Inspection Field Data Collection

© 2020 General Electric Company

Contents

Chapter 1: Overview 1

Overview of the Inspection Field Data Collection Module 2
Access the Inspection Field Data Collection Overview Page 2
Inspection Field Data Collection Workflow 4

Chapter 2: About Inspection Field Data Collection 5

About Full and General Inspection Offline Forms 6
About Checklist Inspection Offline Forms 10
About the Recommendation Offline Form 15
About the Inspection History Report 16
Access Inspections Assigned to You 18
Download Offline Inspections 19
Download a Single Inspection 20
Download Bulk Inspections 23
Enable Downloaded Inspections to be Downloaded by Another User 25
Complete Inspection Field Data Collection 26
Access Reference Document Images 28
Access the Inspection History Report 31
Add a Reference Document Image 32
Remove Inspections from a Device 34
Synchronize Offline Inspections 35

Chapter 3: About Inspection Field Data Collection Recommendations 39

Access Offline Inspection Recommendations 40
Create Offline Inspection Recommendations 41
Modify Offline Inspection Recommendations 44
Enable Inspection Recommendations for Inspection Field Data Collection 46
Delete Offline Inspection Recommendations 46

Chapter 4: Reference 48

Offline Inspection Families 49

Inspection Field Data Collection URLs 51

Overview Queries Folder 52

Chapter 5: Release Notes 54

Second Quarter of 2020 55

Copyright GE Digital

© 2020 General Electric Company.

GE, the GE Monogram, and Predix are either registered trademarks or trademarks of All other trademarks are the property of their respective owners.

This document may contain Confidential/Proprietary information of and/or its suppliers or vendors. Distribution or reproduction is prohibited without permission.

THIS DOCUMENT AND ITS CONTENTS ARE PROVIDED "AS IS," WITH NO REPRESENTATION OR WARRANTIES OF ANY KIND, WHETHER EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTIES OF DESIGN, MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE. ALL OTHER LIABILITY ARISING FROM RELIANCE UPON ANY INFORMATION CONTAINED HEREIN IS EXPRESSLY DISCLAIMED.

Access to and use of the software described in this document is conditioned on acceptance of the End User License Agreement and compliance with its terms.

Chapter 1

Overview

Topics:

- Overview of the Inspection Field Data Collection Module
- Access the Inspection Field Data Collection Overview Page
- Inspection Field Data Collection Workflow

© 2020 General Electric Company

Overview of the Inspection Field Data Collection Module

The Inspection Field Data Collection functionality provides a targeted collection of data when the device you are using is in an offline, or disconnected, state. This allows those working in the field to use the GE Digital APM mobile application to complete downloaded Inspections without being connected to a wireless to network.

You can download an inspection report and any existing records with configured offline forms to your device's internal storage for later completion. You can also configure the layout and the fields available for any offline inspection forms. This allows you to have the most efficient Inspection Management interface for your data collection. Although offline Inspections do not provide a complete, end-to-end inspection workflow, they provide a basic data collection methodology and a simplistic interface that maintains the integrity of data collection.

While collecting inspection data offline, the information is stored in your device's internal storage. Then, when your device is connected to a network, you can synchronize the completed inspection information with the GE Digital APM database.

Offline forms are categorized into Full Inspections, General Inspections, Checklist Inspections, or Inspection Recommendations.

Important:

Be aware that data integrity issues may occur in the following scenarios:

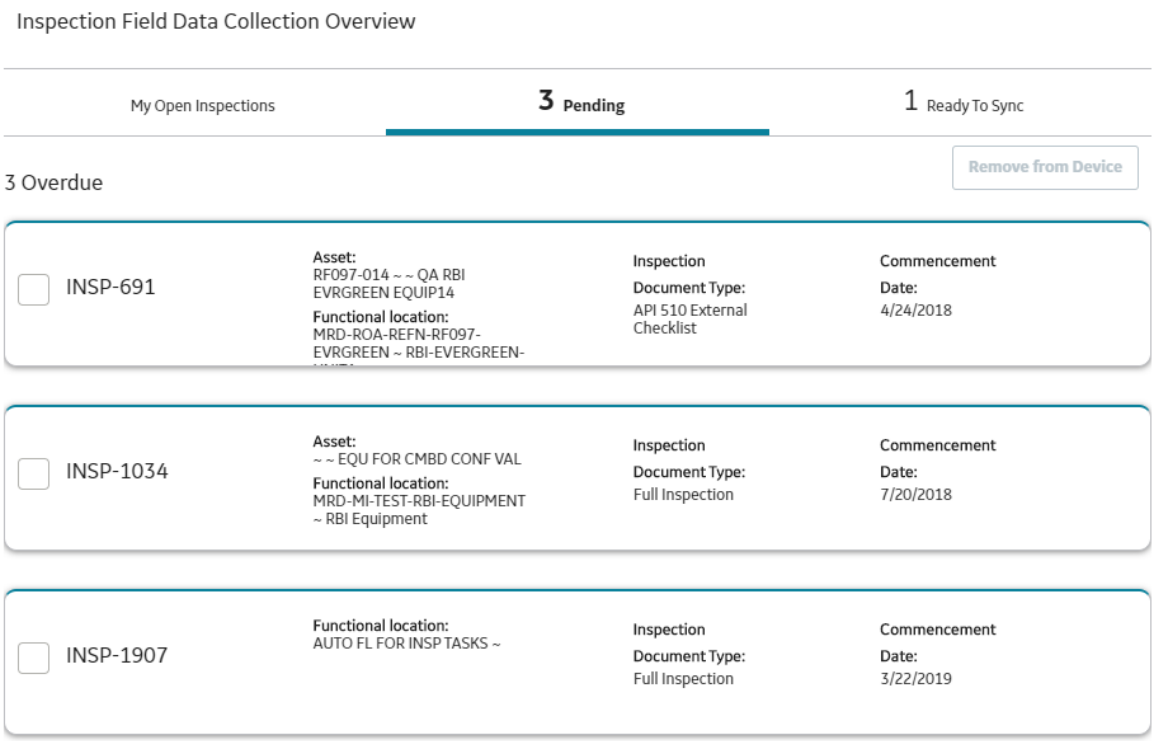
- When synchronizing offline inspection data, if connectivity is lost, the state inspection will return to Pending Sync. The synchronization process will continue once connectivity is restored.
- When working offline, if an online inspection record is locked, synchronizing the offline inspection with the GE Digital APM database will result in an error indicating that the record cannot be changed.

Access the Inspection Field Data Collection Overview Page

Procedure

In the module navigation menu, select **Integrity** > **Inspection Field Data Collection**.
The **Inspection Field Data Collection Overview** page appears, displaying a list of inspections that you have downloaded.

© 2020 General Electric Company



The tabs at the top of the page summarize the inspections that have been downloaded for offline use. You can select a tab to view the following:

- **Pending**: Displays a list of downloaded inspections that can be accessed offline.
- **Ready to Sync** : Displays a list of downloaded inspections for which, field data has been collected. These inspections are ready to by synced with your GE Digital APM database.

The **Pending** section groups downloaded inspections into the following categories:

- **Overdue**: Displays a list of downloaded inspections that are past their due date.
- **Due in 7 Days**: Displays a list of downloaded inspections that need to be completed in the next seven days.
- **Due in More than 7 Days**: Displays a list of downloaded inspections with due dates are more than seven days in the future.

Both the **Pending** and the **Ready to Sync** sections display the following information about each inspection:

- **Asset**: The Equipment Record ID to which the downloaded inspection is linked.
- **Functional Location**: The ID of the Functional Location record linked to the downloaded Inspection record.
- **Inspection Document Type**: The type of inspection used in the downloaded Inspection record.
- **Commencement Date**: The day on which the downloaded inspection was created.

Results

- You can now evaluate inspection tasks which are coming due or are overdue.
- If needed, you can create inspection for identified inspection tasks.

© 2020 General Electric Company

Inspection Field Data Collection Workflow

This workflow provides the basic, high-level steps for using this module. The steps and links in this workflow do not necessarily reference every possible procedure. For more procedures, see the links in the Related Information section.

1. Access Inspections that have been assigned to you.
2. Download the Inspections that you want to complete offline.
3. Complete offline field data collection.
4. Add Reference Document images.
5. Create offline Inspection Recommendations.
6. Sync completed offline Inspections to your GE Digital APM server.

© 2020 General Electric Company

Chapter 2

About Inspection Field Data Collection

Topics:

- About Full and General Inspection Offline Forms
- About Checklist Inspection Offline Forms
- About the Recommendation Offline Form
- About the Inspection History Report
- Access Inspections Assigned to You
- Download Offline Inspections
- Download a Single Inspection
- Download Bulk Inspections
- Enable Downloaded Inspections to be Downloaded by Another User
- Complete Inspection Field Data Collection
- Access Reference Document Images
- Access the Inspection History Report
- Add a Reference Document Image
- Remove Inspections from a Device
- Synchronize Offline Inspections

© 2020 General Electric Company

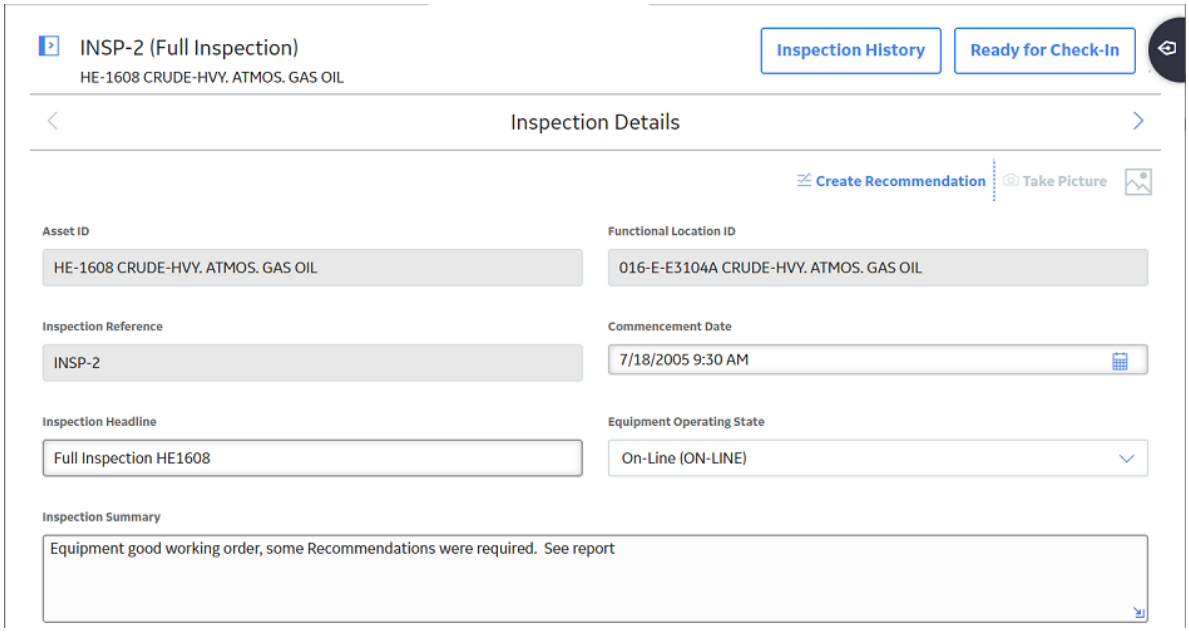
About Full and General Inspection Offline Forms

You can download and complete both Full and General Inspections offline. The following subsections are available for Full and General Inspections:

- Full Inspections
  - General Finding
  - Bundle Sub Inspection
  - Pressure Test Sub Inspection
- General Inspections
  - General Finding
  - Pressure Test Sub Inspection

Full Inspection Offline Forms

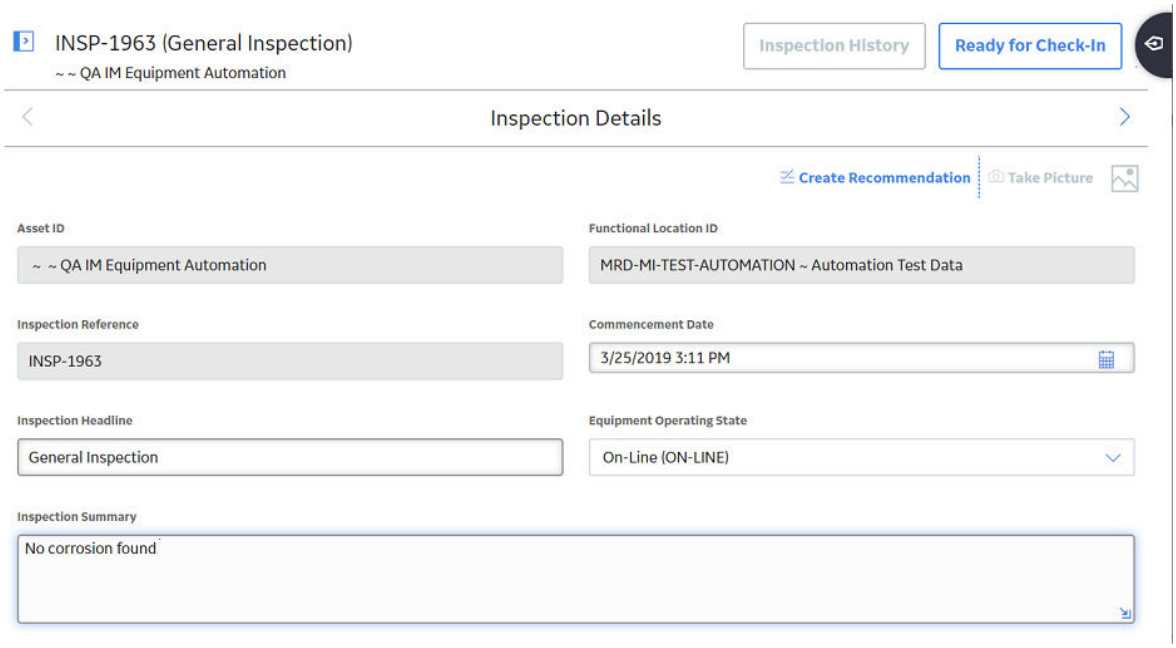
This section displays information that is stored in the offline Full Inspection record. An example of the offline form is shown in the following image.



General Inspection Offline Form

This section displays information that is stored in the offline General Inspection record. An example of the offline form is shown in the following image.

© 2020 General Electric Company

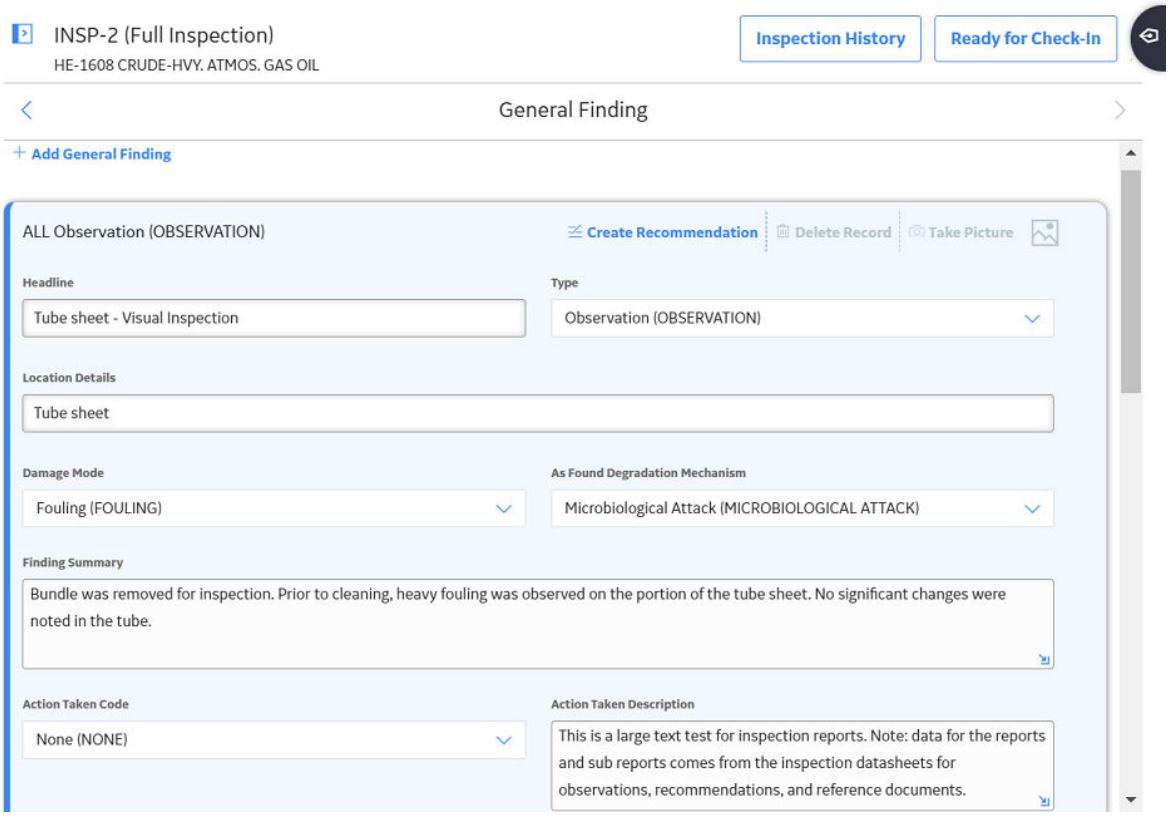


General Finding Offline Form

Important: Downloaded General Findings records will display both the Profile and the Method from the record, and these fields cannot be modified offline. If a user creates a new General Findings record offline, the Profile and Method fields cannot be edited until the record has been synced to your GE Digital APM server and accessed online. Therefore, Inspection Management Best Practices suggest creating General Findings records online prior to downloading them for offline completion.

This section displays information that is stored in the offline General Finding record. An example of the offline form is shown in the following image.

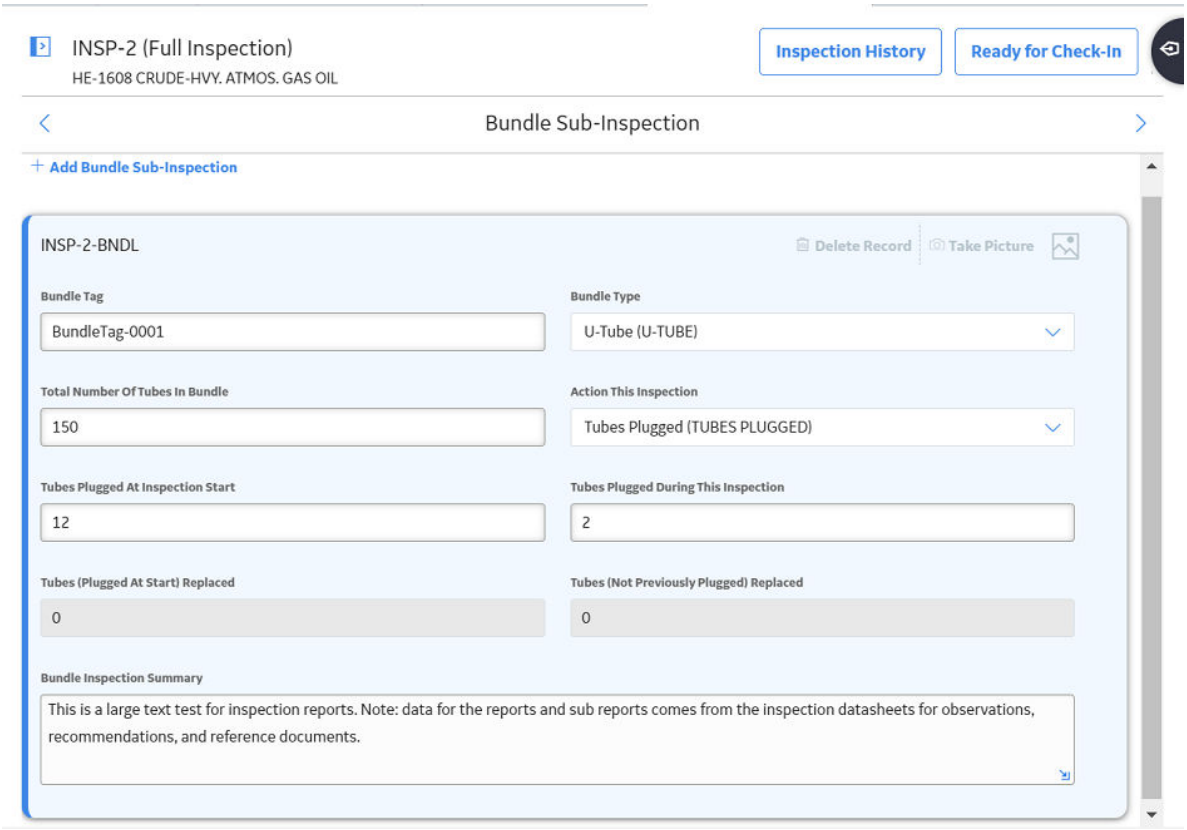
© 2020 General Electric Company



Bundle Sub-Inspection Offline Form

This section displays information that is stored in the offline Bundle Sub Inspection record. An example of the offline form is shown in the following image.

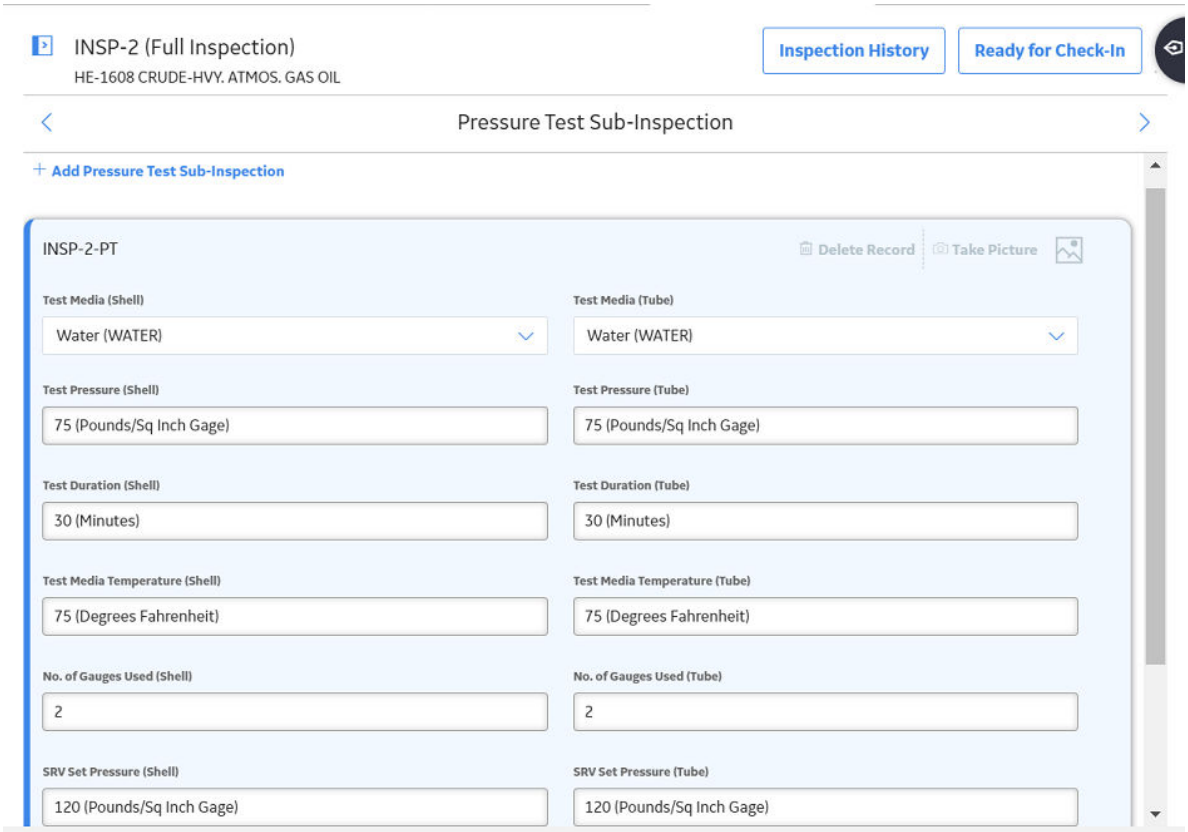
© 2020 General Electric Company



Pressure Test Sub-Inspection Offline Form

This section displays information that is stored in the offline Pressure Test Sub Inspection record. An example of the offline form is shown in the following image.

© 2020 General Electric Company



About Checklist Inspection Offline Forms

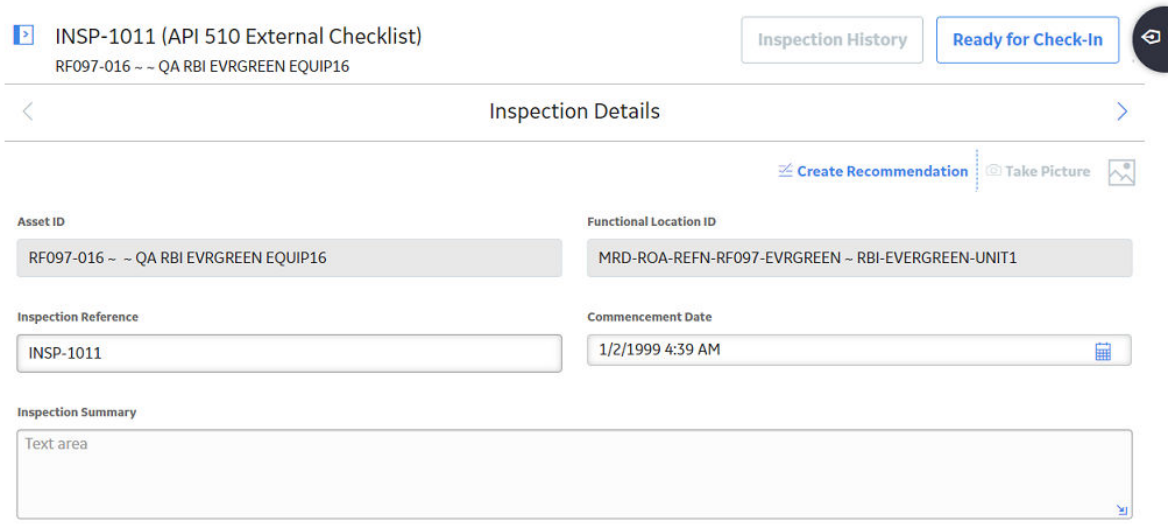
The following Checklist Inspections are available for completion offline:

- API 510 External Checklist
- API 510 Internal Checklist
- API 510 Internal Exchanger Checklist
- API 570 External Checklist
- API 653 External Checklist
- API 653 Internal Checklist
- External PRD Checklist
- PRD Pop Test Checklist

API 510 External Checklist Offline Form

This section displays information that is stored in the offline API 510 External Checklist record. An example of the offline form is shown in the following image.

© 2020 General Electric Company

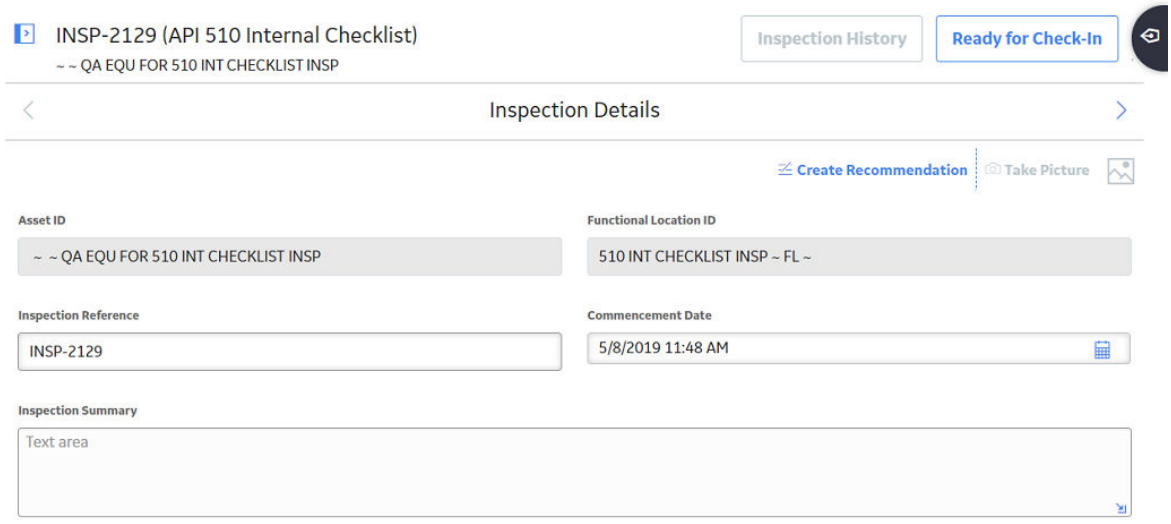


The following sections are available for data collection in the API 510 External Checklist Inspection offline form:

- General
- Connections
- Supports
- Relief Devices

API 510 Internal Checklist Offline Form

This section displays information that is stored in the offline API 510 Internal Checklist record. An example of the offline form is shown in the following image.



The following sections are available for data collection in the API 510 Internal Checklist Inspection offline form:

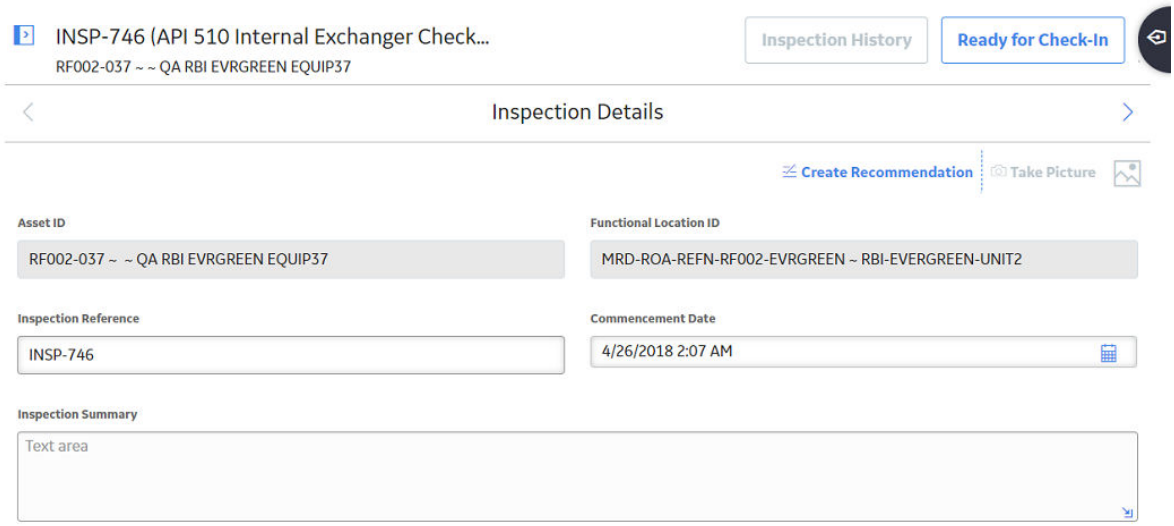
- Shell
- Head
- Nozzles
- Internals

© 2020 General Electric Company

- Linings

API 510 Internal Exchanger Checklist Offline Form

This section displays information that is stored in the offline API 510 Internal Exchanger Checklist record. An example of the offline form is shown in the following image.



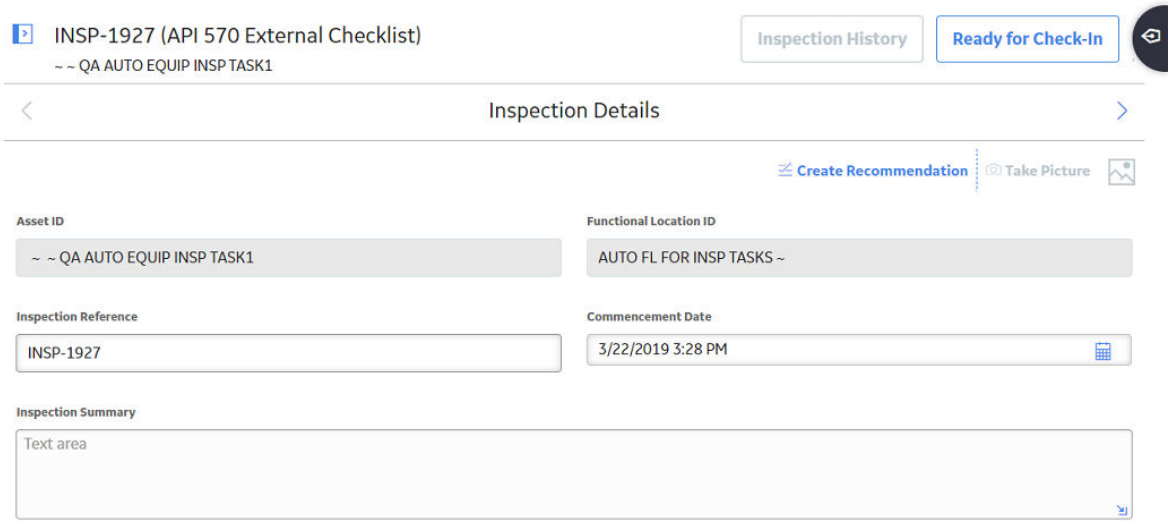
The following sections are available for data collection in the API 510 Internal Exchanger Checklist Inspection offline form:

- Shell
- Head
- Nozzles
- Internals
- Linings
- Channel/Bundle

API 570 External Checklist Offline Form

This section displays information that is stored in the offline API 570 External Checklist record. An example of the offline form is shown in the following image.

© 2020 General Electric Company

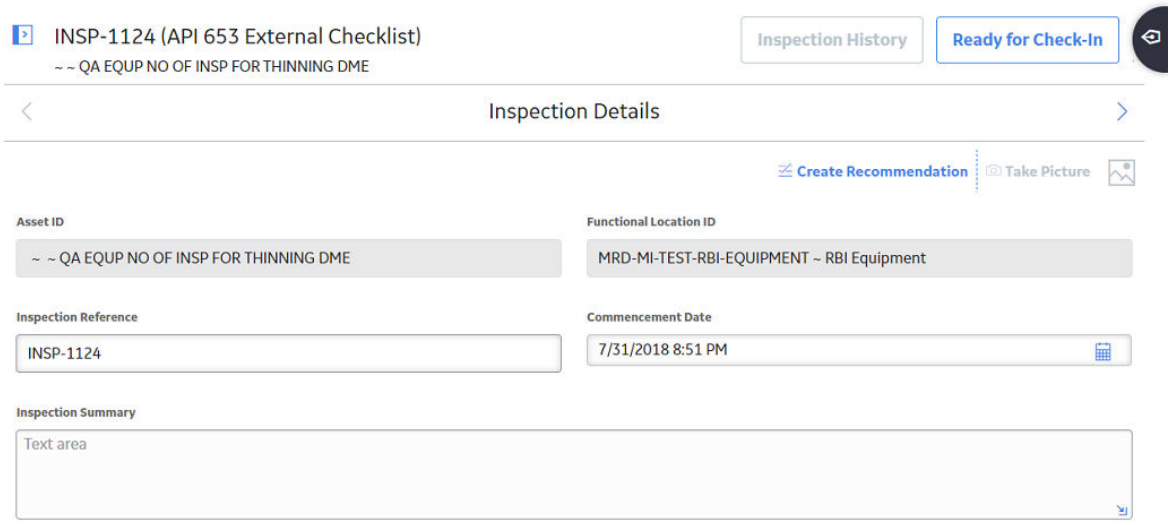


The following sections are available for data collection in the API 570 External Checklist offline form:

- General
- Connections
- Supports
- Insulation

API 653 External Checklist Offline Form

This section displays information that is stored in the offline API 570 External Checklist record. An example of the offline form is shown in the following image.



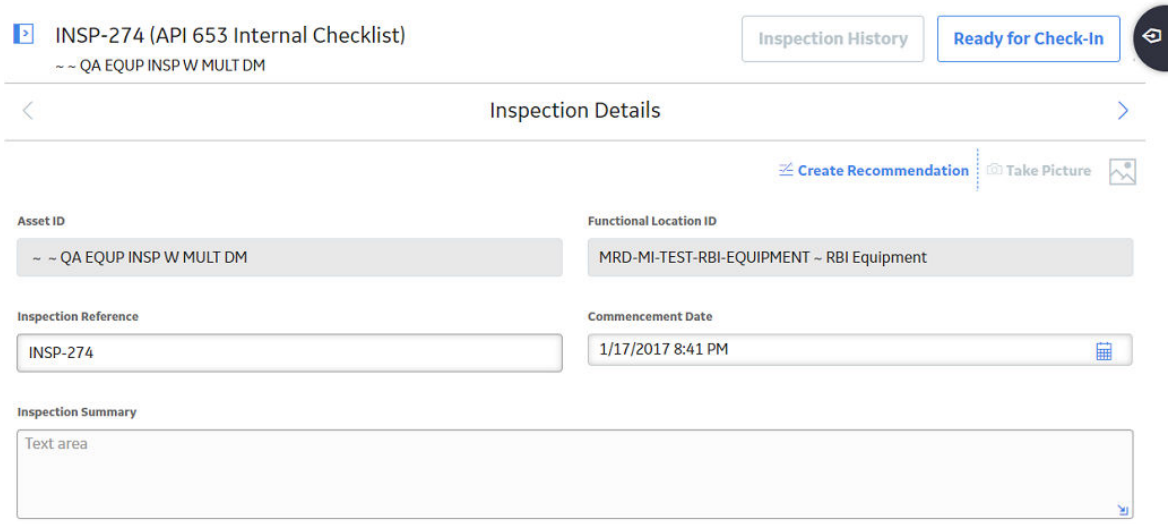
The following sections are available for data collection in the API 653 External Checklist Inspection offline form:

- General
- Connections
- Supports

© 2020 General Electric Company

API 653 Internal Checklist Offline Form

This section displays information that is stored in the offline API 653 Internal Checklist record. An example of the offline form is shown in the following image.

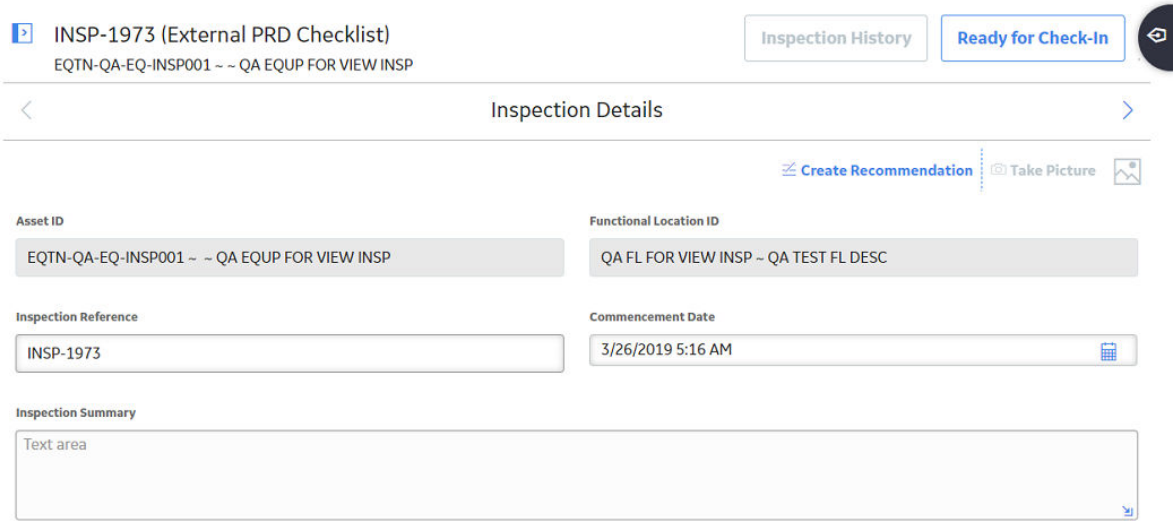


The following sections are available for data collection in the API 653 Internal Checklist Inspection offline form:

- Shell
- Roof
- Nozzles
- Internals
- Linings
- Bottom

External PRD Checklist Offline Form

This section displays information that is stored in the offline External PRD Checklist record. An example of the offline form is shown in the following image.



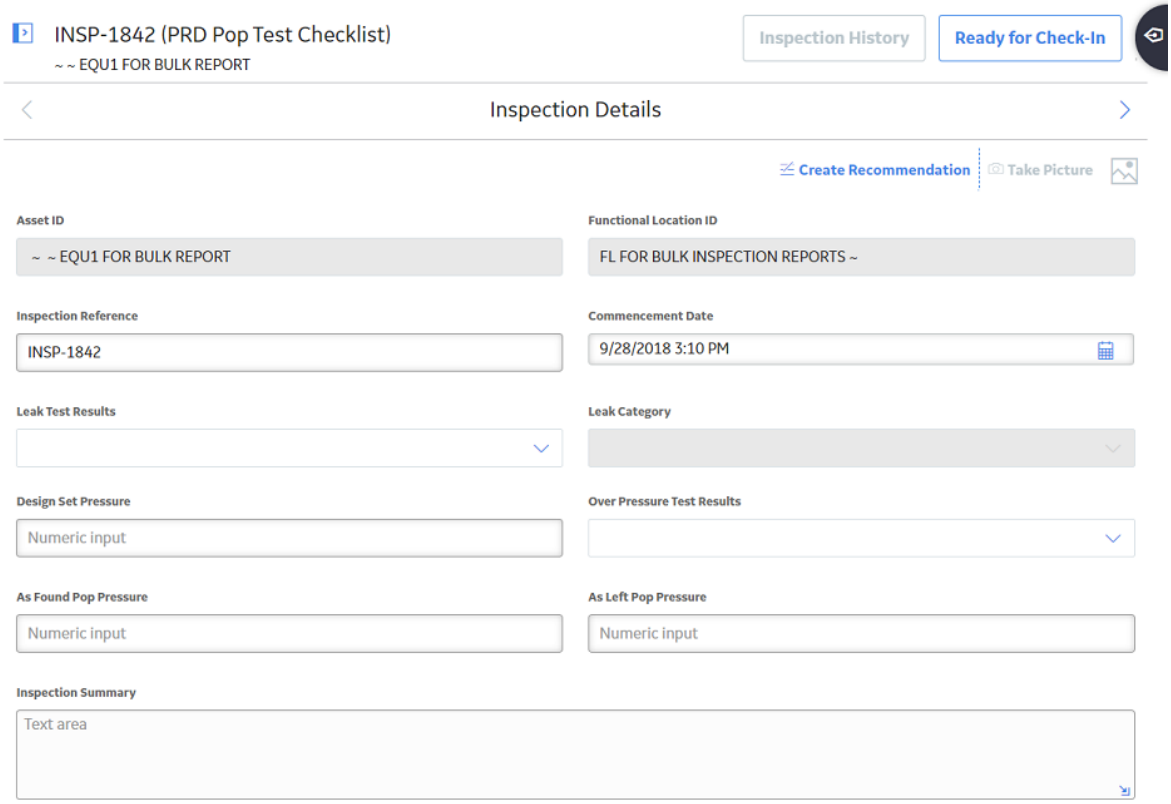
© 2020 General Electric Company

The following sections are available for data collection in the External PRD Pop Test Checklist Inspection offline form:

- General
- Connections

PRD Pop Test Checklist Offline Form

This section displays information that is stored in the offline PRD Pop Test Checklist record. An example of the offline form is shown in the following image.



The following sections are available for data collection in the PRD Pop Test Checklist Inspection offline form:

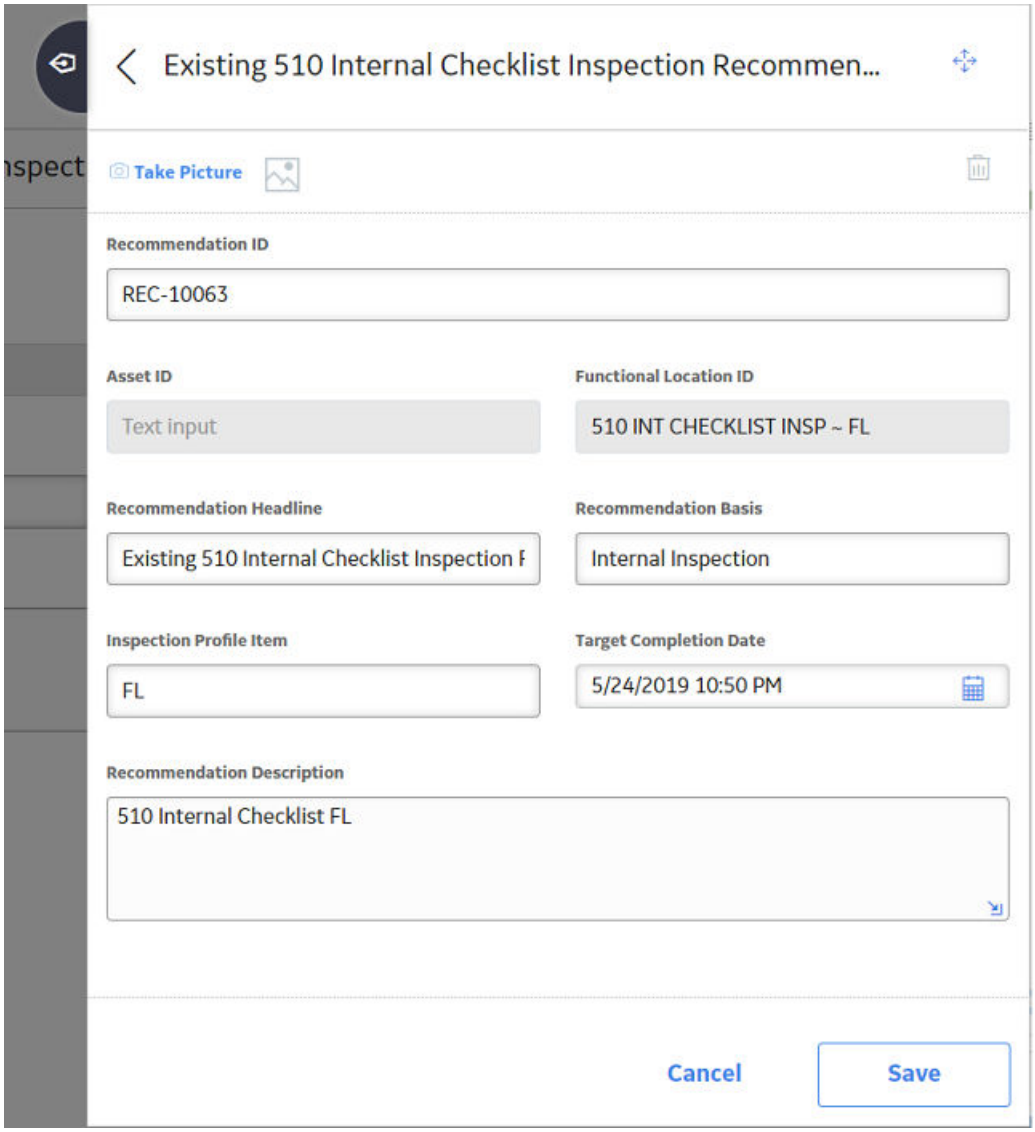
- As Found
- Valve Rework
- Corrosion

About the Recommendation Offline Form

You can download and complete inspections containing Inspection Recommendations for use offline when the **Enable Inspection Recommendations for Inspection Field Data Collection** preference is marked as true.

This section displays information contained in the Inspection Recommendations datasheet.

© 2020 General Electric Company



About the Inspection History Report

The Inspection Field Data Collection Inspection History Report displays the two most recent Inspections that are in the Approved state for that asset or Functional Location. You can view the Inspection History report from its parent Offline Inspection Form.

© 2020 General Electric Company

Inspection History Report

Asset Details

Functional Location ID MRD-MI-TEST-RBI-DLOAD-EQUIP ~ RBI Dataloader Equipment

Asset ID ~ ~ RBI DL EQU10

Inspection History

Inspection Reference **INSP-611**

Completion Date 4/30/2017

Inspection Summary

General Findings

Inspection Profile Item	Inspection Method Item	Type
ANNULAR PLATE	Acoustic Emission (AE)	Observation (OBSERVATION)
Damage Mode	**As Found Degradation Mechanism**	**Action Taken Code**
Corrosion - General (CORROSION - GENERAL)	General Corrosion (GENERAL CORROSION)	None (NONE)
Finding Summary	Test Finding Summary	

Inspection Profile Item	Inspection Method Item	Type
BEARINGS	Penetrant Testing - Visible (PTV)	Observation (OBSERVATION)
Damage Mode	**As Found Degradation Mechanism**	**Action Taken Code**
No Data Available	No Data Available	None (NONE)
Finding Summary	No Data Available	

Inspection Profile Item	Inspection Method Item	Type
No Data Available	No Data Available	Observation (OBSERVATION)
Damage Mode	**As Found Degradation Mechanism**	**Action Taken Code**
Blistering (BLISTERING)	General Corrosion (GENERAL CORROSION)	None (NONE)
Finding Summary	Test123	

The Inspection History report includes the following sections:

- **Asset Details**: Displays details about the asset or Functional Location for the selected inspection.
- **Inspection History**: Displays the following information about the last two inspections for the asset or Functional Location that are in the Approved state:
  - If the selected Inspection is for an asset, then the last two Inspections created for that asset appear.
  - If the selected Inspection is for a Functional Location but not for an asset of that Functional Location, the last two Inspections created for the Functional Location appear.

© 2020 General Electric Company

Note: The Inspections on the Inspection History Report appear in descending order based on the value in the Completion Date field of the Inspection record.

- **Inspection Confidence Evaluation**: Displays the RBI Degradation Mechanisms for which the Inspection has been performed.
- **General Findings**: Displays the General Findings results for the Inspection.
- **Inspection Recommendation History**: Displays the last three Inspection Recommendations that have been generated for the asset or Functional Location. The Inspection Recommendations are listed in descending order based on the value in the Creation Date field. The Inspection Recommendations in the following states appear:
  - Implemented
  - Approved
  - In Progress
- **Corrosion Analysis Summary**: Displays content from the active TM Asset Corrosion Analysis.

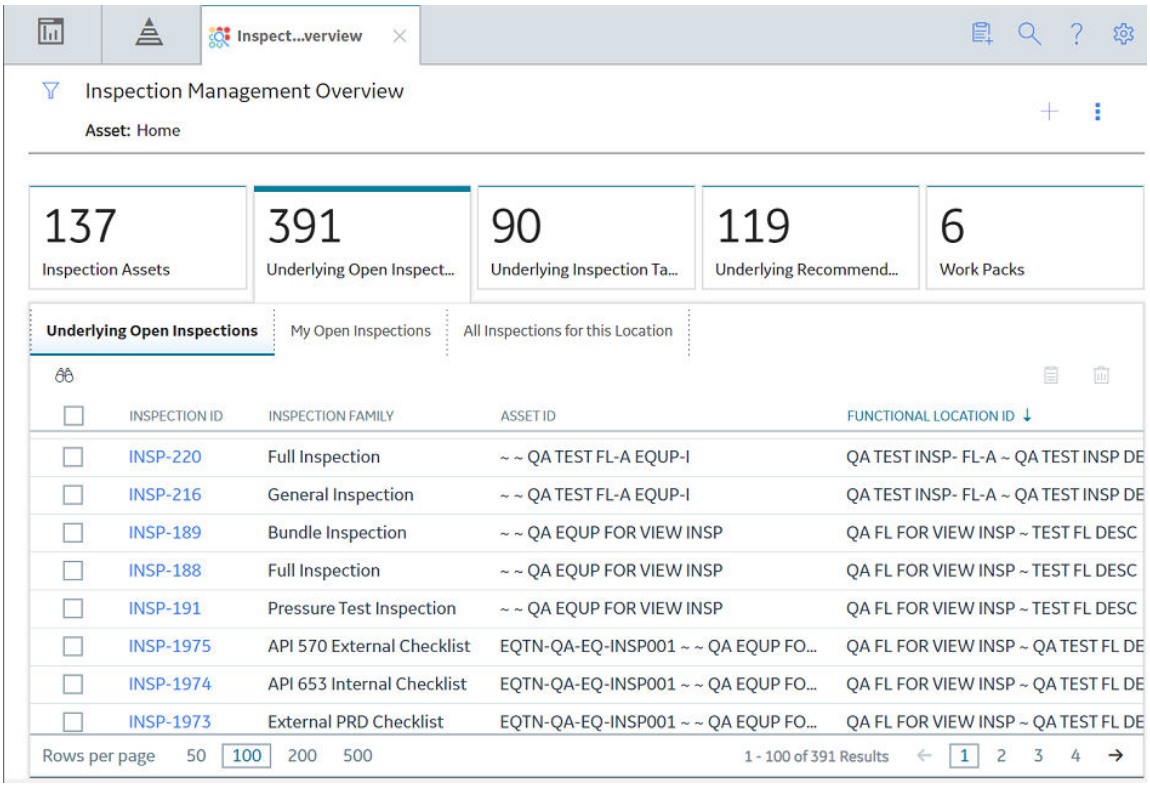
Access Inspections Assigned to You

About This Task

To access a list of your inspections on the **My Open Inspections** page, you must be the report owner on each inspection in the list.

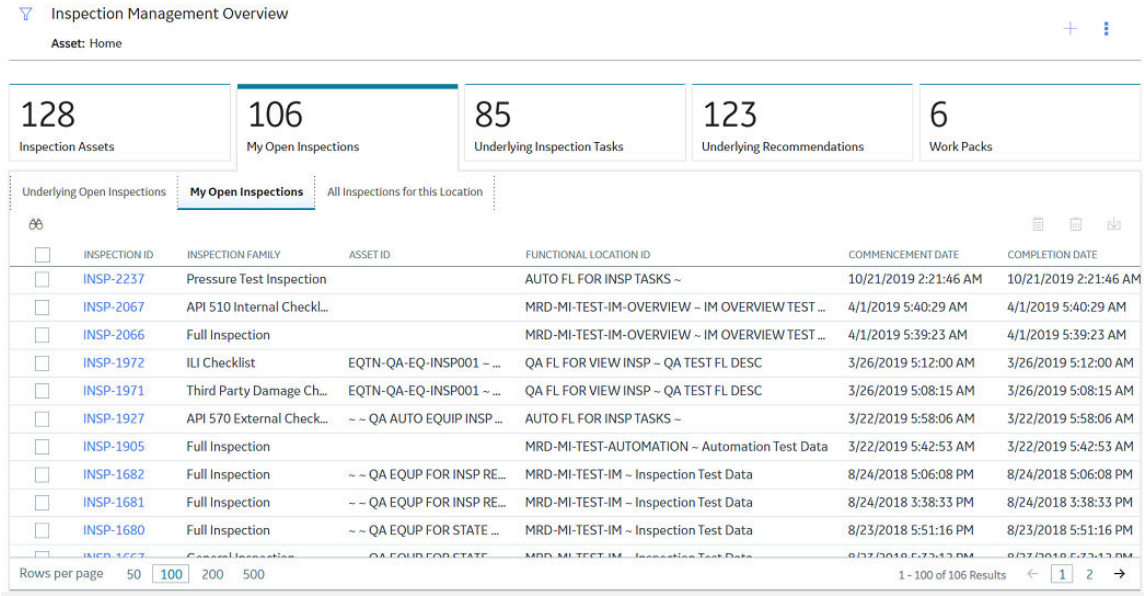
Procedure

1. Access the **Inspection Management Overview**.
2. Select the **Underlying Inspections** tab.
   The **Underlying Inspections** section appears.



© 2020 General Electric Company

3. In the heading of the **Underlying Inspections** section, select **My Open Inspections**.
   The **My Open Inspections** section appears, displaying a list of inspections that have been assigned to you.



Next Steps

Download offline inspections

Download Offline Inspections

Before You Begin

- You must be a member of the MI Inspection Security Group to download offline inspections.
- For an inspection to be downloaded, an offline form must be configured for the families it contains. The following Inspection Families have baseline configurations:
  - Inspections:
    - Full Inspection
    - General Inspection
  - Sub-Inspections:
    - Bundle Sub-Inspection
    - Pressure Test Sub-Inspection
  - Checklist Inspections:
    - API 510 External Checklist
    - API 510 Internal Checklist
    - API 510 Internal Exchanger Checklist
    - API 570 External Checklist
    - API 653 External Checklist
    - API 653 Internal Checklist
    - External PRD Checklist
    - PRD Pop Test Checklist

© 2020 General Electric Company

- Findings:
  - Checklist Finding
  - General Finding
- Any existing Inspection Recommendations for the Inspection are also downloaded when the **Enable Inspection Recommendations for Inspection Field Data Collection** preference is set to true.

Procedure

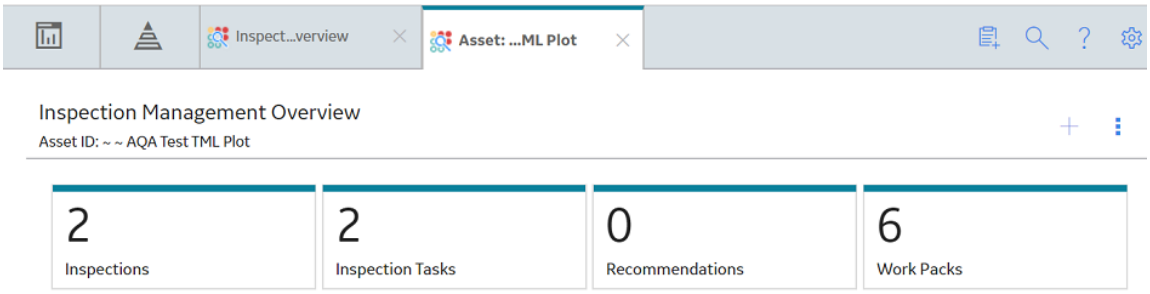
Do one of the following:

- Download a single inspection.
- Download bulk inspections.

Download a Single Inspection

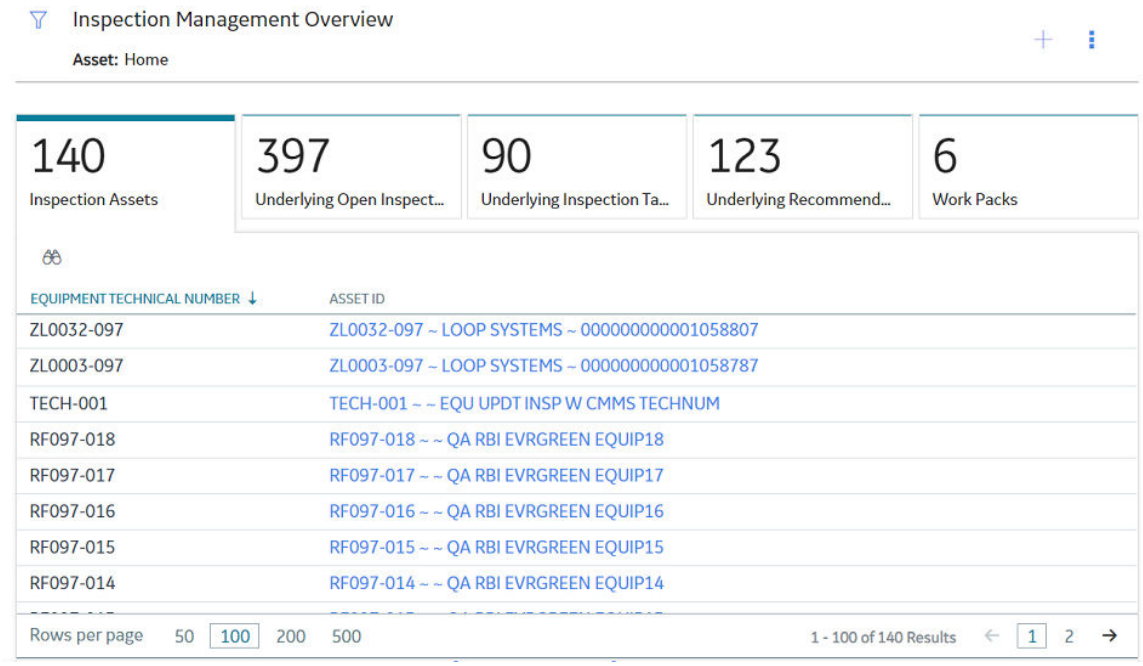
Procedure

1. Access the **Inspection Management Overview** page.
2. Select the **Inspection Assets** tab, and then select the Asset ID for the asset containing the inspections that you want to download.
   The **Inspection Management Overview** page appears, displaying the inspections for the selected asset.

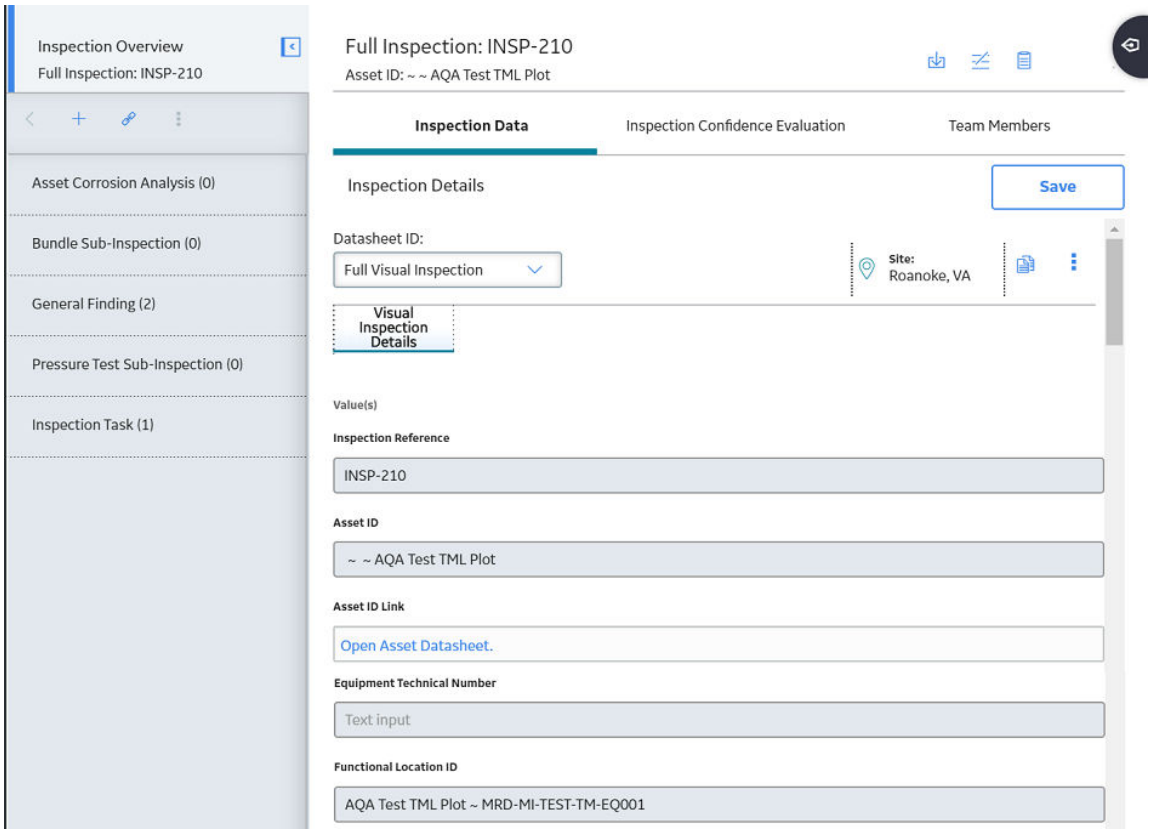


3. Select the **Inspections** tab.
   A list of inspections contained in the asset appears.

© 2020 General Electric Company



4. Select the Inspection ID of the inspection that you want to download.
   The **Inspection Overview** workspace for the selected Inspection appears, displaying the **Inspection Data** section.



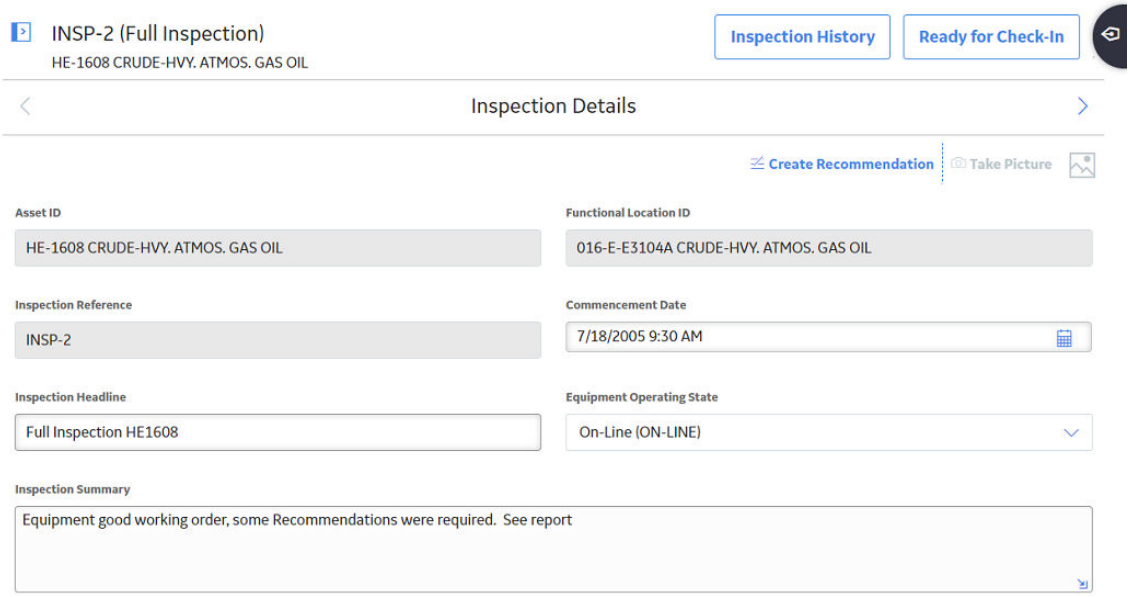
5. In the upper-right corner of the **Inspection Overview** workspace, select .

© 2020 General Electric Company

Important: The button is disabled if the inspection is locked, currently downloaded to a device, or there are no offline forms configured for that event.

The **Download Inspection History Report** window appears.

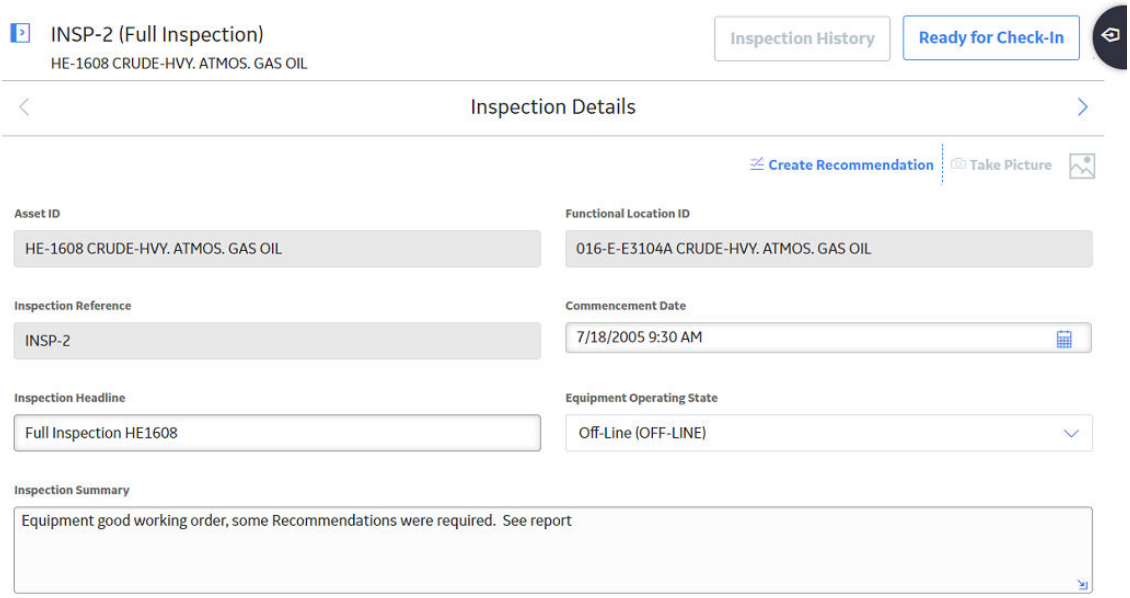
6. If you want to download both the Inspection and the Inspection History Report, select **Yes**.
The **Inspection Details** section appears, and the **Inspection History** button is enabled.



-or-

If you want to download only the Inspection, select **No**.

The **Inspection Details** section appears, and the **Inspection History** button is disabled.



Note: When an inspection is downloaded, the Downloaded, Last Downloaded By, and Last Downloaded Date fields are systematically set on the inspection record.

You can now access downloaded inspections on the **Inspection Field Data Collection** page.

© 2020 General Electric Company

Results

Downloaded inspections will appear on the **Inspection Field Data Collection** page.

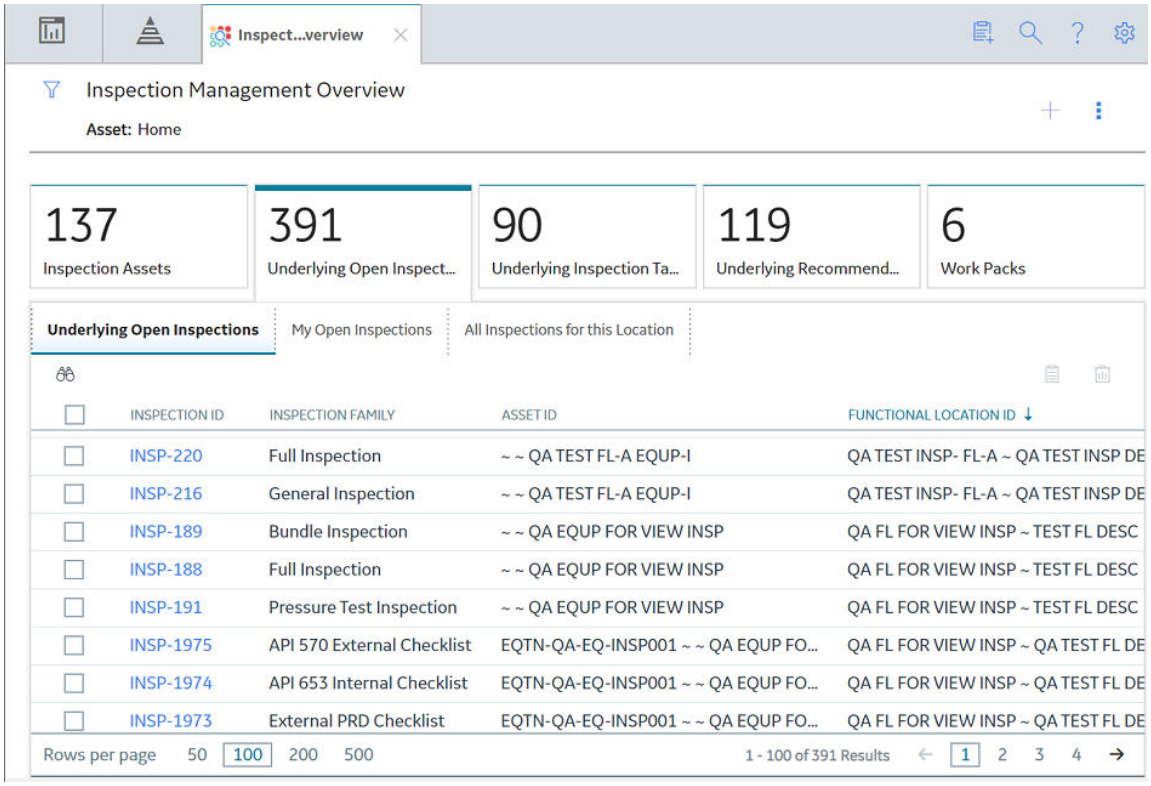
Next Steps

Complete Offline Inspections.

Download Bulk Inspections

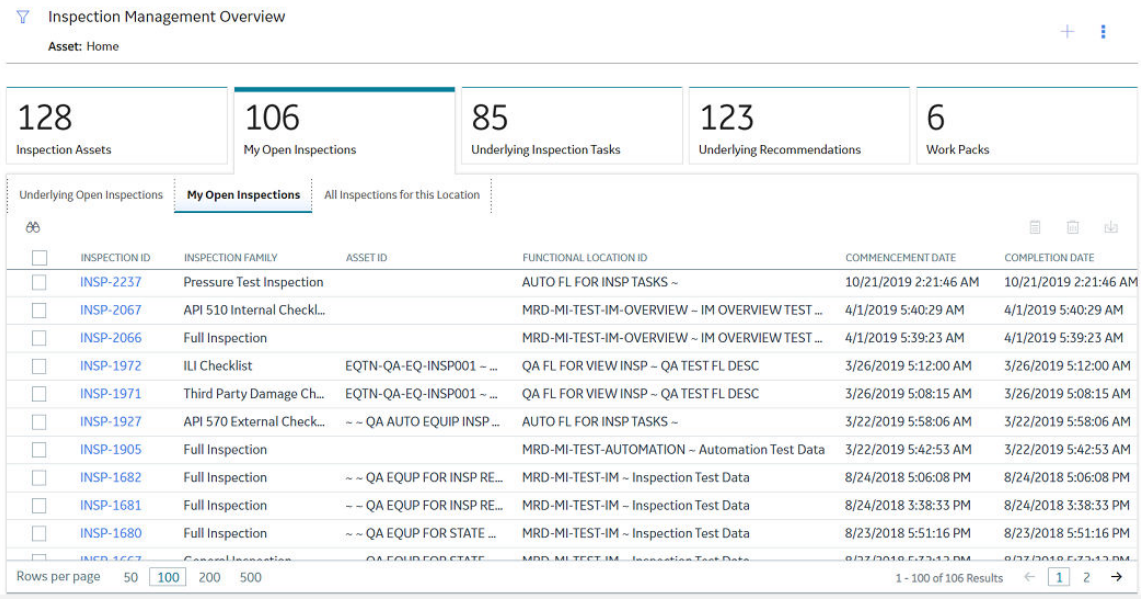
Procedure

1. Access the **Inspection Management Overview** page
2. Select the **Underlying Inspections** tab.
   The **Underlying Inspections** section appears.



3. In the heading of the **Underlying Inspections** section, select **My Open Inspections**.
   The **My Open Inspections** section appears, displaying a list of inspections that have been assigned to you.

© 2020 General Electric Company



Note: The **My Open Inspections** section is only available when the device is connected to the network.

4. Next to the Inspection ID of each Inspection that you want to download, select the check box, and then select .

   Important: The button is enabled for unlocked inspections that have offline forms configured and are not currently downloaded to another device.

   The **Confirm Bulk Download** dialog box appears.

   Important: Downloading or synchronizing a large number of records can degrade performance.
5. Select **Yes**.
   The **Download Inspection History Report** window appears.
6. If you want to download both the Inspections and the Inspection History Reports, select **Yes**.

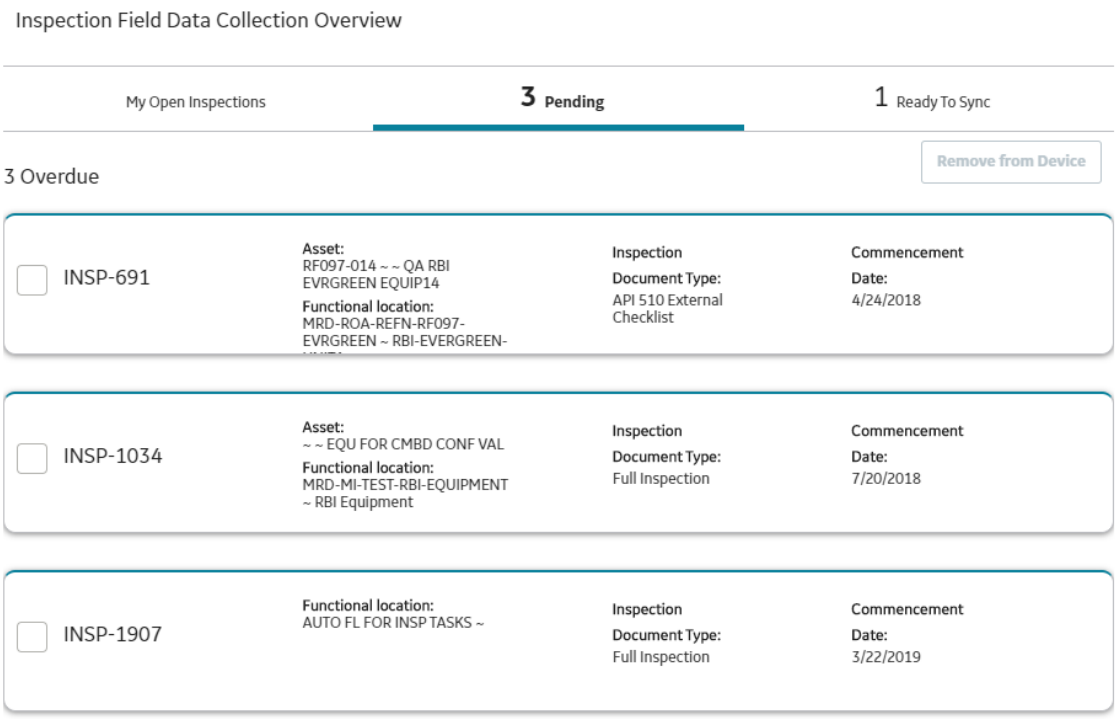
   Note: If you select **Yes**, all Inspection History Reports for all selected inspections will be downloaded. You can download a maximum of twenty Inspection History Reports for use offline.

   If you want to download only the inspections, select **No**.

   The **Inspection Field Data Collection Overview** page appears, displaying a list of downloaded inspections.

   Note: The related families configured in the Event Configuration are downloaded. Only the fields configured in offline forms are available for offline field data collection.

© 2020 General Electric Company



Results

- Downloaded inspections will appear under the **Inspection Field Data Collection** page.

Next Steps

Complete Offline Inspections.

Enable Downloaded Inspections to be Downloaded by Another User

About This Task

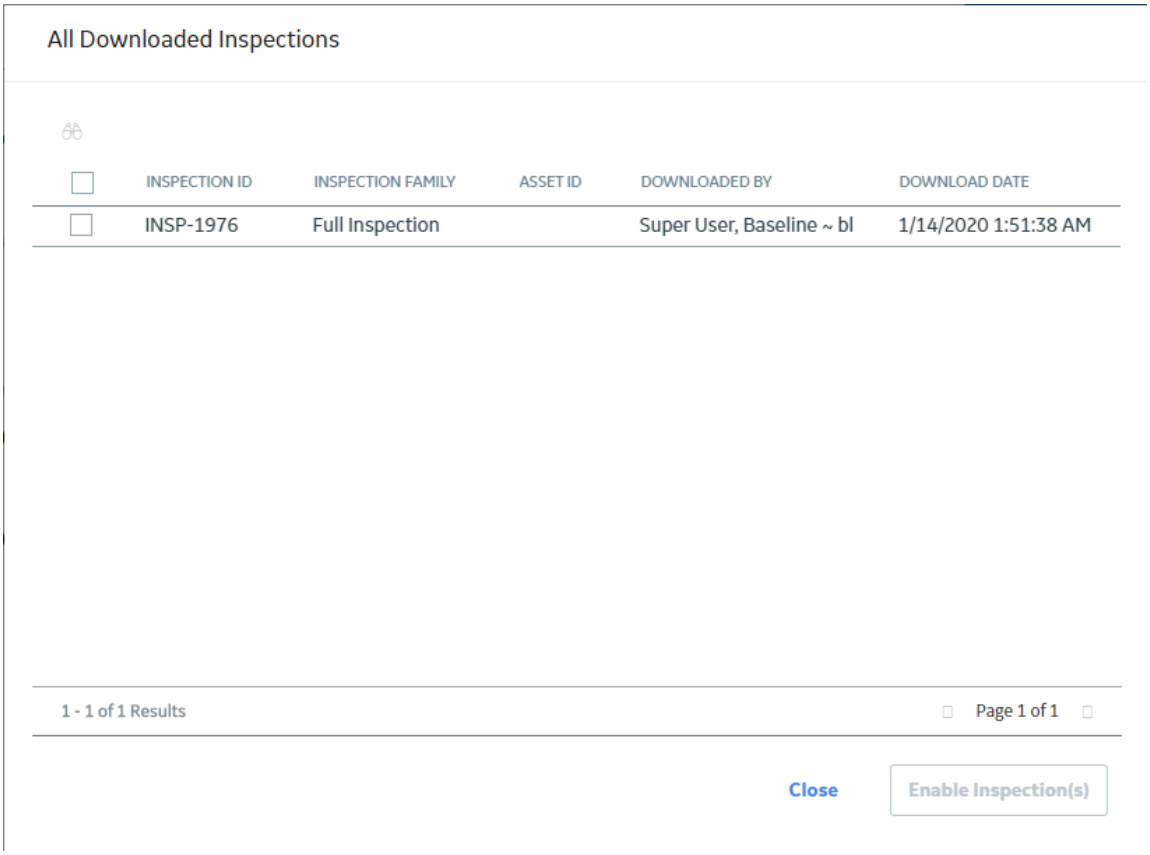
Inspections that are downloaded for Inspection Field Data Collection by a user are locked in GE Digital APM and cannot be edited or downloaded by another user. If the user who downloaded the inspection(s) is not available to sync back the inspection to GE Digital APM or if the devices used during the download are no longer accessible, this option allows you to re-enable an inspection and allow the inspection to be downloaded by another user.

Important: Only Inspection Administrators can perform this action.

Procedure

1. Access the **Inspection Field Data Collection** page.
2. Select the **View Downloaded Inspections**.
   The **All Downloaded Inspections** page appears, displaying a list of currently downloaded inspection.

© 2020 General Electric Company



3. Select the check box for the inspection you want to re-enable, and then select **Enable Inspection(s)**. A confirmation message appears.
4. Select **Yes**.
   Inspections are re-enabled in GE Digital APM, and are now available to be downloaded again.

Results

Note: After an inspection is re-enabled:

- All the fields in the Inspection record and its related records are enabled in GE Digital APM.
- Another user can now download the inspection.
- The Last Downloaded By user on the inspection can no longer sync back the inspection to GE Digital APM.

Complete Inspection Field Data Collection

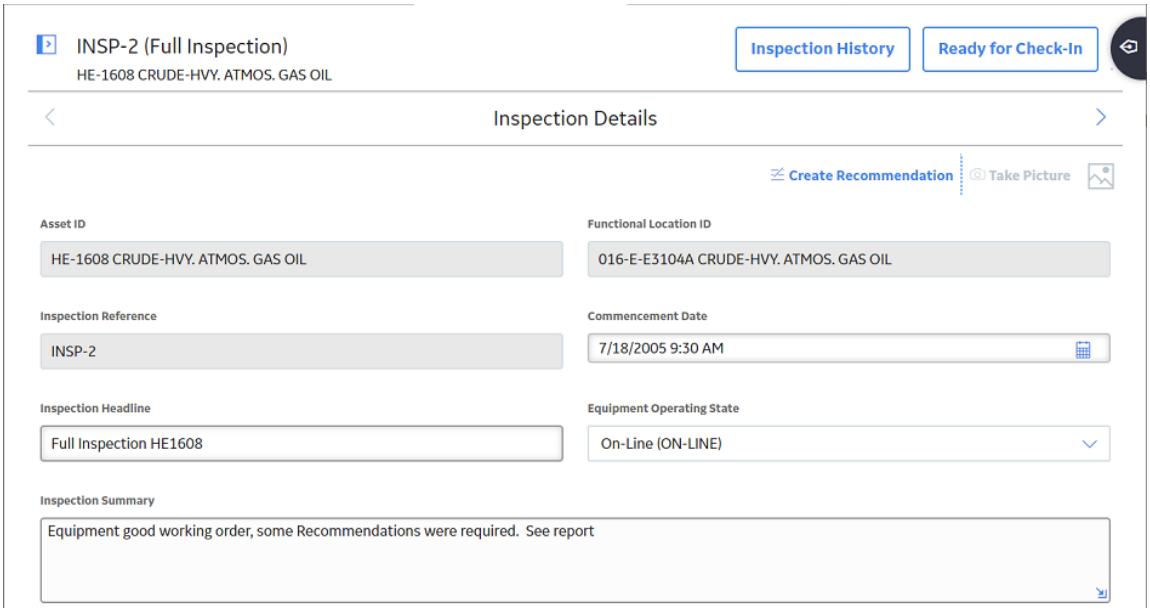
Before You Begin

Download the offline inspection.

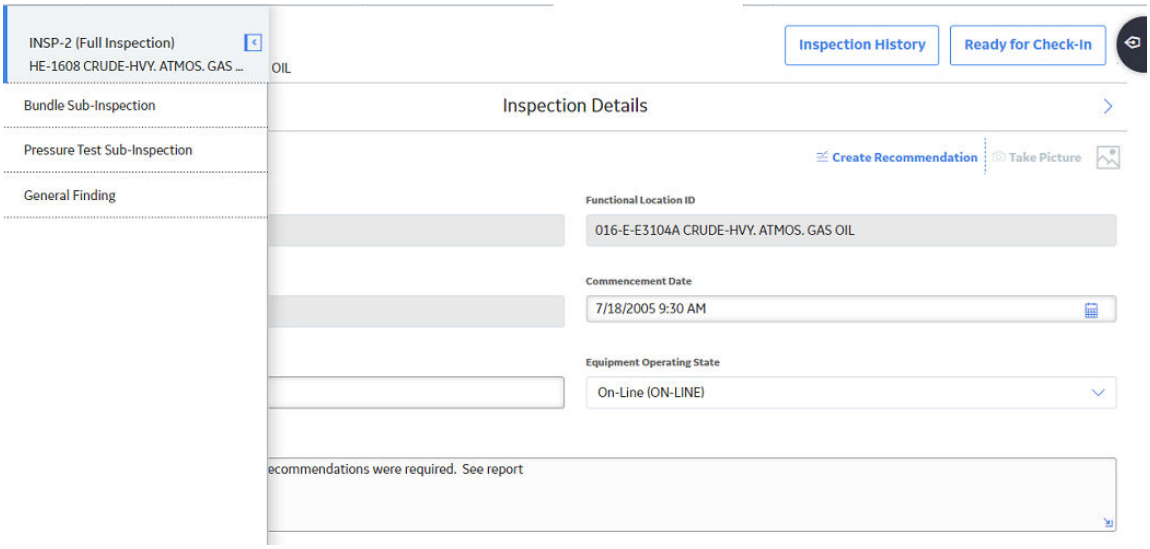
Procedure

1. Access the **Inspection Field Data Collection** page.
2. On the **Inspection Field Data Collection** page, select the inspection that you want to complete.
   The corresponding offline inspection form appears, displaying the **Inspection Details** section.

© 2020 General Electric Company



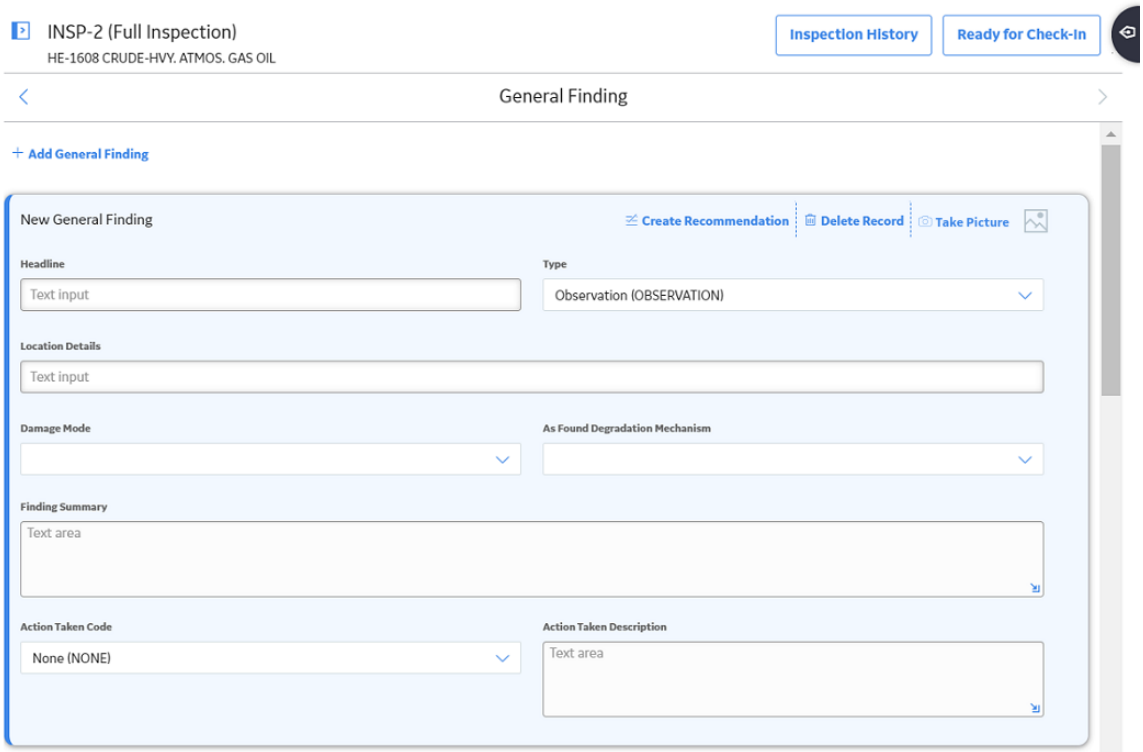
3. Optionally, in the **Inspection Details** section, modify the available fields.
4. In the upper-left corner of the section, select .
   A pane appears, displaying the available inspection or checklist types. Depending on the type of inspection and its offline event configuration, the left pane will display related sub-inspections, General Findings records for Full Inspections, and Checklist types of Checklist Inspections.



5. Optionally, navigate through the available related sections or families, modifying any of the available fields.

   Tip: If you want to create another inspection, checklist, bundle sub-inspection, general findings, or pressure test record on the same offline inspection form, you can select the **+ [Inspection or Checklist] Type** link at the top of the section. A new record will appear before the existing record. You can delete an inspection or checklist record by selecting **Delete Record**. Only records that were added while offline can be deleted; you cannot delete downloaded records.

© 2020 General Electric Company



6. After all desired field data has been collected on the offline form, select **Ready for Check-In**.
   The offline inspection form is completed and saved locally.

   Note: After selecting **Ready for Check-In**, your data is automatically saved and is ready to be linked to your GE Digital APM database once a network connection is received.

Next Steps

Synchronize offline inspections

Access Reference Document Images

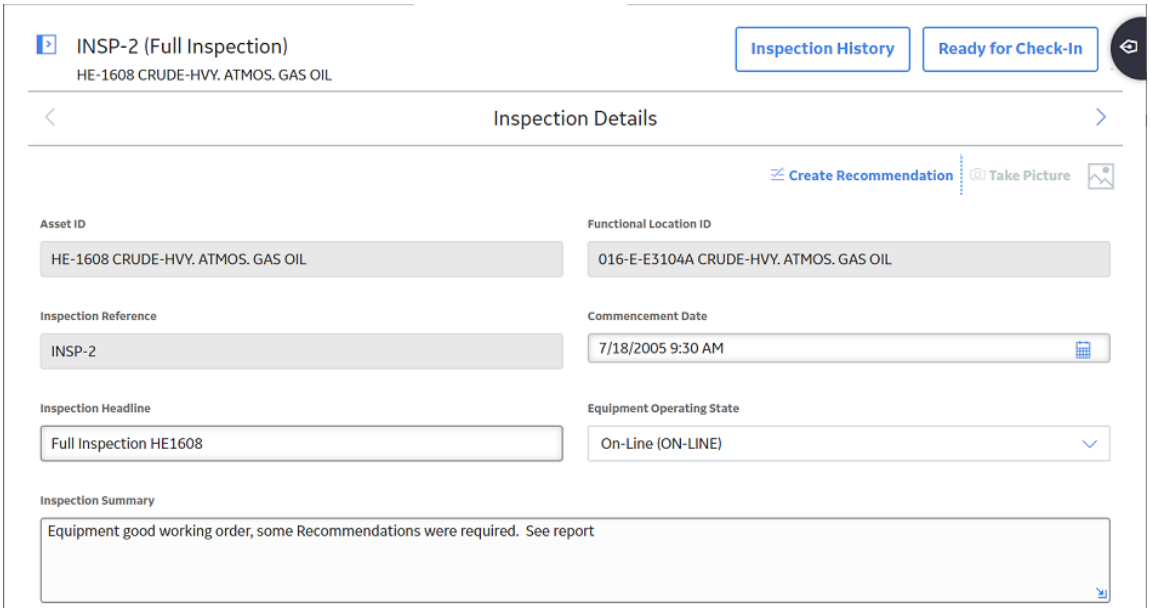
About This Task

Important: To use the reference document image functionality, you must use the GE Digital APM mobile application. If you are using GE Digital APM in a web browser, you cannot access the camera on your device. Additionally, to add reference document images to an Offline Inspection family, the Has Reference Documents relationship must be defined for that family.

Procedure

1. Via the GE Digital APM mobile application, access the **Inspection Field Data Collection Overview** page.
2. On the **Inspection Field Data Collection Overview** page, select the Inspection containing the reference document images that you want to access.
   The **Inspection Details** section for the selected Inspection appears.

© 2020 General Electric Company

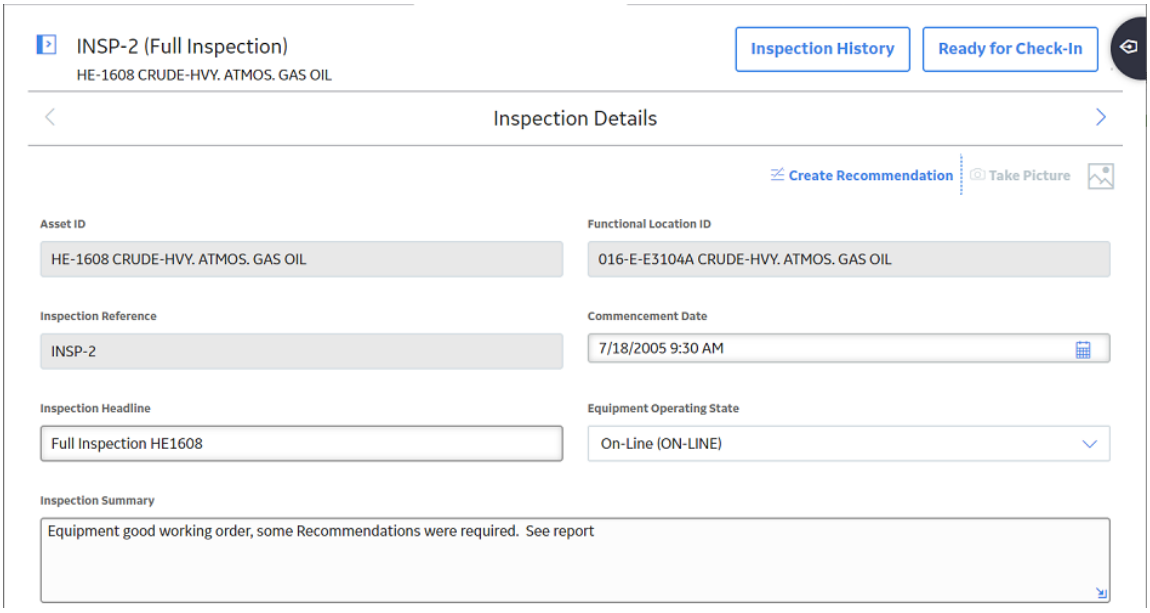


3. In the upper-right corner of the section, select .
   The **Images for <Inspection Name>** window appears, displaying the images saved to the Inspection.

© 2020 General Electric Company

4. On the **Images for <Inspection Name>** window, you can:
   - Use the < and > buttons to toggle through images associated with the Inspection.
   - Enter text in the **Description** box for each image.
   - On the upper right corner of the image thumbnail, select ×, and then select **Yes** to delete the image.
5. Select **Close**.
   The **Inspection Details** section for the selected Inspection appears.

© 2020 General Electric Company



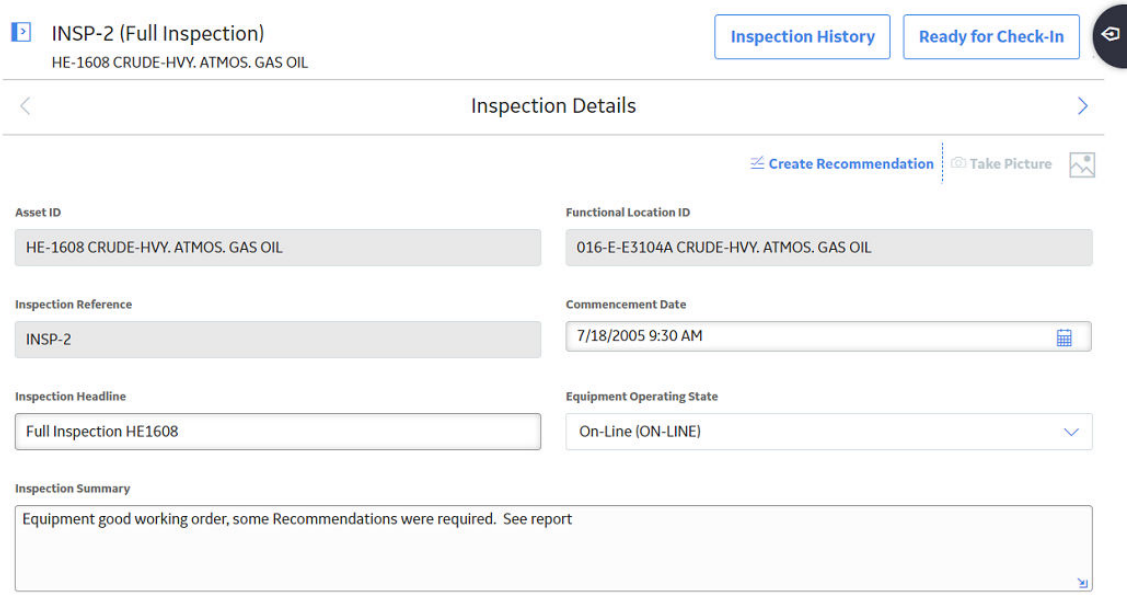
Access the Inspection History Report

Before You Begin

- Download the offline inspection and the corresponding Inspection History Report.

Procedure

1. Access the **Inspection Field Data Collection** page
2. On the **Inspection Field Data Collection** page, select the inspection containing the Inspection History Report that you want to access.
   The corresponding offline inspection form appears, displaying the **Inspection Details** section.



3. In the upper-right corner of the section, select **Inspection History**.

© 2020 General Electric Company

The Inspection History report appears.

Inspection History Report

Asset Details

Functional Location ID	MRD-MI-TEST-RBI-DLOAD-EQUIP ~ RBI Dataloader Equipment
Asset ID	~ ~ RBI DL EQU10

Inspection History

Inspection Reference	**INSP-611**
Completion Date	4/30/2017
Inspection Summary	

General Findings

Inspection Profile Item	Inspection Method Item	Type
ANNULAR PLATE	Acoustic Emission (AE)	Observation (OBSERVATION)
Damage Mode	**As Found Degradation Mechanism**	**Action Taken Code**
Corrosion - General (CORROSION - GENERAL)	General Corrosion (GENERAL CORROSION)	None (NONE)
Finding Summary	Test Finding Summary	

Inspection Profile Item	Inspection Method Item	Type
BEARINGS	Penetrant Testing - Visible (PTV)	Observation (OBSERVATION)
Damage Mode	**As Found Degradation Mechanism**	**Action Taken Code**
No Data Available	No Data Available	None (NONE)
Finding Summary	No Data Available	

Inspection Profile Item	Inspection Method Item	Type
No Data Available	No Data Available	Observation (OBSERVATION)
Damage Mode	**As Found Degradation Mechanism**	**Action Taken Code**
Blistering (BLISTERING)	General Corrosion (GENERAL CORROSION)	None (NONE)
Finding Summary	Test123	

Add a Reference Document Image

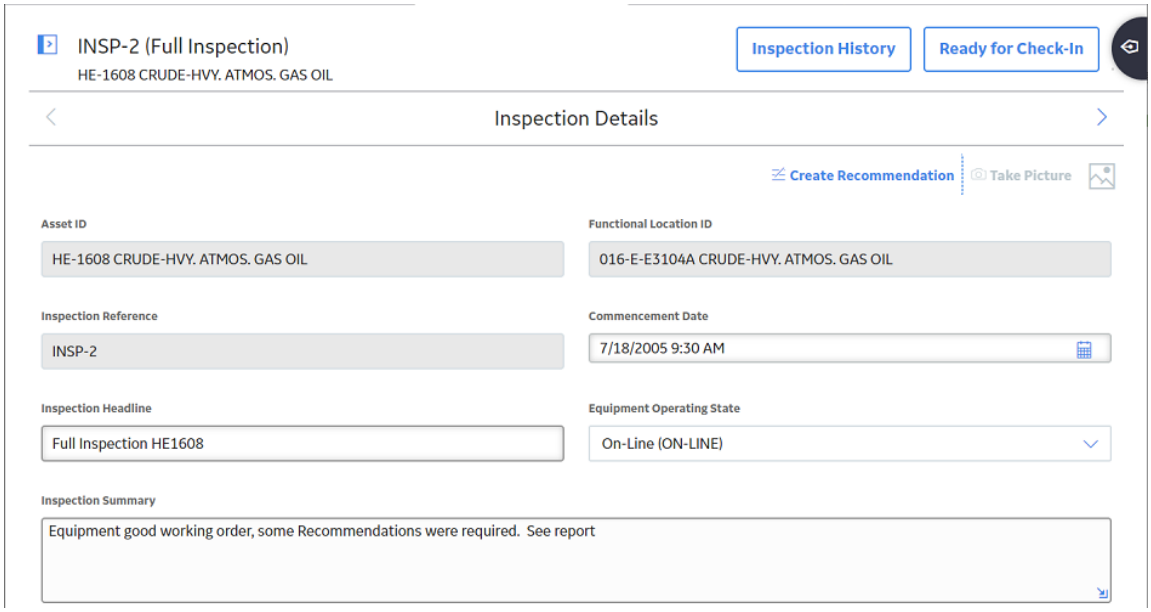
Before You Begin

- Access the **My Open Inspections** section to view Inspections that have been assigned to you, and then download one or more Inspections for which you want to add a Reference Document image.

© 2020 General Electric Company

Procedure

1. Via the GE Digital APM mobile application, access the **Inspection Field Data Collection Overview** page.
2. On the **Inspection Field Data Collection Overview** page, select the Inspection for which you want to add a reference document image.
   The **Inspection Details** section for the selected Inspection appears.



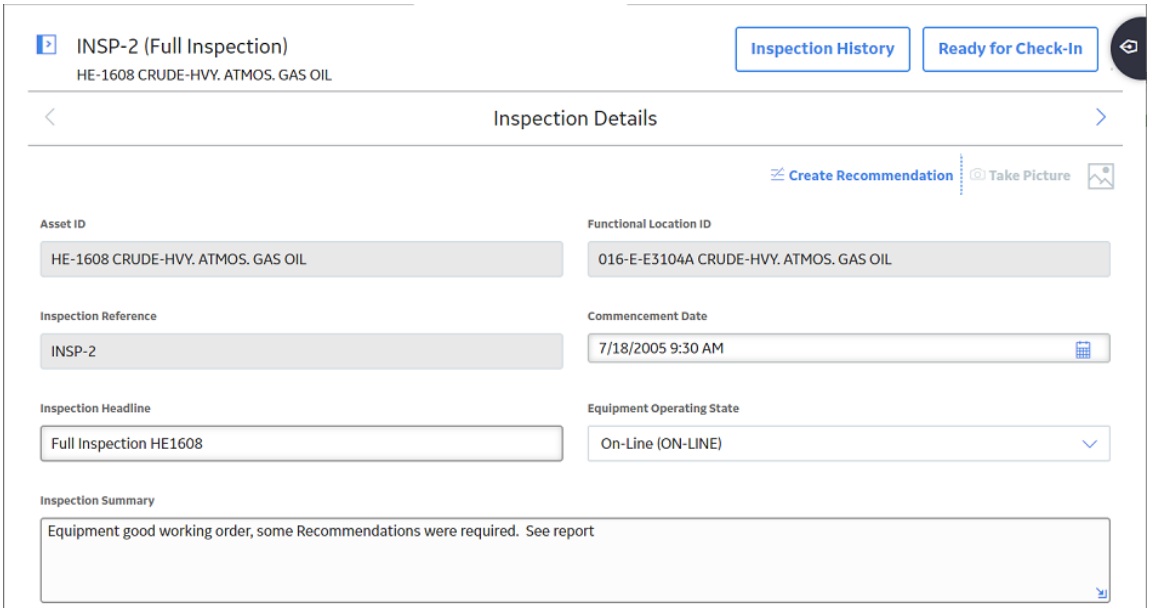
3. In the upper-right corner of the workspace, select **Take a Picture**.
   The native camera app for your device appears.
4. Using the camera on your mobile device, take a picture of the Inspection asset that you want to add as a reference document.

   Note: After taking a picture that you want to keep, follow the prompts to save the image.

   Important: You can include a maximum of 20 reference documents for each Inspection Report, which includes the Inspection Report's associated records.

   The **Inspection Details** section appears.

© 2020 General Electric Company



Results

- In the upper-right corner of the workspace, the number next to the icon increases for each picture that you save to the Inspection record.
- A default Reference Document ID is provided for each image.
- You can now sync the offline Inspection.
- Images are unique to each individual inspection record.

Remove Inspections from a Device

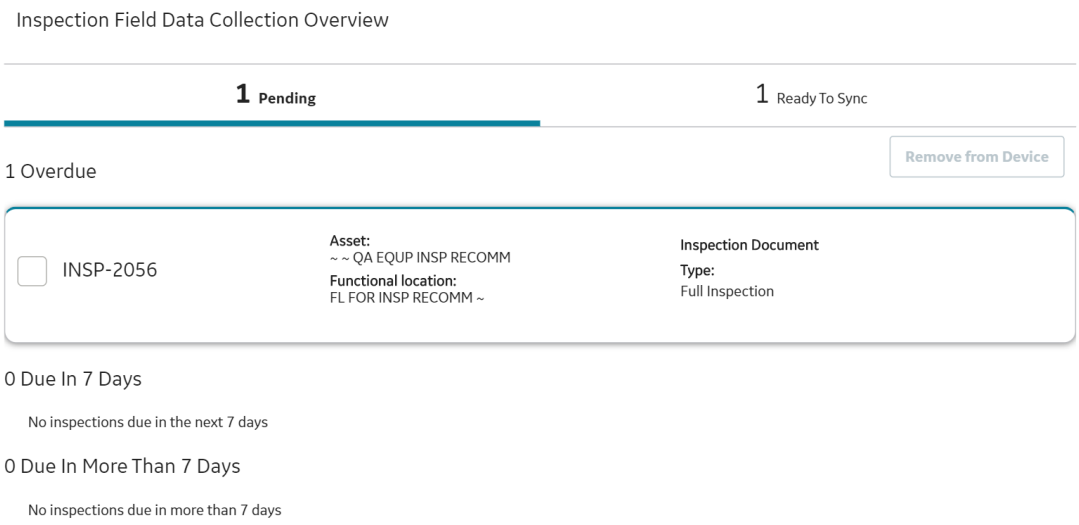
About This Task

Note: You cannot remove inspections when you are disconnected from the network.

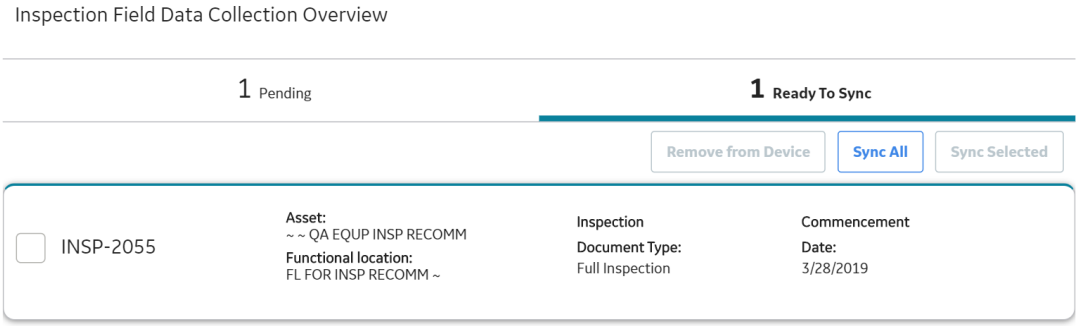
Procedure

1. Access the **Inspection Field Data Collection Overview** page.
   Access a list of downloaded inspections by choosing any one of the following options:
   - The **Inspection Field Data Collection Overview** page appears containing a list of downloaded inspections that can be accessed offline in the **Pending** section.

© 2020 General Electric Company



- Select the **Ready To Sync** tab to access the list of downloaded inspections for which, field data has been collected and marked for Ready for Check-In.
  The **Ready To Sync** section appears.



2. Select the check box next to the inspection you want to remove, and then select **Remove from Device**.
   The selected inspection is removed from the device.

   Note:

   - You can remove one inspection at a time.
   - You can access and manage the inspection in Inspection Management after an inspection is removed from a device.
   - All the fields in the Inspection record and its related records are enabled.
   - The Downloaded field on the removed inspection is reset to false.

Synchronize Offline Inspections

Before You Begin

- Complete Inspection Field Data Collection.

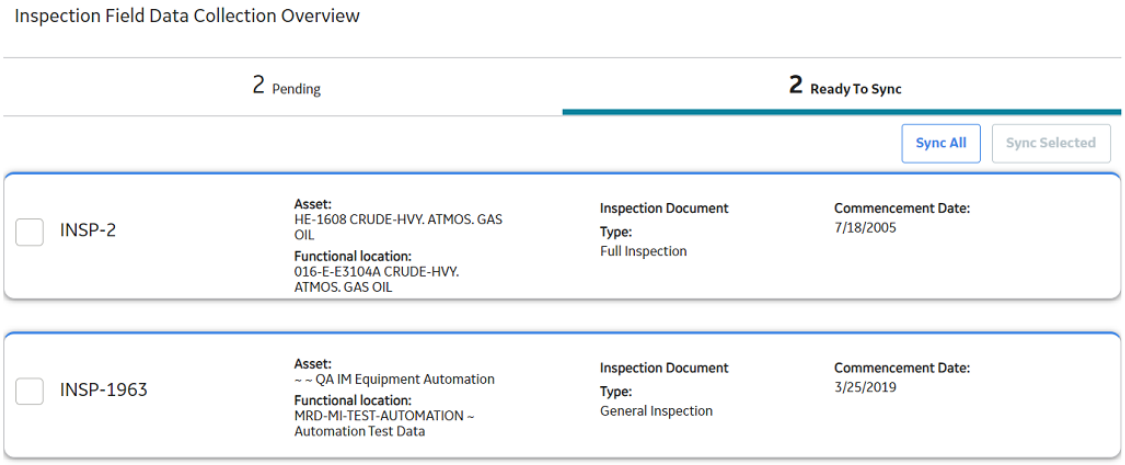
© 2020 General Electric Company

About This Task

Note: If you attempt to synchronize inspections when you are disconnected from a network, the synchronization process will not transfer information to the database. The offline functionality periodically checks for network connection, and once a connection is detected, the synchronization process resumes; however, it is recommended that you only synchronize inspections when connected to a network.

Procedure

1. Access the **Inspection Field Data Collection** page.
2. Select the **Ready to Sync** tab.
   The **Ready to Sync** section appears, displaying a list of inspections that have been marked for **Ready for Check-In**.



3. Next to each inspection that you want to synchronize with the GE Digital APM database, select the check box, and then select **Ready to Sync** .

   -or-

   Select **Sync All** to synchronize all inspections that are ready for check-in.

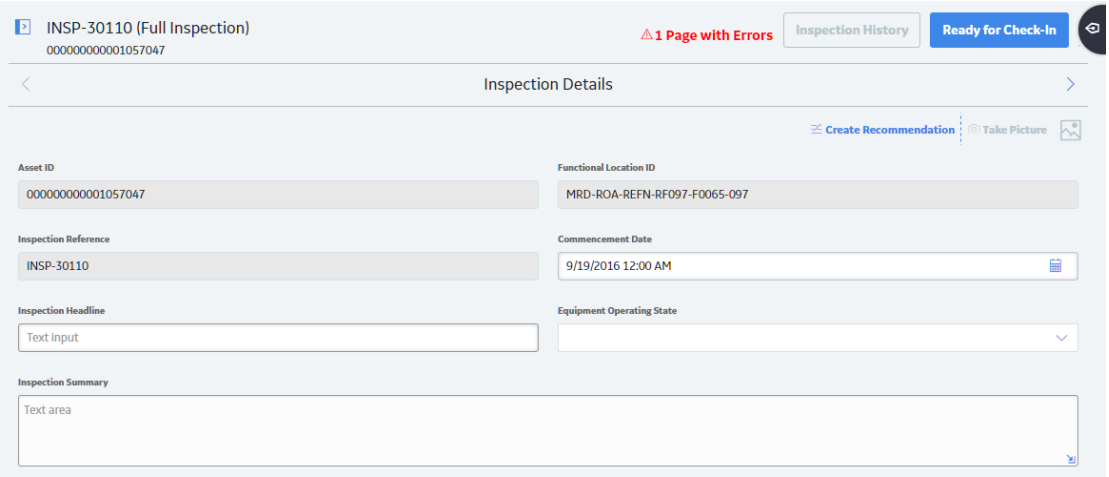
   The selected offline inspections are synced with the GE Digital APM database and no longer appear on the section.

   Note: If an administrator has unmarked an inspection as downloaded, the inspection cannot be synced back to GE Digital APM.

   Note: If errors are present during the synchronization process, the status of the synchronization will change to Completed with Errors, and the selected inspections will remain in the **Ready to Sync** section. If errors are present, the synchronization will fail, and your database will not be updated with data collected while offline. You must resolve all errors and synchronize the offline inspections again before they will be added to the GE Digital APM database. If errors occur:

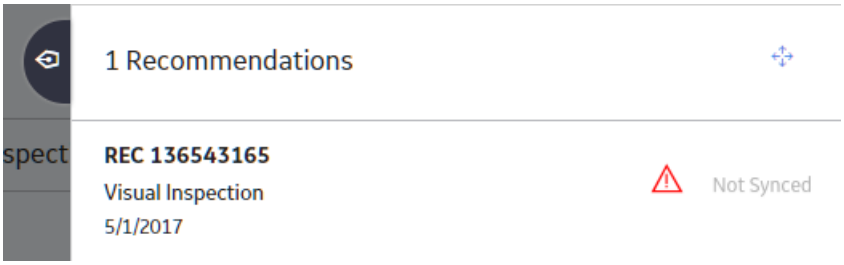
   a. In the **Ready to Sync** section, select an inspection that did not sync because of errors.
      The offline form for the selected inspection appears.

© 2020 General Electric Company

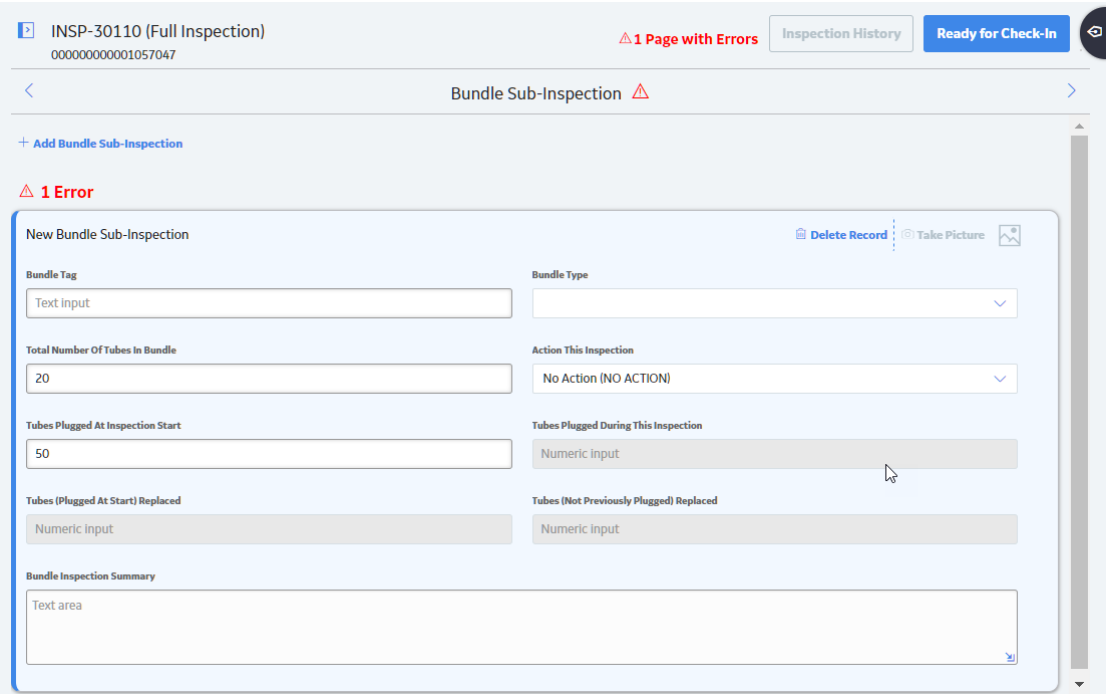


-or-

For an error that occurred on a recommendation, open the **Recommendations** pane, and then select the Recommendation to view the errors.



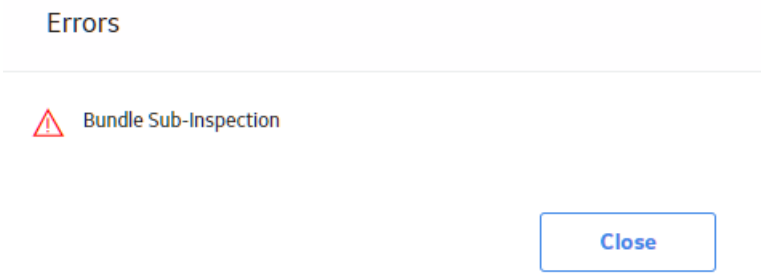
b. In the heading of the offline form, using either < or >, navigate to the offline form containing the error notification in the heading.



c. Above the datasheet, on the left side of the form, select ⚠ **<#> Errors**.

© 2020 General Electric Company

The **Errors** window appears, displaying a list of errors that need to be corrected.



d. Address the errors listed on the **Errors** window, and then select **Ready for Check-In**.
e. Repeat Steps 2 and 3 of the procedures in this topic.

Results

- The synchronized offline inspections can now be accessed and managed in Inspection Management. All the fields in the Inspection record and its related records will be enabled.
- The Last Synced Back By and Last Synced Date fields will be set systematically.
- If you have not entered a value in the Recommendation ID field, one will be generated for you.
- All Inspection Recommendations and Reference Document images are synchronized with the GE Digital APM database.
- If you synchronized a Reference Document image:
  - The text entered in the Description field of the **Images for <Inspection Name>** is synchronized with the GE Digital APM database.
  - Each image linked to a corresponding record is created as a Related Reference Document for that record. For example, images captured for a Full Inspection record will be stored as Related Reference Documents for that Full Inspection.
  - Reference Documents can be accessed from Inspection Management.

© 2020 General Electric Company

Chapter 3

About Inspection Field Data Collection Recommendations

Topics:

- Access Offline Inspection Recommendations
- Create Offline Inspection Recommendations
- Modify Offline Inspection Recommendations
- Enable Inspection Recommendations for Inspection Field Data Collection
- Delete Offline Inspection Recommendations

© 2020 General Electric Company

Access Offline Inspection Recommendations

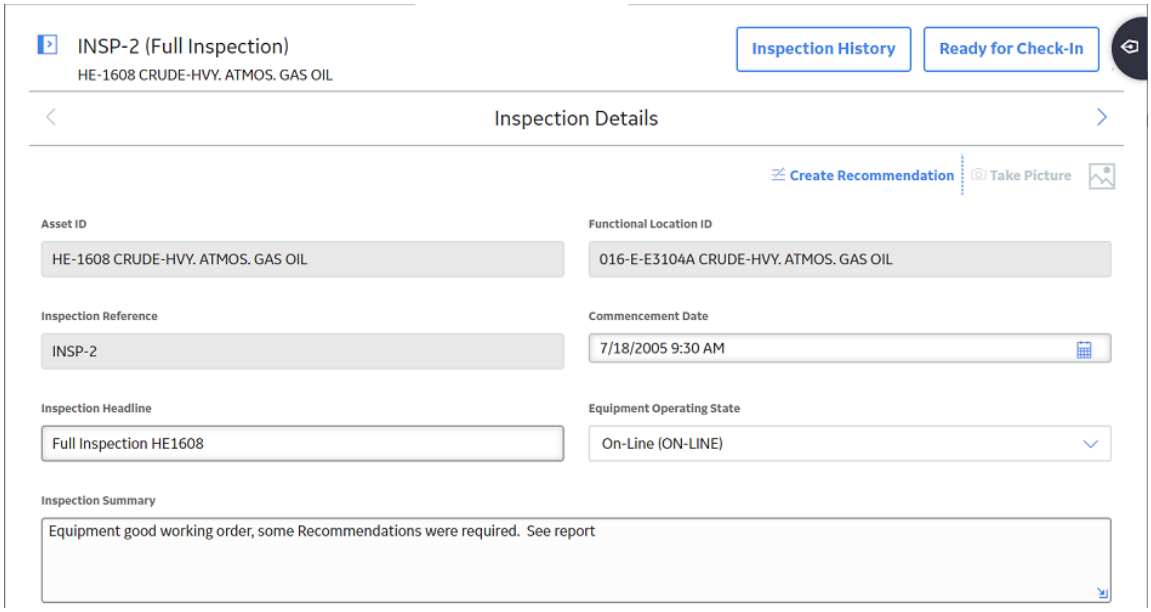
Before You Begin

Access the **My Open Inspections** section to view Inspections that have been assigned to you, and then download one or more Inspections for which you want to access Inspection Recommendations.

Note: You can only view and modify offline inspection recommendations when the **Enable Inspection Recommendations for Inspection Field Data Collection** preference is set to true.

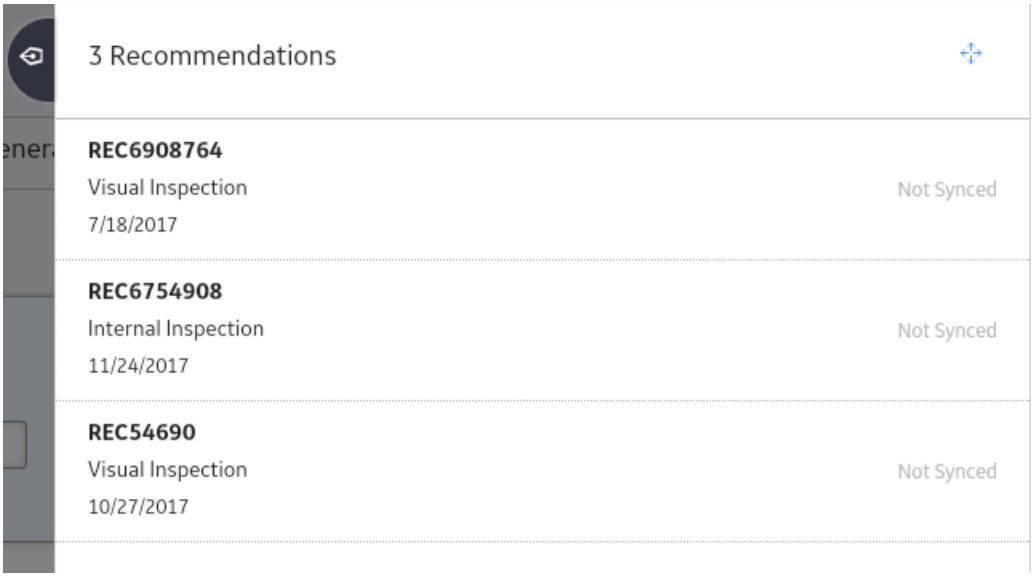
Procedure

1. Access the **Inspection Field Data Collection** page.
2. Select the Inspection containing the recommendation you want to access.
   The corresponding offline Inspection form appears, displaying the **Inspection Details** section.



3. In the upper-right corner of the page, select .
   The **Recommended Actions** pane appears, displaying a list of recommendations for the selected Inspection.

© 2020 General Electric Company



In the **Recommended Actions** pane, note the following Recommendations fields that are displayed:

a. The Recommendation ID, which identifies the recommendation record.
b. The Status, which indicates the state of the Inspection Recommendation.

   Note: The default state for newly added offline Inspection Recommendations is Not Synced.
c. The Recommendation Headline, which provides a short description of the recommended action.
d. The Target Completion Date, which is the date by which the recommended action should be completed.

Create Offline Inspection Recommendations

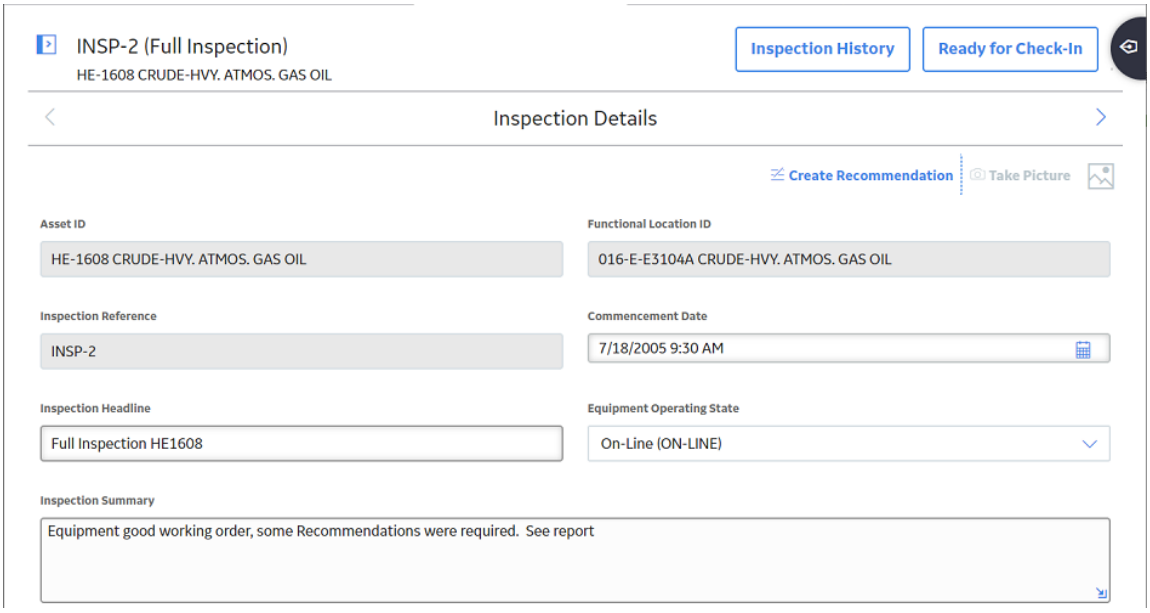
Before You Begin

You can only view and modify offline inspection recommendations when the **Enable Inspection Recommendations for Inspection Field Data Collection** preference is set to true.

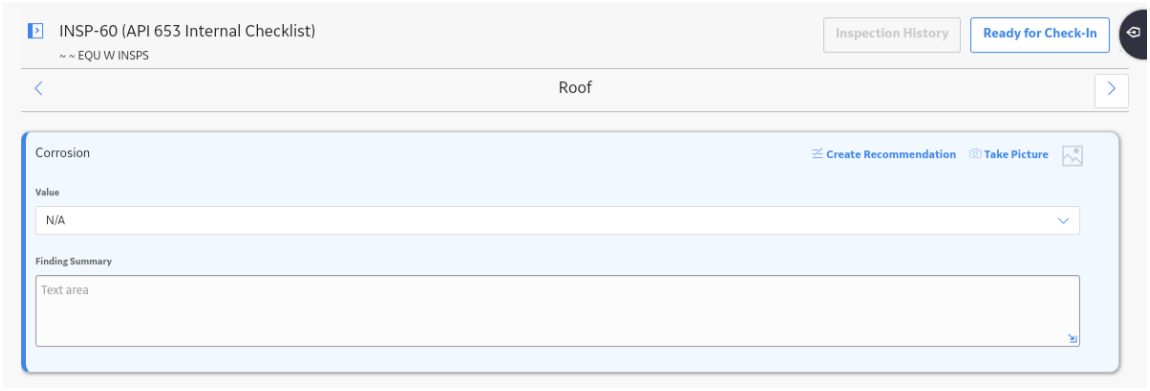
Procedure

1. Access the **Inspection Field Data Collection** page.
2. Select the inspection for which you want to create a recommendation.
   The corresponding offline inspection form appears, displaying the **Inspection Details** section.

© 2020 General Electric Company

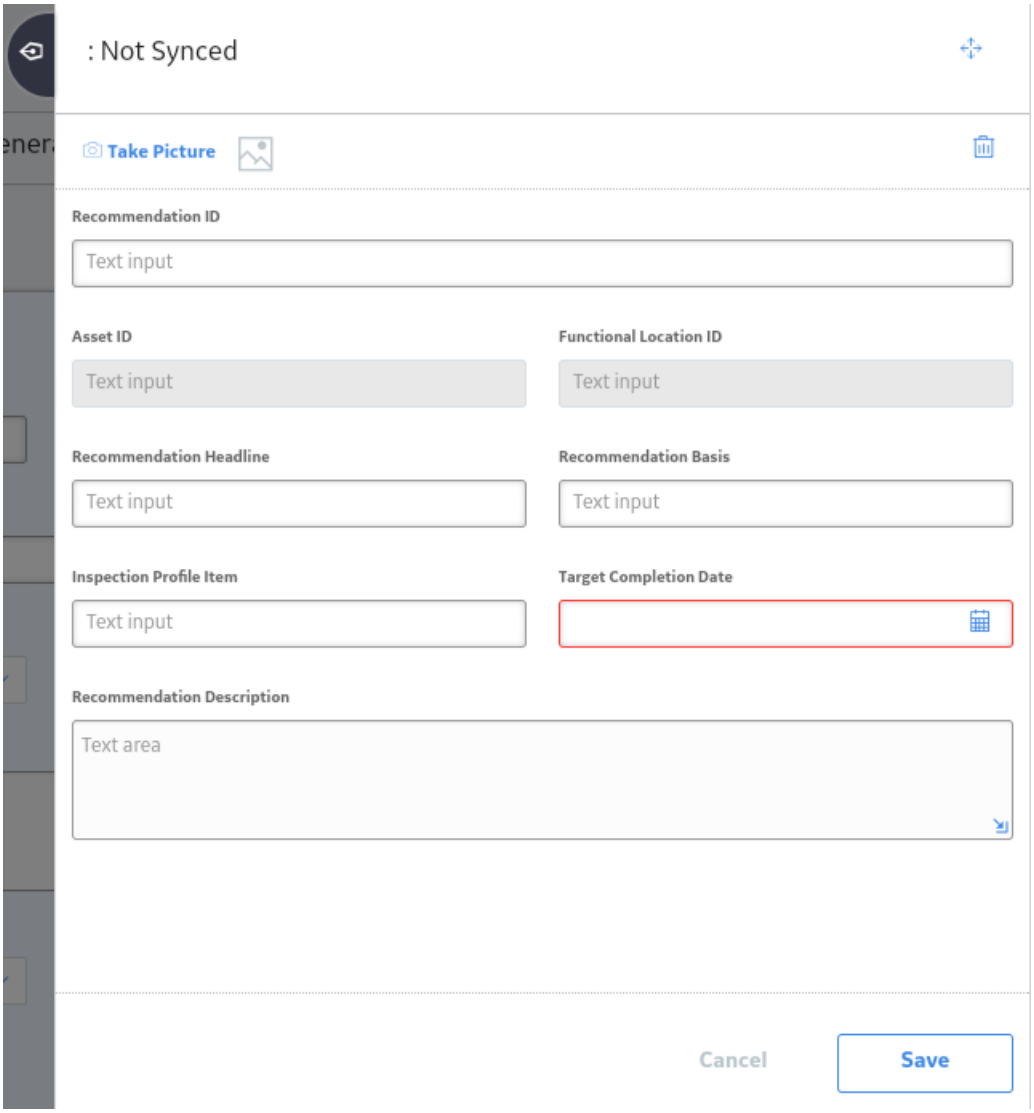


3. Optionally, if you want to create a recommendation for either a General Finding or a Checklist Inspection record, select < or > to navigate to the appropriate section.



4. In the upper-right corner of the page, select **Create Recommendation**.
In the workspace, a new Inspection Recommendation offline form appears.

© 2020 General Electric Company

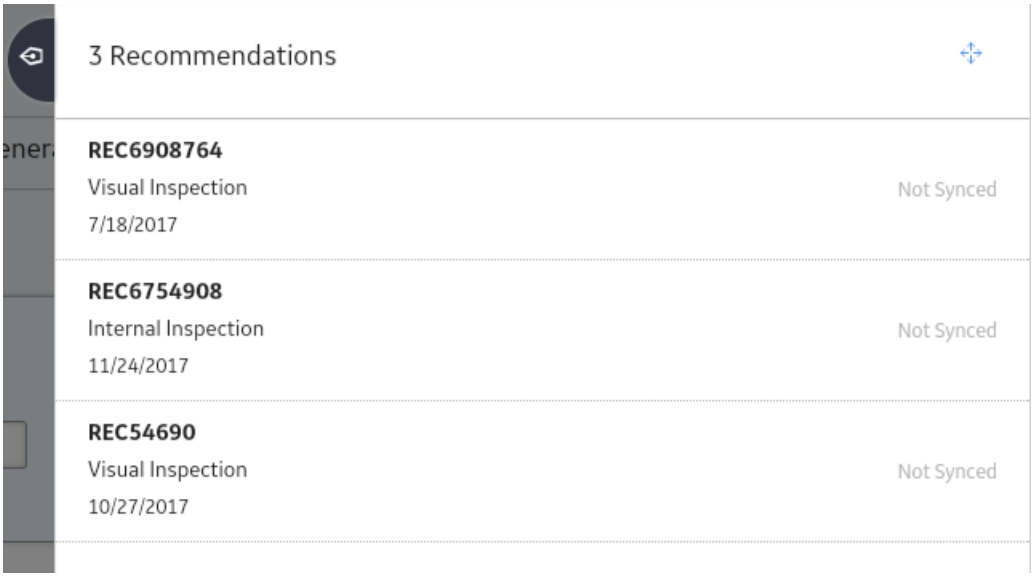


5. As needed, enter values in the available fields. Note that:
   - The Target Completion Date field is required.
   - You can enter a unique value in either the Recommendation ID or the Recommendation Headline field. If you do not enter a value in either of these fields, a value will be generated for the Recommendation ID field.

     Tip: It is recommended that you enter a value in the Recommendation Headline field if you do not enter a value in the Recommendation ID field.
   - You can select **Take Picture** to add a reference document images to the recommendation.
   - You can select to view existing reference document images.
   - If you create a recommendation for a General Finding record, the Recommendation Headline field on the offline Inspection Record will be a concatenated value populated by the Inspection Profile and the Inspection Methods field of that General Findings record.
6. Select **Save**.
   The **Recommended Actions** pane appears, displaying the newly added recommendation.

   Note: The default status for newly added offline Inspection Recommendations is Not Synced.

© 2020 General Electric Company



7. Select to close the **Recommended Actions** pane.

Modify Offline Inspection Recommendations

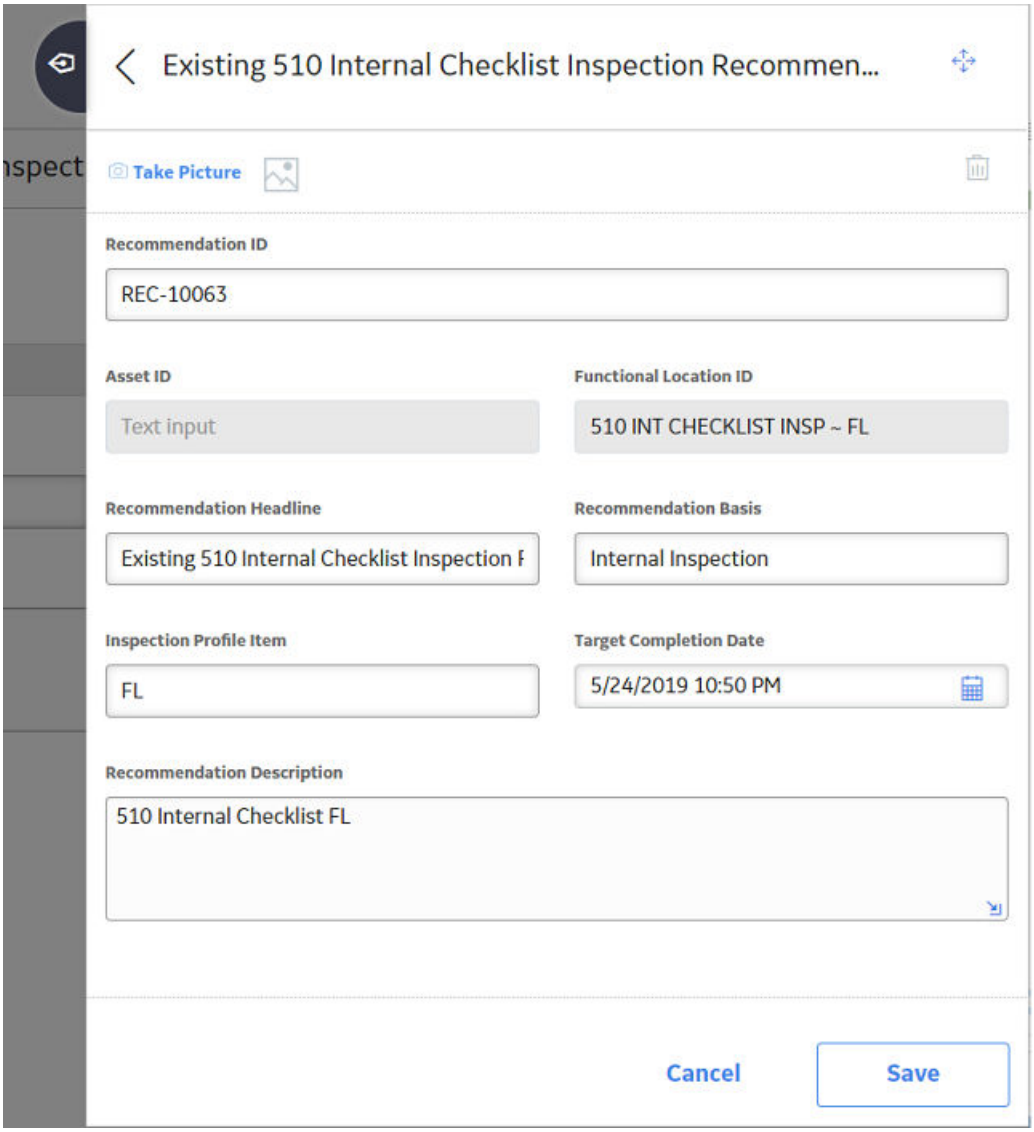
Before You Begin

You can only view and modify offline inspection recommendations only when the **Enable Inspection Recommendations for Inspection Field Data Collection** preference is set to true.

Procedure

1. Access Inspection Recommendations.
2. In the **Recommendations** pane, select the recommendation that you want to modify.
   In the workspace, the Inspection Recommendation offline form appears.

© 2020 General Electric Company



3. As needed, modify values in the available fields. Note that:
   - The Target Completion Date field is required.

     Tip: It is recommended that you complete either the Recommendation Headline or the Recommendation ID field to identify Inspection Recommendations.
   - You can select **Take Picture** to Add a Reference Document Image on page 32 to the recommendation.
   - You can select to view existing reference document images.

   Note: Selecting **Cancel** will discard only the changes made to the datasheet. Images taken while on the datasheet will not be deleted. To delete images, you must delete them on the Images for <Inspection Name> window for the corresponding Inspection record.
4. Select **Save**.
   Changes to the Inspection Recommendation offline form are saved.
5. Select
   Recommendations

© 2020 General Electric Company

Enable Inspection Recommendations for Inspection Field Data Collection

Procedure

1. Access the **Inspection Configuration** workspace.
2. Select to modify the **Application Configurations** page.
3. Select the **Enable Inspection Recommendations for Inspection Field Data Collection** check box.
4. Select .

   Note: When the **Enable Inspection Recommendations for Inspection Field Data Collection** is set to false, recommendations cannot be viewed, created, or modified on newly downloaded inspections from Inspection Field Data Collection.

   The default value for **Enable Inspection Recommendations for Inspection Field Data Collection** is true.

Delete Offline Inspection Recommendations

About This Task

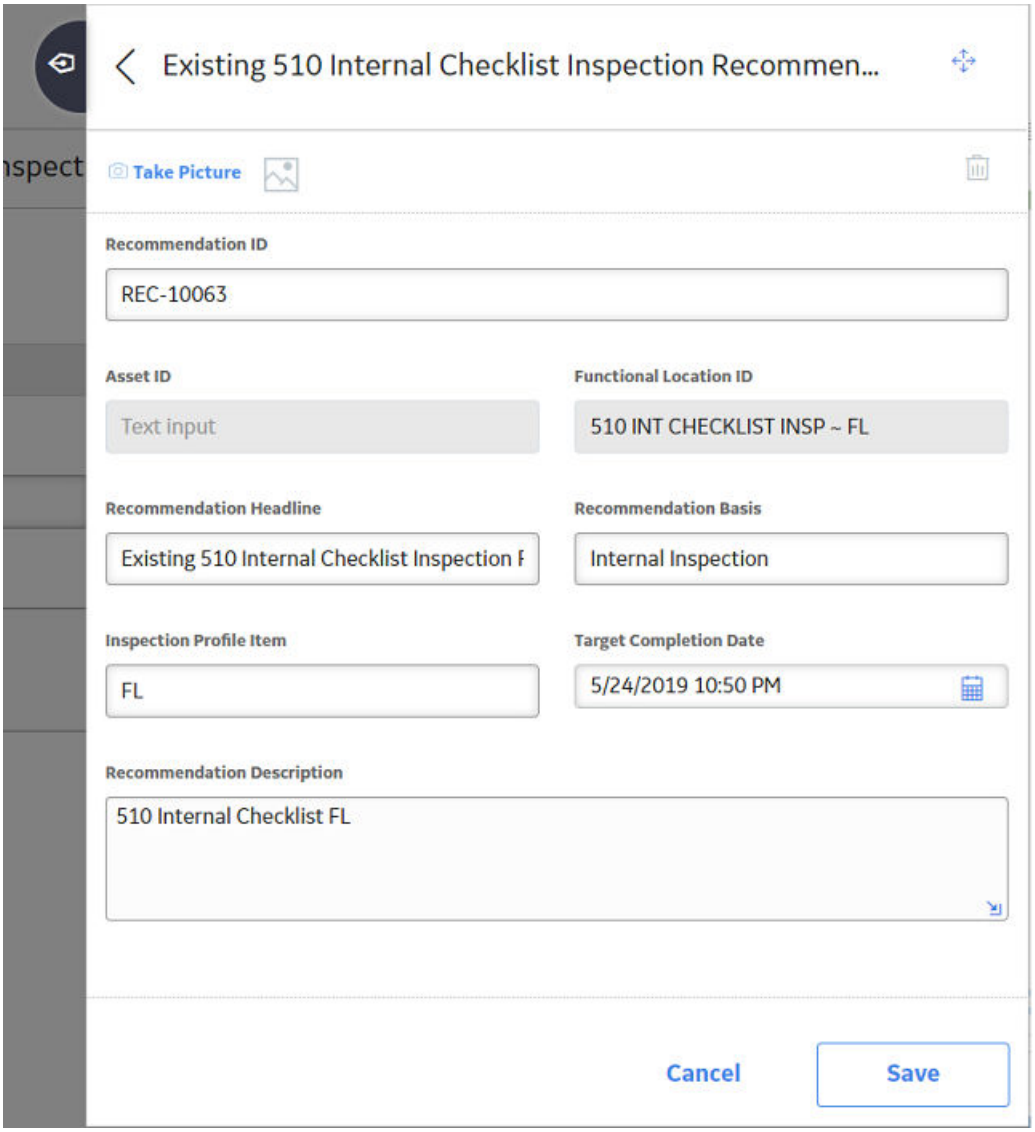
Important:

- You can only delete newly created offline Inspection Recommendations that have not yet been synced toGE Digital APM.
- You can only view and modify offline inspection recommendations when the **Enable Inspection Recommendations for Inspection Field Data Collection** preference is set to true.

Procedure

1. Access Inspection Recommendations.
2. In the **Recommendations** pane, select the recommendation that you want to delete.
   In the workspace, the Inspection Recommendation offline form appears.

© 2020 General Electric Company



3. In the upper-right corner of the Inspection Recommendation offline form, select .
   A message appears, asking you to confirm that you want to delete the selected Inspection Recommendation.
4. Select **Yes**.
   The Inspection Recommendation is deleted.

© 2020 General Electric Company

Chapter 4

Reference

Topics:

- Offline Inspection Families
- Inspection Field Data Collection URLs
- Overview Queries Folder

© 2020 General Electric Company

Offline Inspection Families

The following baseline Inspection families are available in Inspection Field Data Collection:

Family Caption	Related Families Enabled for Offline Forms	Offline Form Caption
API 510 External Checklist	None	API 510 External Checklist Offline Form
API 510 Internal Checklist	None	API 510 Internal Checklist Offline Form
API 510 Internal Exchanger Checklist	None	API 510 Internal Exchanger Checklist Offline Form
API 570 External Checklist	None	API 570 External Checklist Offline Form
API 653 External Checklist	None	API 653 External Checklist Offline Form
API 653 Internal Checklist	None	API 653 Internal Checklist Offline Form
Bundle Sub-Inspection	None	Bundle Sub-Inspection Offline Form
Checklist Finding	None	Checklist Finding Offline Form
External PRD Checklist	None	External PRD Checklist Offline Form
Full Inspection	Bundle Sub-Inspection, Pressure Test Sub-Inspection, General Finding	Full Inspection Offline Form
General Finding	None	General Finding Offline Form
General Inspection	Pressure Test Sub-Inspection, General Finding	General Inspection Offline Form
Inspection Recommendation	None	Inspection Recommendation
PRD Pop Test Checklist	None	PRD Pop Test Checklist Offline Form
Pressure Test Sub Inspection	None	Pressure Test Sub-Inspection Offline Form

Field Behavior for Offline Inspections

In order for any field to work in offline forms, baseline behaviors are defined for required fields.

Important: If you have customized any of the following behaviors in previous versions of GE Digital APM, then your customizations will be overwritten with the offline baseline behaviors listed below.

© 2020 General Electric Company

Offline Family	Field Caption	Field Behavior	Resulting Offline Behavior
Bundle Inspection	Action This Inspection	Default Value	The literal value NO ACTION.
		Valid Value	Populated by the MI BUNDLE ACTION System Code and Table.
	Bundle Type	Valid Value	Populated by the MI BUNDLE TYPE System Code and Table.
	Total Number of Tubes in Bundle	Default Value	The literal value 0.
	Tubes Plugged During This Inspection	Default Value	The literal value 0.
	Tubes (Plugged At Start) Replaced	Default Value	The literal value 0.
	Tubes Plugged at Inspection Start	Default Value	The literal value 0.
	Tubes (Not Previously Plugged) Replaced	Default Value	The literal value 0.
Checklist Finding	Action Taken Code	Default Value	The literal value NONE.
		Valid Value	Populated by the FROM MI ACTION System Code and Table where the value in the MI INSPECTION REFERENCES field equals INSPECTION FINDING ACTION.
	Deterioration Mechanism	Valid Value	Populated by the MI DAMAGE MECHANISM System Code and Table.
	Deterioration Mode	Valid Value	Populated by the MI DAMAGE MODE System Code and Table.
	Type	Default Value	The literal value OBSERVATION.
		Valid Value	Populated by the MI FINDING TYPE System Code and Table.

© 2020 General Electric Company

Offline Family	Field Caption	Field Behavior	Resulting Offline Behavior
Inspection	Asset ID	Disable Value	Always disabled.
	Equipment Operating State	Valid Value	Populated by the FROM MI EQUIP OP STATE System Code and Table where the value in the MI INSPECTION REFERENCES field equals INSPECTION EQUIPMENT STATE.
	Functional Location ID	Disable Value	Always disabled.
Inspection Recommendation	Asset ID	Disable Value	Always disabled.
	Functional Location ID	Disable Value	Always disabled.
	Recommendation ID	Disable Value	Always disabled.
	Target Completion Date	Required	Always required.
PRD Pop Test Checklist	As Found Pop Pressure	Validation	Greater than or equal to 0.
	As Left Pop Pressure	Validation	Greater than or equal to 0.
	Design Set Pressure	Validation	Greater than or equal to 0.
	Leak Category	Valid Value	Populated by the MI INSPECTION LEAK CATEGORY System Code and Table.
	Leak Test Results	Valid Value	Populated by the FROM MI INSPECTION RESULT System Code and Table where the value in the MI RBI REFERENCES field equals MI INSP RESULTS LEAK.
	Over Pressure Test Results	Valid Value	Populated by the FROM MI INSPECTION RESULT where the value in the MI RBI REFERENCES field equals MI INSP RESULTS OVER PRESSURE.
	Test Media (Shell)	Valid Value	Populated by the MI TEST MEDIA System Code and Table.
	Test Media (Tube)	Valid Value	Populated by the MI TEST MEDIA System Code and Table.

Inspection Field Data Collection URLs

There is one URL route associated with Inspection Field Data Collection: **im/offline**. The following table describes the various paths that build on the route, and the elements that you can specify for each.

© 2020 General Electric Company

Element	Description	Accepted Value(s)	Notes
im/offline/overview: Displays the **Inspection Field Collection** page. **im/offline/form/<FormFamilyKey>/inspection/<InspectionEntityKey>**: Displays the offline **Inspection Details** section for the selected inspection.			
<FormFamilyKey>	Specifies the Offline Inspection Form that you want to view.	Any related Form Family Key.	N/A
<InspectionEntityKey>	Specifies the Inspection for which you want to view information.	Any related Inspection Entity Key.	N/A

Example URL

Example URL	Destination
im/offline/form/2052484/inspection/3221525	The offline **Inspection Details** section of the inspection.

Overview Queries Folder

The Catalog folder `\\Public\Meridium\Modules\Inspection\Overview Queries` contains queries that are used on the **Inspection Field Data Collection Overview** page.

The following table provides a list of queries that are used on the **Inspection Field Data Collection Overview** page along with a list of required fields and their alias names for each query.

Important: The queries in the table below may have one or more required fields or parameters. When using the queries:

- Do not remove the required fields from a query.
- Do not change the alias of the required fields.
- Do not modify the order of required fields.
- Do not modify the IDs of the query parameters.

If you do so, you cannot perform certain operations in the **Inspection Field Data Collection Overview** page.

© 2020 General Electric Company

Query Name	Behavior and Usage	Required Fields
All Downloaded Inspections	Returns a list of inspections which are currently downloaded for Inspection Field Data Collection.	ENTY_KEY (Alias Name: ENTY_KEY)
User Downloaded Inspections	Returns a list of open inspections where the current user is the Inspection Report Owner or Inspection Report Reviewer. This query is used to display results in the **My Open Inspections** section of the **Inspection Field Data Collection** Overview page.	ENTY_KEY (Alias Name: Inspection Entity Key MI_INSP_001_LOCK_INSP_L (Alias Name: Inspection Lock) MI_INSP_001_DWNLDED_F (Alias Name: Downloaded)
User Downloaded Inspections (including team members)	Returns a list of open inspections where the current user is the Inspection Report Owner, Inspection Report Reviewer, or a member of the team assigned to the Inspection Report. This query can be used to display results in the **My Open Inspections** section of the **Inspection Field Data Collection Overview** page by copying the SQL code from the query editor into the query located at `\\Public\Meridium\Modules\Inspection\Overview Queries\Users Downloaded Inspections`.	ENTY_KEY (Alias Name: Inspection Entity Key MI_INSP_001_LOCK_INSP_L (Alias Name: Inspection Lock) MI_INSP_001_DWNLDED_F (Alias Name: Downloaded)

© 2020 General Electric Company

Chapter 5

Release Notes

Topics:

- Second Quarter of 2020

© 2020 General Electric Company

Second Quarter of 2020

V4.4.0.0.0

This topic provides a list of product changes released for this module in this version.

Table 1: Enhancements and New Features

The following enhancements and new features have been added.

Description	Tracking ID
The Inspection Field Data Collection module has new enhancements in this release and enables you to perform the following actions: • You can download an Inspection report from Inspection Field Data Collection Overview, under the new tab My Open Inspections. • You can track the life cycle of a mobile inspection and find out if an inspection is currently downloaded, the last inspector who downloaded an inspection, and the last inspector who synced the inspection to APM. • You can now remove a downloaded inspection from your mobile device. • An Inspection Administrator can re-enable inspection reports that are currently downloaded to a device. Re-enabling an Inspection report allows the Inspection report to be downloaded by another inspector. • An Inspection Administrator has an option to disable the Inspection Recommendation workflow from Inspection Field Data Collection.	F45130

© 2020 General Electric Company