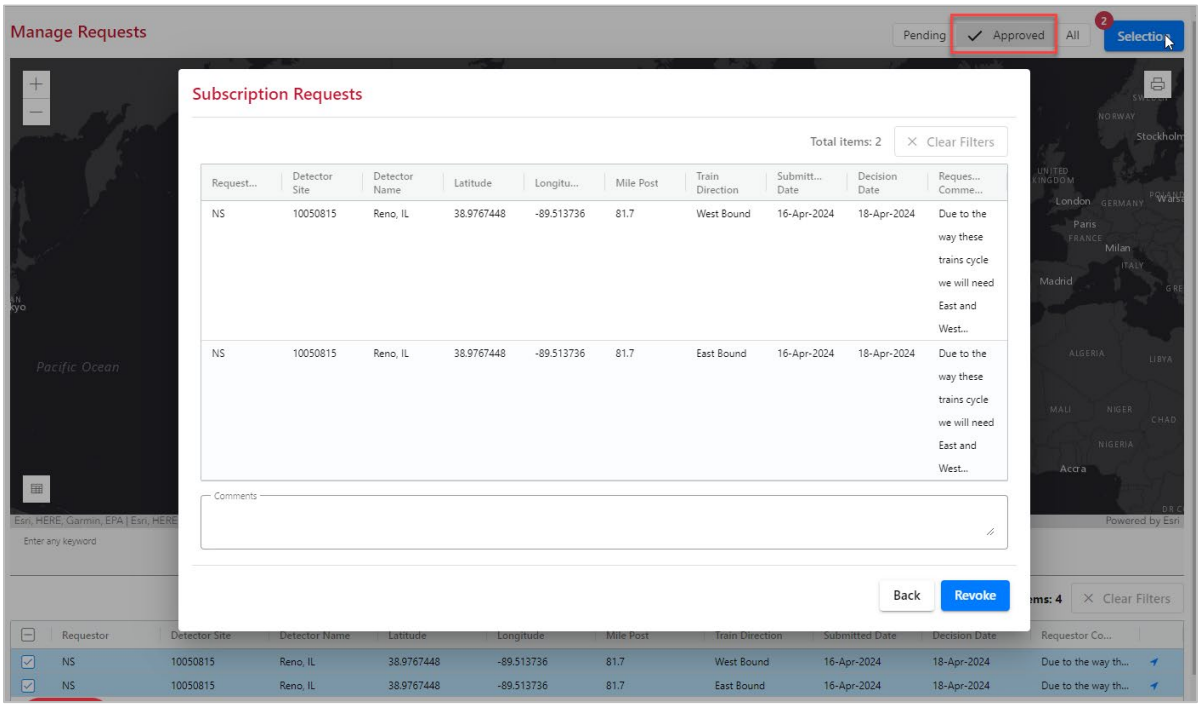
2. Select **Approved** in the upper right to view only approved subscriptions.



4. Select one or more checkboxes of the approved subscriptions for which you want to revoke the subscription request. The number of selected detectors will appear next to the **Selection** button in the top right.

5. Select **Selection**. The Subscription Requests pop-up displays one or more approved subscriptions that you selected.

Exhibit 45. Revoke Approved Subscriptions



6. You have the option to enter some notes or comments to the requester about why you are revoking the request in the **Comments** field.

9. Scroll to the bottom. Select **Revoke** to unsubscribe all the requests listed (or select **Back** to cancel).

10. A success message confirming your subscription is displayed in the upper right.

Exhibit 46. Successfully Revoked Subscriptions

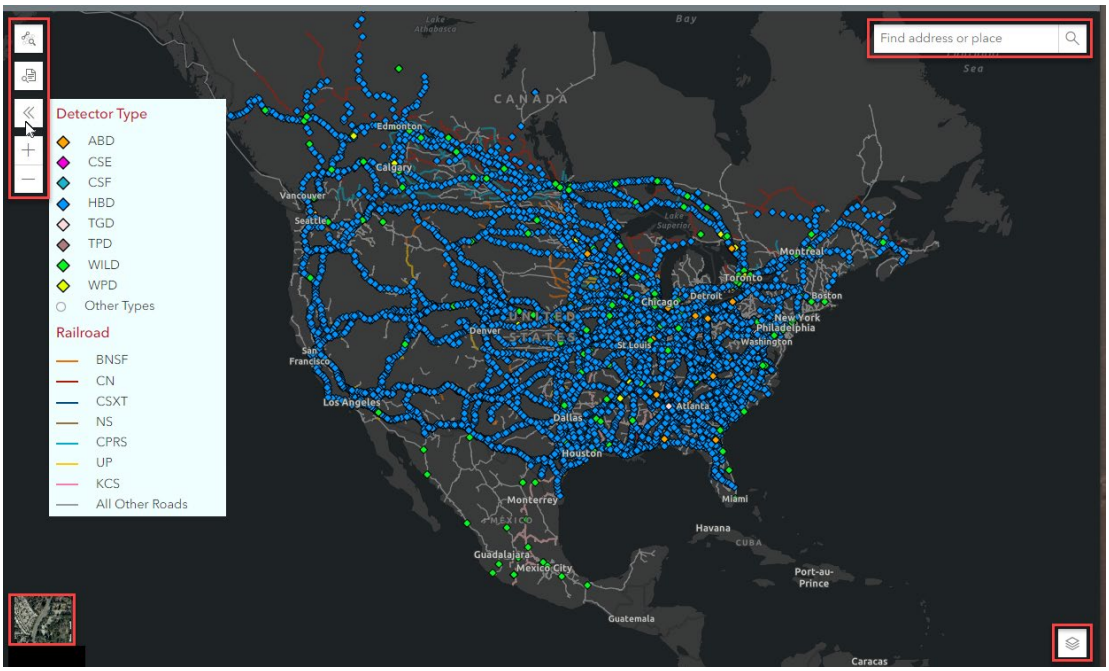
The subscriber is notified by email after the subscription request is successfully revoked (see Appendix B. Working with FindUs.Rail for details on how to register at FindUs.Rail to receive notification emails).

Wayside Detector Map

The Wayside Detector Map enables railroads to view wayside detector data about type and location from the Asset Health database for better planning and spacing of detectors.

To access the map, select **Detector** > **Wayside Detector Map** from the main menu and select from **View Company Wayside Map** or **View Industry Wayside Map**. The Wayside Detector Map displays. The image below is an example of the Industry Wayside Map. Railroad users will only be able to see detectors that belong to their company.

Exhibit 47. Wayside Detector Map and Legend



Select the legend icon (third icon on the left) to see how each detector type and railroad are represented on the map. Select it again to close it.

Select the basemap toggle in the lower right corner to toggle on the terrain map. Select it again to toggle it off.

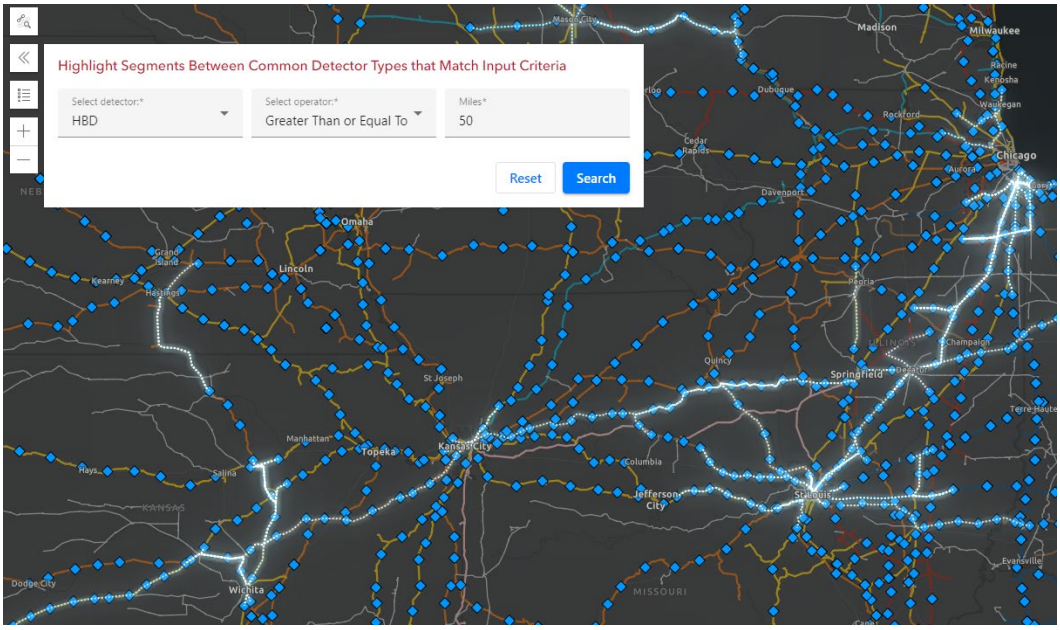
Select the plus (+) and minus (-) buttons located to the left of the map to zoom in and out. Other options include:

- Double-click on the map to zoom in
- Use the scroll wheel of your mouse to zoom in (scroll up) and zoom out (scroll down)
- Left click with your mouse on the map to grab and drag it up/down and left/right

Enter an address or partial address in the search box located in the upper right. Either select from the drop-down list it provides or select the search icon. The map zooms in to show the place entered.

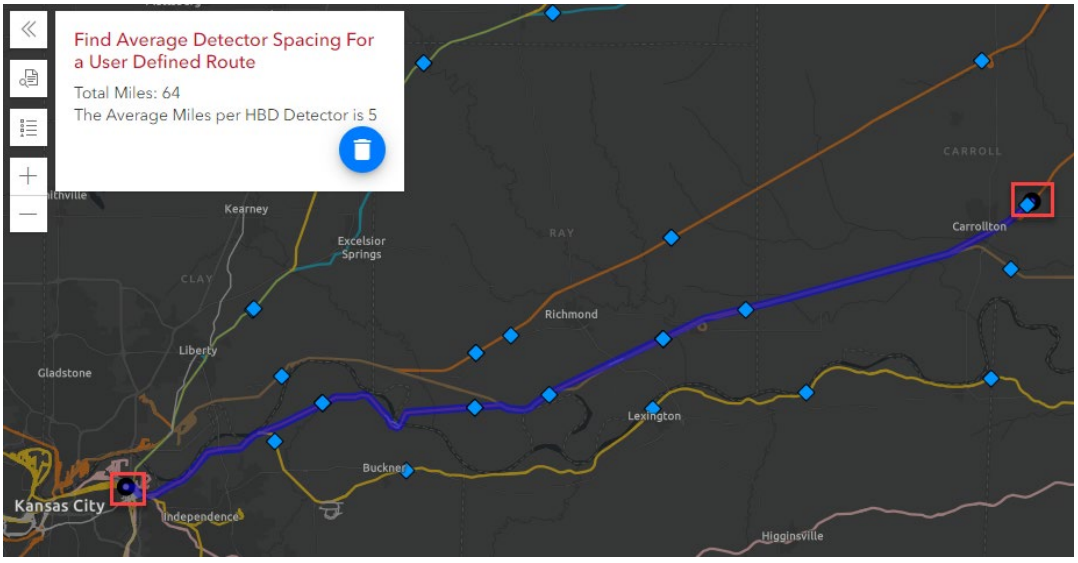
Select the define segment icon (second icon on the left) to highlight detector segments between common detectors on the map. Select a detector type and the operator (greater than, etc.) and enter the number of miles. Then select **Search**. The segments matching the detector type and number of miles entered are highlighted. Select **Reset** to remove the highlighting. Select the define segment icon again to close the pop-up. In the example below, segments between HBD detectors that are greater than or equal 50 miles are highlighted.

Exhibit 48. Wayside Detector Map With Highlighted Segments



To find the average detector spacing for a particular road, select the draw route icon (first icon on the left). Zoom in and click on a railroad line on the map for the start of a route (origin) and then click on a line for the end of a route (destination). The system returns the total miles of the route, and the average number of miles per detector (total miles divided by the number of detectors). To remove the route, select the trash icon.

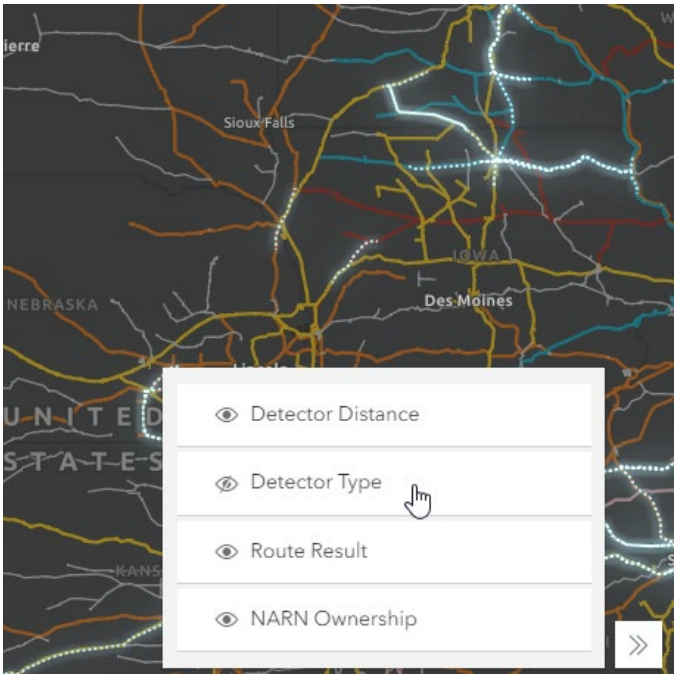
Exhibit 49. Wayside Detector Map With Route Selected



Select the layer icon in the lower right corner to control and filter out the information that appears on the map. **NARN Ownership** is the North American Rail Network. **Detector Distance** is listed when segments are highlighted on the map as shown in Exhibit 48.

Selecting a feature hides it on the map. Selecting it again, makes it visible again. Select the layer icon again to collapse the list.

Exhibit 50. Wayside Detector Map Hiding Layers



Appendix A. Frequently Asked Questions

This appendix addresses frequently asked questions (FAQs) associated with the Asset Health Common User Interface.

Wayside Analysis

How do I get data into the Wayside Analysis?

Use Message Queue (MQ) XML to submit requests. Contact Railinc as described in Accessing Railinc Customer Success Center for assistance.

Which browser should I use for the best performance?

For the best performance while viewing the graphs, use the most recent Google Chrome browser. Mozilla Firefox performs similarly but is slightly slower than Chrome.

Is there a shortcut for moving between sites?

There are no shortcuts at this time to move between sites, you must select from the drop-down list.

How can I expand and collapse the graph?

To expand and collapse the graph, press the "z" key. The only time the "z" key won't affect the graph is if the annotation free text field has focus.

How can I add and remove values on the graph?

Select a value in the Legend (list to the left of the graph) to strike through the value and remove it from the graph. Select the value again to add it back to the graph. Your settings are retained when you move to another train passing.

How can I view values over 900?

The Y-axis is fixed at 0-900. If a value is over 900, it is displayed on the 900 line. The hover help displays "Capped at 900 deg.". You can view the actual value by selecting **Show Calculated Data** located at the bottom of the Wayside Analysis and viewing the data in table format.

How can I view detailed car information?

Hovering over a point on the graph displays the car information, axle position of the car and train, and the value plotted.

Detector Registry

How do I update a detector with new attribute information?

When a wayside passing file is received from a detector, the detector attributes are automatically updated if there has been any change in the attributes.

How can I see previous attribute values for a detector?

The Detector Registry maintains an audit trail in the Detector Historical Summary (see View Historical Summary).

Appendix B. Working with FindUs.Rail

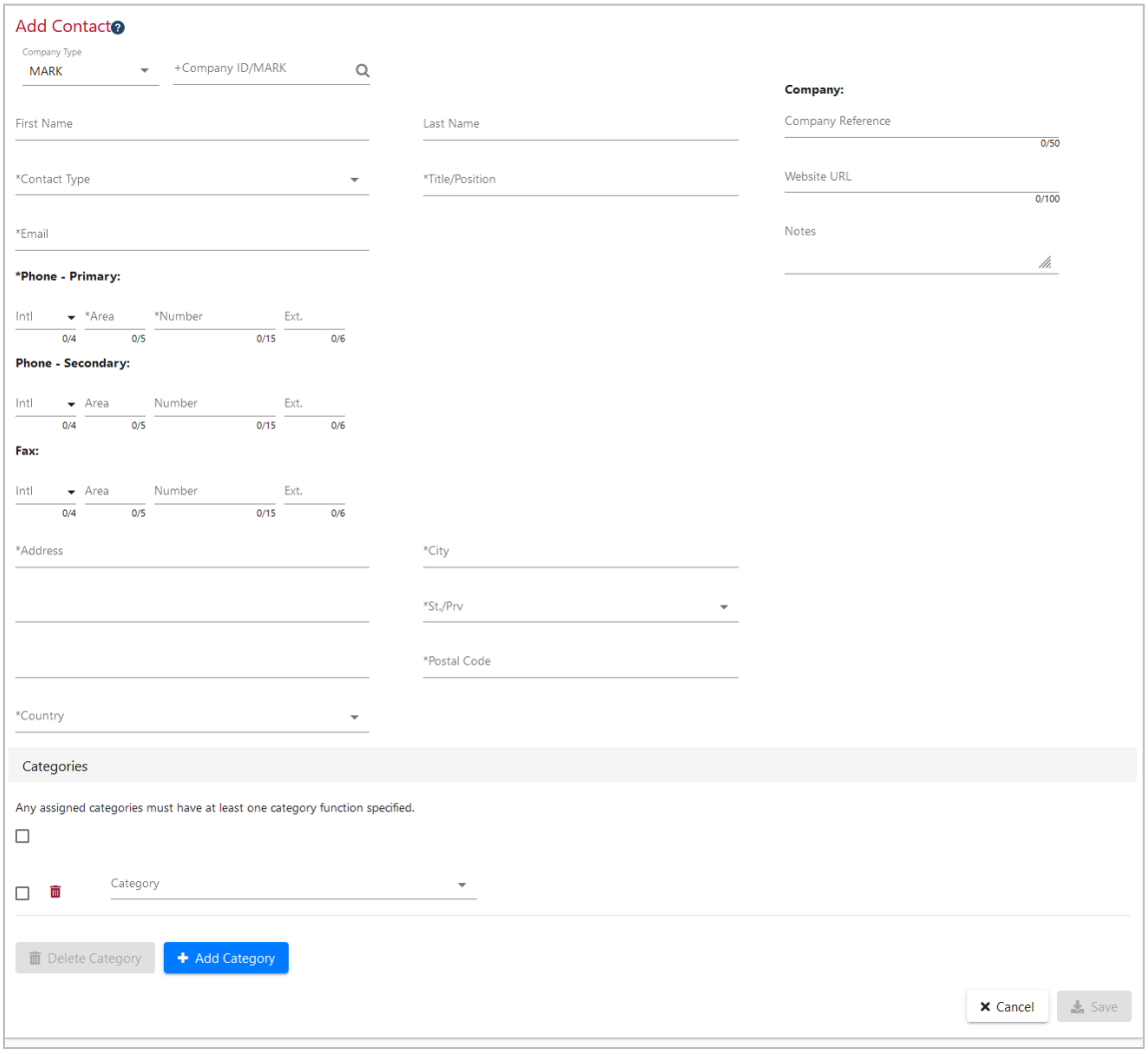
Request permission to register your ID in FindUs.Rail and receive subscription notification emails at https://sso.railinc.com/rsso. Detailed instructions are available in the *Request FindUs.Rail Access Quick Guide*.

Once, you have access to FindUs.Rail, you can register in FindUs.Rail to receive email notifications. Access FindUs.Rail directly at https://findusrail.railinc.com/. Login by entering your SSO username and password.

Use the following procedure to add contact information:

1. Select **Contacts > Add Contacts**. The Add Contact page appears (see Exhibit 51).

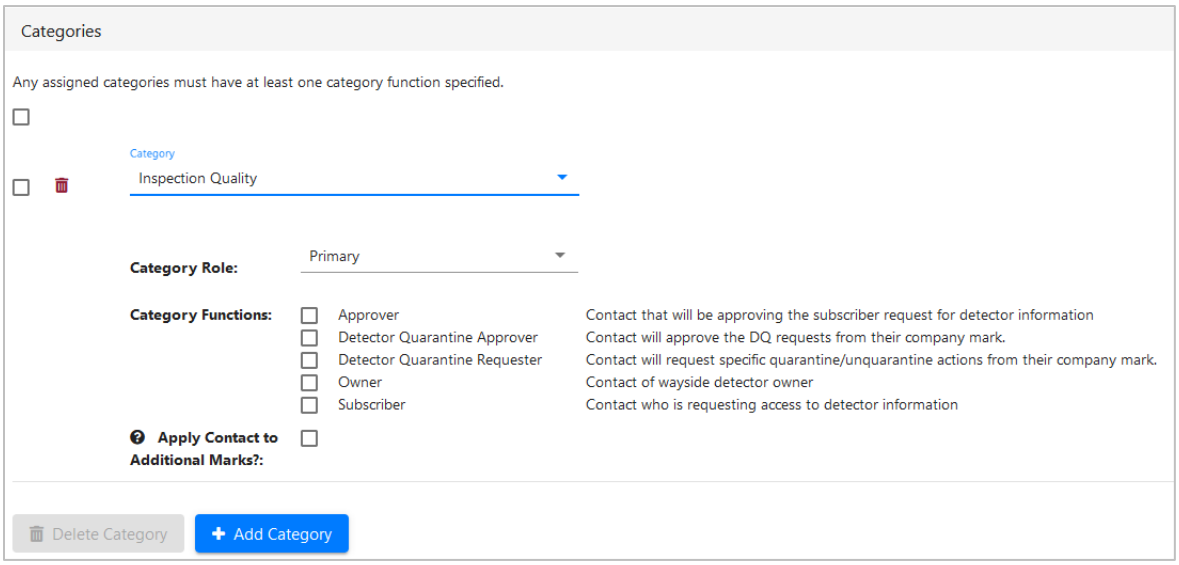
Exhibit 51. Add Contact Page



2. Complete the available input fields. Mandatory fields are marked with an asterisk (*).

3. Under Categories, select the appropriate category (i.e., **Inspection Quality** for the contact). Depending on the selection, additional details appear regarding the category role.

Exhibit 52. Categories



4. Under the **Category Role** drop-down, select either Primary or Secondary (there can only be one primary contact and multiple secondary contacts).
    - Choose the category function of **Approver** if you want to receive notification emails whenever there is a new subscription request for detectors owned by your RR.
    - Choose the category function of **Subscriber** if you want to receive notification emails whenever the subscription request submitted by you is approved or rejected.
    - Choose both **Approver** and **Subscriber** category functions if you want to receive notifications for both the approver and subscriber actions.
    - Choose **Owner** if you are the detector owner and primary contact for the detector owner mark.
    - For EHMC members with this role: Choose the category function of **Detector Quarantine Approver** if you want to receive notification emails whenever there is a new quarantine/unquarantined request for detectors owned by your RR.
    - For EHMC members with this role: Choose the category function of **Detector Quarantine Requester** if you want to receive notification emails whenever there is a new quarantine/unquarantined request submitted by you is approved or rejected.

5. Select **Save** to save the new contact record.

Glossary

Annotations—Text or codes used by an expert analyst to record their analysis of detector readings.

Asset Health Common User Interface—A Railinc web application that enables users to access Asset Health tools.

Detector Registry—A repository of wayside detectors and their attributes.

Detector Subscription Tool—An Asset Health tool with functions that enable railroads to share information from wayside detectors.

Train Pass—A time stamp or Train ID representing a train that can be selected for analyzing using Wayside Analysis.

Wayside Analysis—An Asset Health tool with functions for graphically viewing and analyzing data from wayside detectors.

Wayside Detector Map –An Asset Health tool with functions that enable railroads to view the locations of wayside detectors used for planning and spacing between detectors.