

## **Inspection Field Data Collection**



© 2022 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                      | 3  |
| Chapter 2: About Inspection Field Data Collection              | 4  |
| About Full and General Inspection Offline Forms                | 5  |
| About Checklist Inspection Offline Forms                       | 5  |
| About the Recommendation Offline Form                          | 7  |
| About the Inspection History Report                            | 8  |
| Access Inspections Assigned to You                             | 9  |
| Download Offline Inspections                                   | 9  |
| Enable Downloaded Inspections to be Downloaded by Another User | 11 |
| Complete Inspection Field Data Collection                      | 11 |
| Access Reference Document Images                               | 12 |
| Access the Inspection History Report                           | 14 |
| Add a Reference Document Image                                 | 15 |
| Remove Inspections from a Device                               | 16 |
| Synchronize Offline Inspections                                | 17 |
|  |    |

| <b>Chapter 3: About Inspection Field Data Collec</b> | tion |
|--|------|
| Recommendations                                      |      |

19 Access Offline Inspection Recommendations 20 Create Offline Inspection Recommendations 20 Modify Offline Inspection Recommendations 21 Enable Inspection Recommendations for Inspection Field Data Collection 21 Delete Offline Inspection Recommendations 22

| Chapter 4: Reference        | 23 |
|-----------------------------|----|
| Offline Inspection Families | 24 |

| Inspection Field Data Collection URLs | 26 |
|---------------------------------------|----|
| Overview Queries Folder               | 27 |

## **Copyright GE Digital**

© 2022 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

## **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 **Applications** menu, navigate to the **INTEGRITY** section, and then select **Inspection Field Data Collection**.

The **Inspection Field Data Collection Overview** page appears, displaying a list of inspections that you have downloaded. The **My Open Inspections** section displays inspections that are assigned to you, and are available for download for inspection field data collection.

The **Pending** section displays a list of downloaded inspections that can be accessed offline.

In this section, downloaded inspections are grouped 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.

The **Ready to Sync** section displays a list of downloaded inspections for which field data has been collected. These inspections are ready to be synced with your GE Digital APM database.

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.

## **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.

## 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
- 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

## **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.

#### **General Inspection Offline Form**

This section displays information that is stored in the offline General Inspection record.

#### **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.

#### **Bundle Sub-Inspection Offline Form**

This section displays information that is stored in the offline Bundle Sub Inspection record.

#### **Pressure Test Sub-Inspection Offline Form**

This section displays information that is stored in the offline Pressure Test Sub Inspection record.

## **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

**Note:** If you are completing completed inspection data for a checklist event that has health evaluations created, the offline form and data for the Inspection Health Evaluations are automatically downloaded along with the inspection.

**Note:** Each checklist category section displays an icon specific to that category and has a Health Assessment card including all Checklist Finding Items. This helps in defining the health assessment value and comments.

#### **API 510 External Checklist Offline Form**

This section displays information that is stored in the offline API 510 External Checklist record.

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.

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

- Shell
- Head
- Nozzles
- Internals
- Linings

#### **API 510 Internal Exchanger Checklist Offline Form**

This section displays information that is stored in the offline API 510 Internal Exchanger Checklist record.

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.

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.

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

- General
- Connections
- Supports

#### **API 653 Internal Checklist Offline Form**

This section displays information that is stored in the offline API 653 Internal Checklist record.

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.

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.

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.

## **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.

## **Inspection History Report**

| Asset Details              |          |  |                           |
|----------------------------|----------|--|---------------------------|
| Functional Location ID     | MRD-MI-  | TEST-RBI-DLOAD-EQUIP ~ RBI Dataloa       | der Equipment             |
| Asset ID                   | ~ ~ RB   | I DL EQU10                               |                           |
| Inspection History         |          |  |                           |
|                            | INSP-61  | 11                                       |                           |
| Inspection Reference       |          |  |                           |
| Completion Date            | 4/30/201 | /  |                           |
| Inspection Summary         |          |  |                           |
| General Findings           |          |  |                           |
| Inspection Profile Item    |          | Inspection Method Item                   | Туре                      |
| ANNULAR PLATE              |          | Acoustic Emission (AE)                   | Observation (OBSERVATION) |
| Damage Mode                |          | As Found Degradation Mechanism           | Action Taken Code         |
| Corrosion - General (CORRO | OSION -  | General Corrosion (GENERAL               | None (NONE)               |
| GENERAL)                   |          | CORROSION)                               |                           |
| Finding Summary            |          | Test Finding Summary                     |                           |
| Inspection Profile Item    |          | Inspection Method Item                   | Туре                      |
| 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                   | Туре                      |
| No Data Available          |          | No Data Available                        | Observation (OBSERVATION) |
| Damage Mode                |          | As Found Degradation Mechanism           | Action Taken Code         |
| Blistering (BLISTERING)    |          | General Corrosion (GENERAL<br>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.

**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 an inspection from the **My Open Inspections** page, you must be one of the following:

- A Report Owner on inspections with status Draft or Re-Referred.
- A Reviewer of inspections with status Pending Approval State.

#### Procedure

- 1. Access the Inspection Field Data Collection Overview page.
- Select the My Open Inspections tab.
  The My Open Inspections section appears, displaying a list of inspections that have been assigned to

#### **Next Steps**

you.

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
- 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

- 1. Access the Inspection Field Data Collection Overview page.
- 2. Select the My Open Inspections tab.

The **My Open Inspections** section appears, displaying a list of inspections that have been assigned to you.

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

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

**Important:** The  $\stackrel{\checkmark}{\longrightarrow}$  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. To mitigate this, you can download a maximum of 50 inspections at a time.

4. Select Yes.

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

5. 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.

#### Results

• Downloaded inspections will appear under the **Pending** section of 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 Overview page.
- Select the View Downloaded Inspections. The All Downloaded Inspections page appears, displaying a list of currently downloaded inspection.
- 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 Overview 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.

- 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.

**Note:** If you are completing the inspection data for a checklist event that has health evaluations created, the offline form and data for the Inspection Health Evaluations are automatically downloaded along with the inspection. The header of the mobile inspection displays an icon representing the overall health. Each checklist category section displays a similar icon specific for that category and has a Health Assessment card for defining the health assessment value and comments.

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

### Images for INSP-210 (Full Inspection)



Description:





- 4. On the Images for <Inspection Name> window, you can:
  - Use the  $\leq$  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 imes , and then select **Yes** to delete the image.
- 5. Select Close.

The **Inspection Details** section for the selected Inspection appears.

## **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 Overview 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**. The Inspection History report appears.

## **Inspection History Report**

| Asset Details                          |          |   |                                   |
|--|----------|---|-----------------------------------|
| Functional Location ID                 |          | TEST-RBI-DLOAD-EQUIP ~ RBI Dataloa                                  | der Equipment                     |
| Asset ID                               | ~ ~ RE   | I DL EQU10  |                                   |
| Inspection History                     |          |   |                                   |
| Inspection Reference                   | INSP-6   | 11  |                                   |
| Completion Date                        | 4/30/201 | 7   |                                   |
| Inspection Summary                     |          |   |                                   |
| General Findings                       |          |   |                                   |
| Inspection Profile Item                |          | Inspection Method Item  | Туре                              |
| ANNULAR PLATE                          |          | Acoustic Emission (AE)  | Observation (OBSERVATION)         |
| Damage Mode                            |          | As Found Degradation Mechanism                                      | Action Taken Code                 |
| Corrosion - General (CORRO<br>GENERAL) | OSION -  | General Corrosion (GENERAL<br>CORROSION)                            | None (NONE)                       |
| Finding Summary                        |          | Test Finding Summary  |                                   |
| In an action Deafile Itam              |          | Inconstion Mathead Item   | Tura                              |
| Inspection Profile Item<br>BEARINGS    |          | Inspection Method Item  | Type<br>Observation (OBSERVATION) |
| Damage Mode                            |          | Penetrant Testing - Visible (PTV)<br>As Found Degradation Mechanism | Action Taken Code                 |
| No Data Available                      |          | No Data Available   | None (NONE)                       |
|  |          | No Data Available   |                                   |
| Finding Summary                        |          | No Data Available   |                                   |
| Inspection Profile Item                |          | Inspection Method Item  | Туре                              |
| No Data Available                      |          | No Data Available   | Observation (OBSERVATION)         |
| Damage Mode                            |          | As Found Degradation Mechanism                                      | Action Taken Code                 |
| Blistering (BLISTERING)                |          | General Corrosion (GENERAL<br>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.

#### 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.

#### 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.
- 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.

#### **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 Overview page.
- 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.

-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 <sup>▲</sup> <#> Errors.
  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.

## 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

## **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 Overview page.
- 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.

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 Overview page.
- Select the inspection for which you want to create a recommendation. The corresponding offline inspection form appears, displaying the Inspection Details section.
- 3. Optionally, if you want to create a recommendation for either a General Finding or a Checklist

Inspection record, select  $\leq$  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.
- 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.

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.
- 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 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.



## Enable Inspection Recommendations for Inspection Field Data Collection

#### Procedure

1. Access the Inspection Configuration workspace.

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

## Chapter 4

## Reference

#### **Topics:**

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

## **Offline Inspection Families**

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

| Family Caption                       | Related Families Enabled for Offline<br>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<br>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<br>Sub-Inspection, General Finding | Full Inspection Offline Form                         |
| General Finding                      | None  | General Finding Offline Form                         |
| General Inspection                   | Pressure Test Sub-Inspection, General<br>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 Forn            |

#### **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.

| Offline Family    | Field Caption                              | Field Behavior | <b>Resulting Offline Behavior</b>  |
|-------------------|--|----------------|--|
| Bundle Inspection | Action This Inspection                     | Default Value  | The literal value NO ACTION.   |
|                   |  | Valid Value    | Populated by the MI BUNDLE<br>ACTION System Code and<br>Table.   |
|                   | Bundle Type                                | Valid Value    | Populated by the MI BUNDLE<br>TYPE System Code and Table.  |
|                   | Total Number of Tubes in<br>Bundle         | Default Value  | The literal value 0.   |
|                   | Tubes Plugged During This<br>Inspection    | Default Value  | The literal value 0.   |
|                   | Tubes (Plugged At Start)<br>Replaced       | Default Value  | The literal value 0.   |
|                   | Tubes Plugged at Inspection<br>Start       | Default Value  | The literal value 0.   |
|                   | Tubes (Not Previously Plugged)<br>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<br>ACTION System Code and<br>Table where the value in the<br>MI INSPECTION REFERENCES<br>field equals INSPECTION<br>FINDING ACTION. |
|                   | Deterioration Mechanism                    | Valid Value    | Populated by the MI DAMAGE<br>MECHANISM System Code and<br>Table.  |
|                   | Deterioration Mode                         | Valid Value    | Populated by the MI DAMAGE<br>MODE System Code and Table.  |
|                   | Туре                                       | Default Value  | The literal value<br>OBSERVATION.  |
|                   |  | Valid Value    | Populated by the MI FINDING<br>TYPE System Code and Table.   |

| Offline Family            | Field Caption              | Field Behavior | <b>Resulting Offline Behavior</b>  |
|---------------------------|----------------------------|----------------|--|
| Inspection                | Asset ID                   | Disable Value  | Always disabled.   |
|                           | Equipment Operating State  | Valid Value    | Populated by the FROM MI<br>EQUIP OP STATE System Code<br>and Table where the value in<br>the MI INSPECTION<br>REFERENCES field equals<br>INSPECTION EQUIPMENT<br>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<br>INSPECTION LEAK CATEGORY<br>System Code and Table.  |
|                           | Leak Test Results          | Valid Value    | Populated by the FROM MI<br>INSPECTION RESULT System<br>Code and Table where the<br>value in the MI RBI<br>REFERENCES field equals MI<br>INSP RESULTS LEAK.              |
|                           | Over Pressure Test Results | Valid Value    | Populated by the FROM MI<br>INSPECTION RESULT where<br>the value in the MI RBI<br>REFERENCES field equals MI<br>INSP RESULTS OVER<br>PRESSURE.                           |
|                           | Test Media (Shell)         | Valid Value    | Populated by the MI TEST<br>MEDIA System Code and Table.   |
|                           | Test Media (Tube)          | Valid Value    | Populated by the MI TEST<br>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.

| Element   | Description  | Accepted Value(s)                     | Notes                           |
|---|--|---------------------------------------|---------------------------------|
| im/offline/overview: Displays t   | he Inspection Field Collection p                                       | bage.                                 |                                 |
| im/offline/form/ <formfamilykey>/inspection/<inspectionentitykey>: Displays the offline Inspection Details section for the selected inspection.</inspectionentitykey></formfamilykey> |  |                                       | pection Details section for the |
| <formfamilykey> Specifies the Offline Inspect<br/>Form that you want to view.</formfamilykey>   |  | Any related Form Family Key.          | N/A                             |
| <inspectionentitykey></inspectionentitykey>   | Specifies the Inspection for<br>which you want to view<br>information. | Any related Inspection Entity<br>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.

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