



TFS-CMMS

Computerized Maintenance Management System

System Testing Procedure

End-to-End Workflow Validation

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1. Introduction

1.1. Purpose

This document provides step-by-step procedures for testing the TFS-CMMS system workflows. It covers the complete inspection report lifecycle from creation through QC approval, including Material Request Form (MRF) generation and the rejection/correction workflow.

1.2. Test Environment

Before beginning testing, ensure:

- The TFS-CMMS server is running and accessible
- Test user accounts are configured for each role
- The database contains sample sites and work orders

1.3. Roles Involved

Role	Responsibilities in Testing
Inspector	Creates inspection reports, adds deficiencies, generates MRFs, submits for QC
QC Manager	Assigns reports to QC reviewers, monitors workflow
QC Reviewer	Reviews reports and MRFs, approves or rejects with comments
Administrator	System configuration, user management, troubleshooting

2. Test 1: Inspection Report Creation

2.1. Objective

Verify that an Inspector can create a complete inspection report with deficiencies and an MRF.

2.2. Prerequisites

- Inspector account is active
- At least one work order exists in the system
- Site configuration is complete

2.3. Procedure

2.3.1. Step 1.1: Login as Inspector

1. Navigate to the TFS-CMMS login page
2. Enter Inspector credentials
3. Click **Login**
4. Verify the Dashboard displays correctly

Expected Result: Dashboard shows Inspector-specific view with pending work and recent activity.

2.3.2. Step 1.2: Access Work Orders

1. Click **Work Orders** in the navigation menu
2. Locate an existing work order or create a new one
3. Click on the work order number to open details

2.3.3. Step 1.3: Create Inspection Report

1. From the work order detail page, click **Create Inspection Report**
2. Complete the report header:
 - Select **Site** from dropdown
 - Enter **Building Number**
 - Select **Building Type**
 - Select **System Voltage** (determines code standard)
 - Select **Inspection Phase** (Initial Inspection or Re-Inspection)
 - Enter **Team Number**
 - Set **Inspection Date**
3. Click **Create Report**

Expected Result: Report is created with status "Draft" and unique report number generated.

2.3.4. Step 1.4: Upload Building Image

1. In the Building Picture section, click **Choose File**
2. Select a building photograph
3. Click **Upload Image**

Expected Result: Image displays in the report and is stored in the uploads directory.

2.3.5. Step 1.5: Add Deficiencies

1. Click **Add Deficiency**
2. Complete the deficiency form:
 - Enter **Location Description**
 - Select **Deficiency Category**
 - Select **Equipment Category**
 - Select **Code Reference** (auto-filtered by voltage)
 - Set **RAC Score** (1-5)
 - Enter **Description** of the deficiency
 - Upload deficiency photograph (optional)
3. Click **Save Deficiency**
4. Repeat for additional deficiencies as needed

Expected Result: Each deficiency appears in the deficiencies table with correct details.

2.3.6. Step 1.6: Set MRF Required

1. In the Update Report section, locate **MRF Needed?** dropdown
2. Select **Yes**
3. Enter **Overall Rating**
4. Enter **Summary of Findings**
5. Click **Save Changes**

Expected Result: MRF section appears showing auto-generated MRF with View/Edit and Print buttons.

2.3.7. Step 1.7: Add Items to MRF

1. Click **View/Edit MRF**
2. Review MRF header information (auto-populated from report)
3. Click **Add Item**
4. Search for inventory item or enter manually:
 - Part Number
 - Description/Nomenclature
 - Quantity Requested
 - Unit of Measure
 - Type (Material or Tool)
 - Remarks (optional)
5. Click **Add Item**
6. Repeat for additional materials needed

Expected Result: MRF items table shows all added materials with correct details.

2.3.8. Step 1.8: Submit Report for QC

1. Return to the inspection report (click report link or use breadcrumb)
2. Scroll to **Signatures & QC** section
3. Enter **Inspector 1 Name**
4. Enter **Inspector 2 Name** (if applicable)
5. Click **Submit for QC Review**

Expected Result: Report status changes to "Pending QC". Report is no longer editable by Inspector.

3. Test 2: QC Manager Assignment

3.1. Objective

Verify that a QC Manager can view pending reports and assign them to QC reviewers.

3.2. Prerequisites

- QC Manager account is active
- At least one report is in "Pending QC" status
- QC Reviewer accounts exist

3.3. Procedure

3.3.1. Step 2.1: Login as QC Manager

1. Log out of Inspector account
2. Login with QC Manager credentials
3. Verify Dashboard displays QC Manager view

Expected Result: Dashboard shows pending QC count and unassigned reports prominently displayed.

3.3.2. Step 2.2: View Pending Reports

1. The Dashboard displays reports pending QC review
2. Unassigned reports appear at the top of the list
3. Each report shows:
 - Report number
 - Site name
 - Building number
 - Submission date
 - Current assignment status

3.3.3. Step 2.3: Assign Report to QC Reviewer

1. Locate the report submitted in Test 1
2. In the **Assigned To** column, click the dropdown
3. Select a QC Reviewer from the list
4. The form auto-submits on selection

Expected Result: Report shows assigned QC Reviewer name. Report moves down in the list (assigned reports appear after unassigned).

3.3.4. Step 2.4: Verify Assignment

1. Refresh the page
2. Confirm the assignment persists
3. The assigned QC Reviewer's name displays in the table

4. Test 3: QC Review and Approval

4.1. Objective

Verify that a QC Reviewer can review an assigned report and approve it.

4.2. Prerequisites

- QC Reviewer account is active
- Report has been assigned to this QC Reviewer

4.3. Procedure

4.3.1. Step 3.1: Login as QC Reviewer

1. Log out of QC Manager account
2. Login with QC Reviewer credentials
3. Verify Dashboard displays assigned reports

Expected Result: Dashboard shows only reports assigned to this QC Reviewer.

4.3.2. Step 3.2: Open Report for Review

1. Click **Process** button next to the assigned report
2. Review all report sections:
 - Header information (site, building, dates)
 - Building photograph
 - Deficiencies list with photos
 - Summary and overall rating

4.3.3. Step 3.3: Review Linked MRF

1. Locate the **Material Request Form (MRF)** section
2. Verify MRF details display:
 - MRF Number
 - Status
 - Item count
3. Click **View/Edit MRF** to review full MRF
4. Verify materials listed match deficiencies found
5. Click **Print MRF** to verify print layout (opens in new tab)
6. Return to inspection report

QC Check: Ensure MRF materials are appropriate for the deficiencies identified. Materials should match the scope of repairs needed.

4.3.4. Step 3.4: Approve Report

1. Scroll to **Signatures & QC** section
2. Enter **QC Name** (may be pre-filled)
3. Optionally enter **Comments**

4. Click **Approve**

Expected Result:

- Report status changes to “Complete”
- Deficiencies sync to Master Tracker
- PDF download button becomes available
- Re-inspection option appears (for Initial Inspections)

4.3.5. Step 3.5: Verify Master Tracker Sync

1. Navigate to **Master Tracker**
2. Filter by the site/building from the approved report
3. Verify all deficiencies appear with correct:
 - Camp assignment
 - Building number
 - Deficiency numbers
 - Categories and statuses
 - Inspection date and phase

5. Test 4: QC Review and Rejection

5.1. Objective

Verify that a QC Reviewer can reject a report with comments and the Inspector can correct and resubmit.

5.2. Prerequisites

- A new report in “Pending QC” status (repeat Test 1 Steps 1.1-1.8)
- Report assigned to QC Reviewer

5.3. Procedure

5.3.1. Step 4.1: Login as QC Reviewer

1. Login with QC Reviewer credentials
2. Open the assigned report for review

5.3.2. Step 4.2: Identify Issues

For testing purposes, identify issues such as:

- Missing or unclear location descriptions
- Incorrect code references
- Missing photographs
- MRF materials don't match deficiencies
- Incomplete summary

5.3.3. Step 4.3: Reject Report

1. Scroll to **Signatures & QC** section
2. Enter **QC Name**
3. Enter detailed **Comments** explaining required corrections:
 - Be specific about what needs to be fixed
 - Reference specific deficiency numbers if applicable
 - Note any MRF discrepancies
4. Click **Reject**

Expected Result: Report status changes to “QC Rejected”. Rejection count increments.

5.3.4. Step 4.4: Login as Inspector

1. Log out of QC Reviewer account
2. Login with Inspector credentials
3. Dashboard should indicate rejected report

5.3.5. Step 4.5: View Rejection Comments

1. Open the rejected report
2. Locate the rejection notice showing:
 - QC name who rejected

- Rejection count
- Detailed comments

Expected Result: Report is editable again. All QC comments are visible.

5.3.6. Step 4.6: Make Corrections

1. Address each issue noted in QC comments:
 - Edit deficiencies as needed
 - Update report details
 - Modify MRF items if required
2. Save all changes

5.3.7. Step 4.7: Resubmit for QC

1. Scroll to **Signatures & QC** section
2. Inspector names may be pre-filled from previous submission
3. Click **Resubmit for QC Review**

Expected Result: Report status returns to "Pending QC". Report appears in QC queue again.

5.3.8. Step 4.8: QC Re-review and Approve

1. Login as QC Reviewer
2. Open the resubmitted report
3. Verify corrections were made
4. Approve the report

6. Test 5: MRF Standalone Creation

6.1. Objective

Verify that an MRF can be created independently (not linked to an inspection report).

6.2. Procedure

6.2.1. Step 5.1: Access MRF Module

1. Login as Inspector or authorized user
2. Click **MRF** in the navigation menu
3. Click **New MRF**

6.2.2. Step 5.2: Create MRF

1. Select **Base** from dropdown (populated from sites)
2. Enter **Building Number/Name**
3. Enter **Camp Name** (optional)
4. Enter **Team Number**
5. Enter **Requestor Name**
6. Click **Create MRF**

Expected Result: MRF created with auto-generated MRF number in format: Base-Building-MRF-DD-MM-YY

6.2.3. Step 5.3: Add Items and Print

1. Add material items as in Test 1, Step 1.7
2. Click **Print MRF** to generate printable version
3. Verify print layout includes:
 - TFS logo
 - Contract number (from system settings)
 - All header fields
 - Items table with line numbers

7. Test 6: Sequential MRF Numbering

7.1. Objective

Verify that multiple MRFs created on the same day for the same building receive sequential suffixes.

7.2. Procedure

7.2.1. Step 6.1: Create First MRF

1. Create an MRF for a specific base and building
2. Note the MRF number (e.g., "Camp Arifjan-Bldg123-MRF-22-12-24")

7.2.2. Step 6.2: Create Second MRF Same Day

1. Create another MRF for the **same** base and building
2. Note the MRF number

Expected Result: Second MRF has suffix "-01" (e.g., "Camp Arifjan-Bldg123-MRF-22-12-24-01")

7.2.3. Step 6.3: Create Third MRF Same Day

1. Create a third MRF for the same base and building
2. Verify MRF number has suffix "-02"

8. Test 7: Admin Settings

8.1. Objective

Verify Administrator can configure system settings including contract number.

8.2. Procedure

8.2.1. Step 7.1: Access Admin Settings

1. Login as Administrator
2. Click **Admin** in navigation
3. Click **Settings**

8.2.2. Step 7.2: Update Contract Number

1. Locate **Contract Number** field
2. Enter new contract number
3. Click **Save Settings**

8.2.3. Step 7.3: Verify Contract Number Usage

1. Create a new MRF
2. Print the MRF
3. Verify the updated contract number appears on the printed form

9. Test 8: User Management

9.1. Objective

Verify Administrator can manage user accounts including electrician type and team assignments.

9.2. Procedure

9.2.1. Step 8.1: Edit User

1. Navigate to **Admin** → **Users**
2. Click **Edit** next to an Inspector account

9.2.2. Step 8.2: Set Electrician Fields

1. Select **Electrician Type**:
 - Master Electrician
 - Journeyman Electrician
2. Enter **Team Number**
3. Click **Save**

9.2.3. Step 8.3: Verify Fields Saved

1. Refresh the page
2. Re-open the user edit form
3. Verify electrician type and team number are preserved

10. Test 9: Re-inspection Workflow

10.1. Objective

Verify that a re-inspection report can be created from a completed initial inspection.

10.2. Prerequisites

- A completed Initial Inspection report exists

10.3. Procedure

10.3.1. Step 9.1: Access Completed Report

1. Navigate to **Inspection Reports**
2. Filter by Status: Complete
3. Open an Initial Inspection report

10.3.2. Step 9.2: Create Re-inspection

1. Click **Create Re-inspection**
2. Enter re-inspection details:
 - Team Number (may differ from original)
 - Inspection Date
3. Click **Create Re-inspection Report**

Expected Result:

- New report created with phase "Re-Inspection"
- All deficiencies copied from original report
- Deficiency statuses can be updated (Open → Closed)
- New report number generated with "Re-Inspection" prefix

10.3.3. Step 9.3: Update Deficiency Statuses

1. Review each copied deficiency
2. Update status for repaired items:
 - Change from "Open" to "Closed / Repaired"
3. Add any new deficiencies found
4. Submit for QC review

11. Test 10: PDF Generation

11.1. Objective

Verify that completed reports can be exported as PDF.

11.2. Procedure

11.2.1. Step 10.1: Access Completed Report

1. Open a report with status "Complete"

11.2.2. Step 10.2: Generate PDF

1. Click **Download PDF**
2. Verify PDF opens or downloads

11.2.3. Step 10.3: Verify PDF Contents

Check that the PDF includes:

- Report header with all details
- Building photograph
- All deficiencies with:
 - Location descriptions
 - Categories and codes
 - RAC scores
 - Photographs
- Summary and signatures
- Proper formatting and logos

12. Test Results Summary

Use this checklist to record test results:

Test	Pass	Fail	Notes
1. Report Creation			
2. QC Manager Assignment			
3. QC Approval			
4. QC Rejection/Resubmit			
5. Standalone MRF			
6. Sequential MRF Numbers			
7. Admin Settings			
8. User Management			
9. Re-inspection Workflow			
10. PDF Generation			

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13. Document Control

Version	Date	Author	Changes
1.0	Dec 2025	TFS Team	Initial release