This user guide provides comprehensive instructions for utilizing the Calibration Sheet Creation Tool, designed to streamline the process of generating electronic calibration sheets for various instruments.

Calibration Sheet Creation Tool

User Guide

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CALIBRATION SHEET CREATION TOOL USER GUIDE

Contents

1- Abstract

This user guide offers detailed instructions for the Calibration Sheet Creation Tool, designed to facilitate the generation of electronic calibration sheets for various instruments. It highlights key features, including automatic integration with the WDDM instrument index, dynamic tag filtering, and automated data population, all aimed at enhancing the efficiency and accuracy of calibration tasks. The guide also outlines procedures for creating calibration sheets for both corrective and preventive maintenance tasks, performing quality checks on test results, and managing personnel. By following this guide, users will improve their calibration processes and ensure compliance with industry standards.

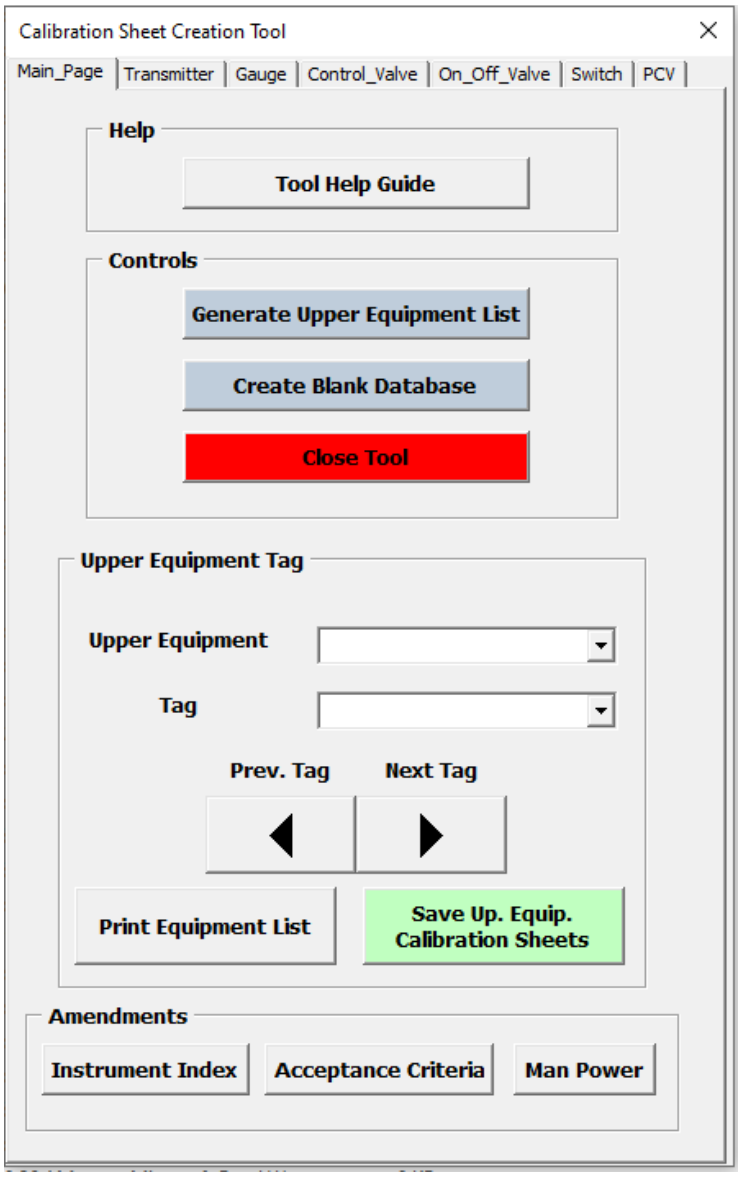


FIGURE 1: CALIBRATION SHEET CREATION TOOL

2- Features

The tool has the following features:

1- **Automatic Integration with WDDM Instrument Index**
The tool is seamlessly linked to the WDDM instrument index, enabling it to automatically retrieve the instrument index along with all associated upper equipment and related tags.

2- **Automatic Population of Basic Tag Information**
The tool automatically fills in essential information for each tag, including:

- Lower Range Value
- Upper Range Value
- Units
- Set Points
- Valve Size

This eliminates the need for manual data entry for each tag.

3- **Automatic Population of Applied Values**
The tool automatically populates the applied values for each tag based on the defined calibration range.

4- **Quality Checking of Test Results**
The tool performs quality checks on the entered test results, ensuring they meet pre-defined acceptance criteria for each instrument type.

5- **Automatic Diversion to Correct Calibration Sheet Form**
Users are automatically directed to the appropriate calibration sheet form based on the selected tag.

6- **Modification of Acceptance Criteria**
Acceptance criteria can be amended as needed; however, this feature is password protected and should be executed by the department head.

7- **Management of Personnel**
To accommodate the high turnover rate, a feature is included to add or remove personnel. This functionality is also password protected for security.

3- Creating a Calibration Sheet for a Single Device (Corrective Tasks)

Users have the capability to create a calibration sheet for a single device, primarily for corrective tasks. To initiate this process, the user can enter the tag or a portion of it directly into the tag box. The tool will dynamically filter the tags based on the entered text.

Once the user selects the desired tag, the tool will redirect them to the appropriate calibration sheet form and automatically populate the basic data. The user can then enter the test results, with the option to print the form only if all test results comply with the acceptance criteria.

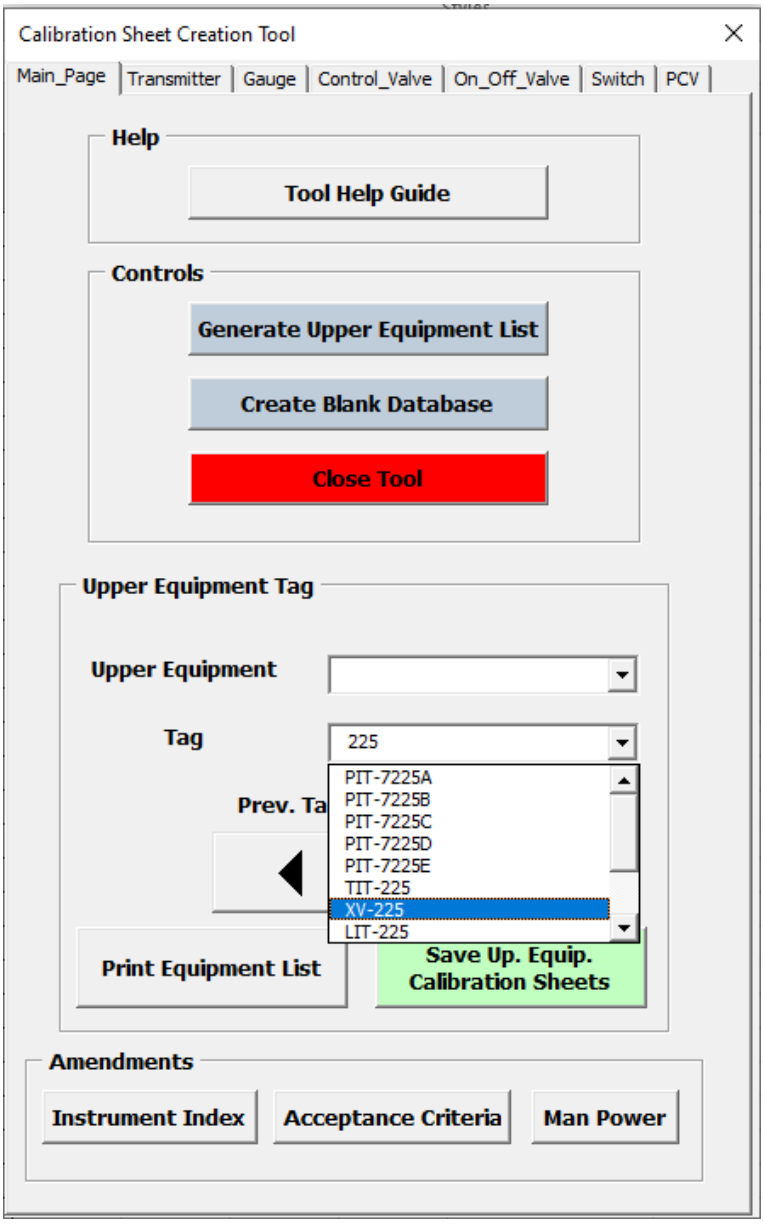


FIGURE 2: SINGLE DEVICE TAG

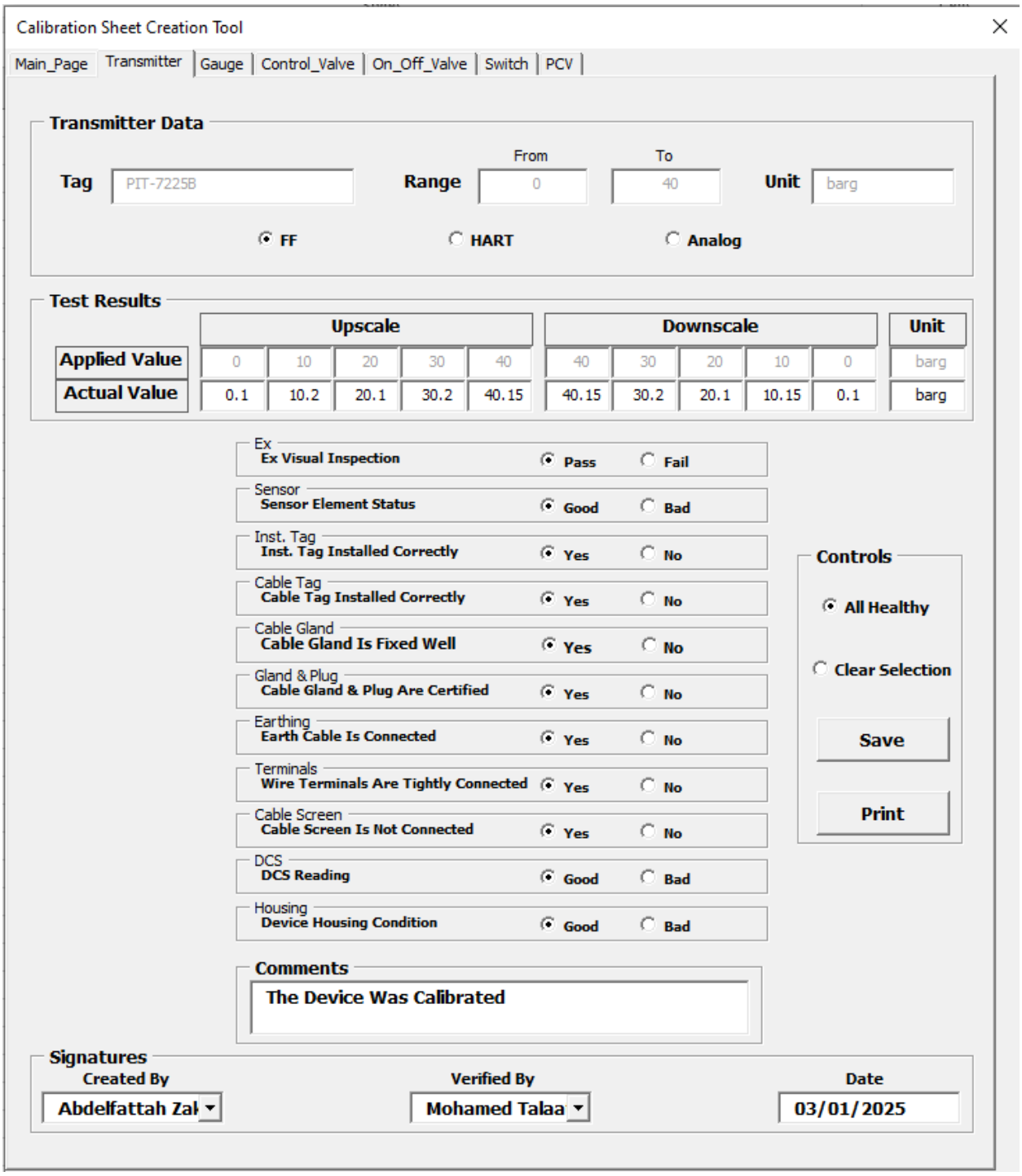
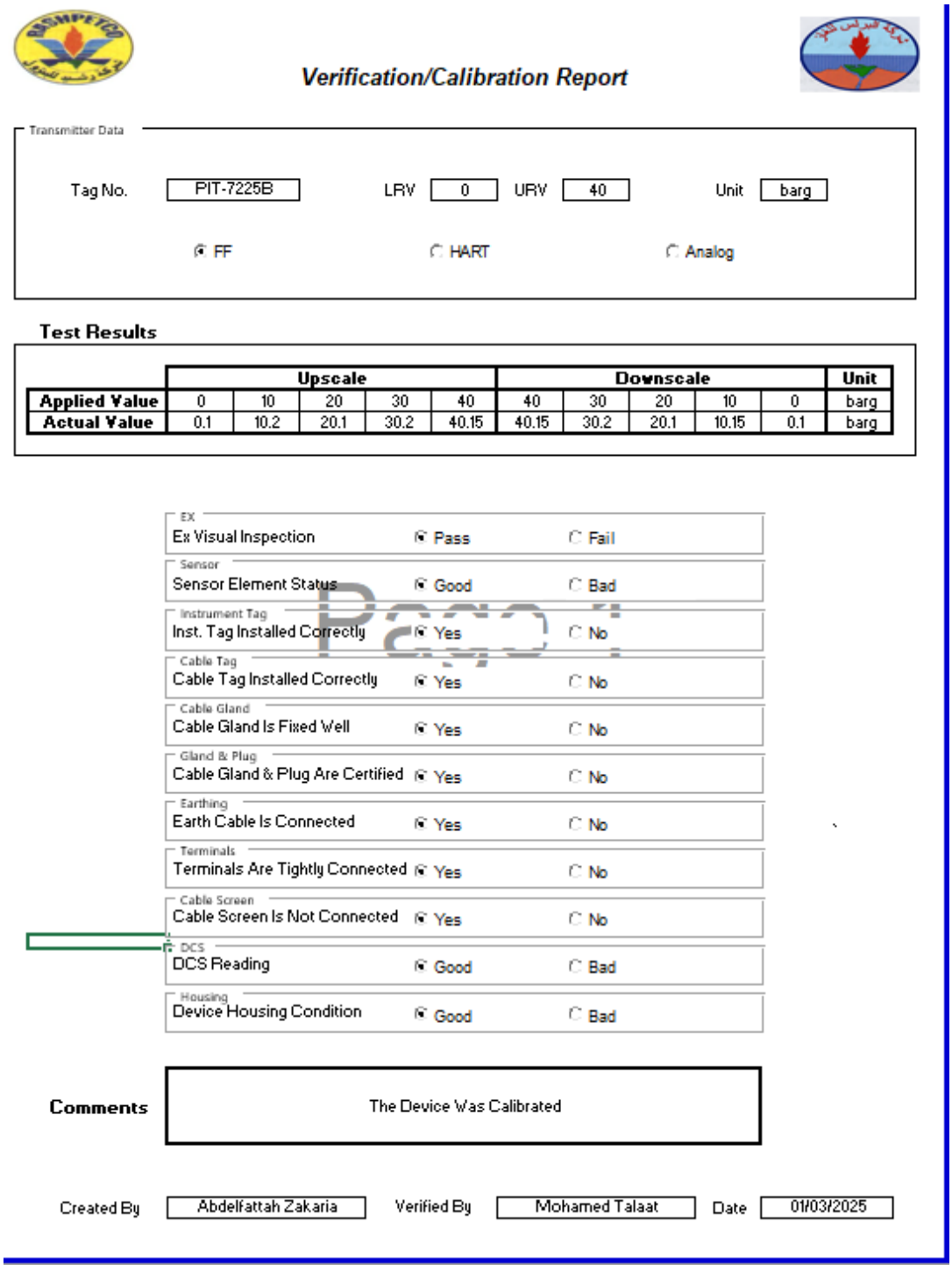


FIGURE 3: SINGLE DEVICE CALIBRATION SHEET FORM



Verification/Calibration Report

Transmitter Data

Tag No. PIT-7225B LRV 0 URV 40 Unit barg

(•) FF ( ) HART ( ) Analog

Test Results

	Upscale					Downscale					Unit
Applied Value	0	10	20	30	40	40	30	20	10	0	barg
Actual Value	0.1	10.2	20.1	30.2	40.15	40.15	30.2	20.1	10.15	0.1	barg

EX — Ex Visual Inspection: (•) Pass ( ) Fail

Sensor — Sensor Element Status: (•) Good ( ) Bad

Instrument Tag — Inst. Tag Installed Correctly: (•) Yes ( ) No

Cable Tag — Cable Tag Installed Correctly: (•) Yes ( ) No

Cable Gland — Cable Gland Is Fixed Well: (•) Yes ( ) No

Gland & Plug — Cable Gland & Plug Are Certified: (•) Yes ( ) No

Earthing — Earth Cable Is Connected: (•) Yes ( ) No

Terminals — Terminals Are Tightly Connected: (•) Yes ( ) No

Cable Screen — Cable Screen Is Not Connected: (•) Yes ( ) No

DCS — DCS Reading: (•) Good ( ) Bad

Housing — Device Housing Condition: (•) Good ( ) Bad

Comments The Device Was Calibrated

Created By Abdelfattah Zakaria Verified By Mohamed Talaat Date 01/03/2025

FIGURE 4: SINGLE DEVICE FINAL CALIBRATION SHEET

4- Creating a Calibration Sheet for Preventive Maintenance Tasks

4.1 Generating Upper Equipment List

4.1.1 Overview

The (Generate Upper Equipment List) feature allows users to automatically create a unique list of upper equipment by fetching data from the instrument database.

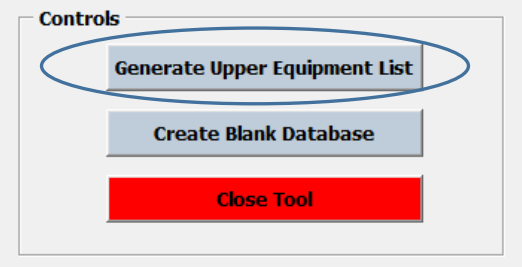


FIGURE 5: GENERATE UPPER EQUIPMENT LIST

4.1.2 How to Use

1. Access the Feature: Navigate to the upper equipment section in the application.
2. Generate the List: Click on the (Generate Upper Equipment List) button. The system will retrieve the necessary information from the instrument database.
3. Select Desired Equipment: Once the list is generated, you can select the upper equipment you need.
4. Print or Create Calibration Sheets:
   4.1 Print Equipment List: Use the (Print Equipment List) button to print a detailed list of the selected instrumentation.
   4.2 Create Calibration Sheets: Start creating calibration sheets for the selected instruments directly from this section.

4.1.3 Notes

Ensure you have the necessary permissions to access the instrument database.
This feature is designed to simplify your workflow by providing quick access to relevant equipment information.

4.2 Creating a Blank Database

4.2.1 Overview

The (Create Blank Database) feature allows users to generate a blank workbook that will be used to save calibration sheets associated with upper equipment.

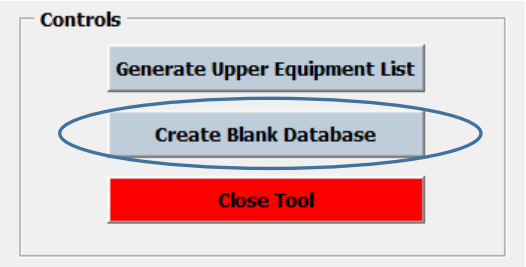


FIGURE 6 : CREATE BLANK DB

4.2.2 How to Use

1. Access the Feature: Go to the section designated for creating a blank database.
2. Create the Workbook: Click on the (Create Blank Database) button. This will generate a new workbook named after the selected upper equipment.
3. Save Calibration Sheets:
   3.1 Once the blank workbook is created, you can save calibration sheets for any tag under this upper equipment.
   3.2 Use the (Save) button on the calibration sheet form to save your entries to the newly created workbook.

4.3 Printing Equipment List

4.3.1 Overview

The (Print Equipment List) feature enables users to print a comprehensive list of devices associated with the selected upper equipment. This printed list includes essential details that aid in work preparation.

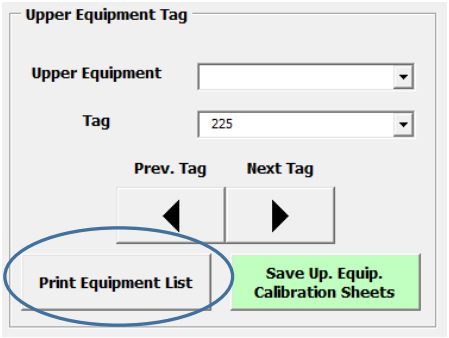


FIGURE 7 : PRINT EQUIPMENT LIST

4.3.2 How to Use

1. Select Upper Equipment: Navigate to the upper equipment section and choose the desired upper equipment.
2. Initiate Printing: Click on the (Print Equipment List) button.
3. Review the Printed List: The printed list will include:
   3.1 Device details such as:
   -Calibration range
   -Valve size
   -Switch set point
   -And other relevant information

4. Use for Work Preparation: The printed list can be utilized for planning and organizing work related to the selected upper equipment.

4.3.3 Benefits

Provides a clear overview of all devices and their specifications, facilitating efficient work preparation.

Helps ensure that all necessary information is readily available during work activities.

4.4 Saving Upper Equipment Calibration Sheets

4.4.1 Overview

The (Save Upper Equipment Calibration Sheets) feature allows users to save all created calibration sheets under a selected upper equipment into a single workbook. This workbook can be printed as a PDF or hard copy.

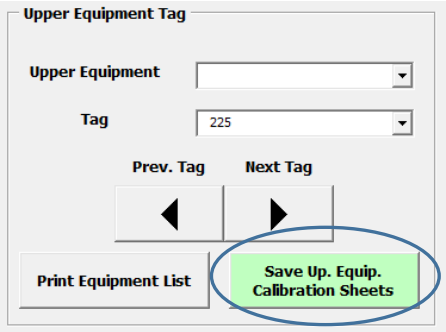


FIGURE 8 : SAVE UP. EQUIP. CALIB. SHEETS

4.4.2 How to Use

1. Complete Calibration Sheets: Ensure that all desired calibration sheets have been created for the selected upper equipment.
2. Initiate Saving: Click on the (Save Upper Equipment Calibration Sheets) button.
3. Workbook Creation: A workbook will be generated and named after the selected upper equipment. This workbook will include all the created calibration sheets.
4. Export Options: Once saved, you have the option to:
   -Print the workbook as a PDF.
   -Print a hard copy of the workbook.

4.4.3 Benefits

Consolidates all calibration sheets into a single, organized document.

Facilitates easy sharing and printing for documentation and record-keeping.

5- Manpower Management Guide

5.1Overview:

The Manpower Management feature allows users to efficiently manage the list of available engineers and technicians. By adding or removing personnel, you can ensure that the tool remains current and that the quality of calibration sheets is enhanced.

5.2 Instructions:

1. Accessing the Feature:
   Navigate to the designated section of the tool where manpower management is located.
2. Managing Engineers:
   2.1 Locate the (Engineers tab.)
   2.2 Use the (Add) or (Remove) options to update the list of available engineers as needed.
3. Managing Technicians:
   3.1 Find the (Technicians tab.)
   3.2 Similarly, use the (Add) or (Remove) options to adjust the list of technicians.

By keeping your manpower list up to date, you can maintain the accuracy and quality of your calibration sheets.

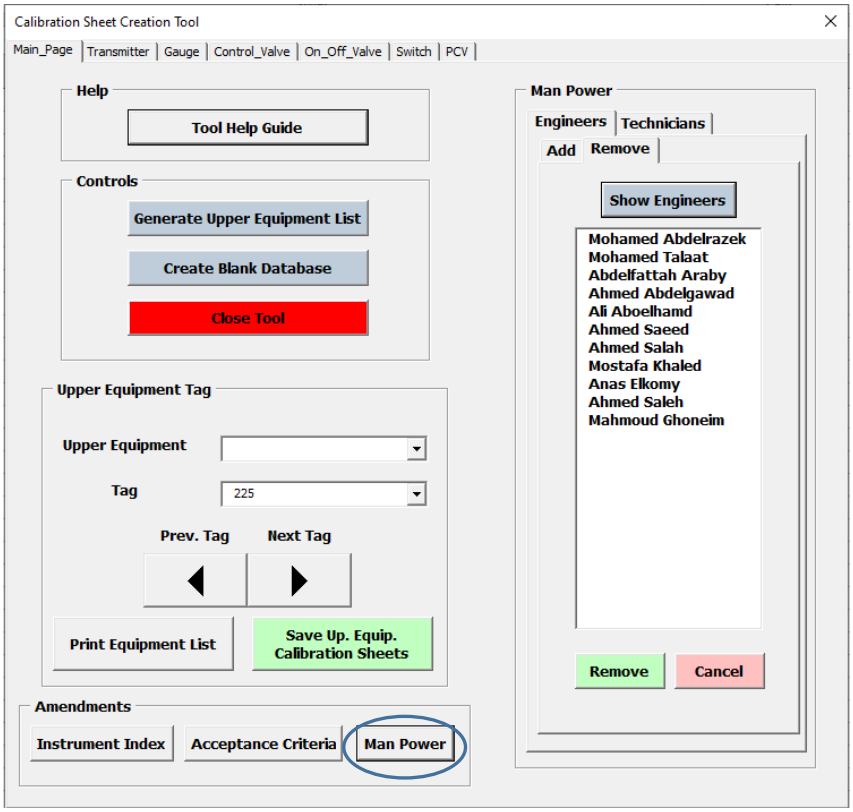


FIGURE 9 : MAN POWER MANAGEMENT

6- Updating Instrument Index

6.1 Overview

The (Update Instrument Index) feature is designed for making modifications related to field instrumentation. This includes adding new devices, removing existing devices, and changing calibration ranges or set points.

6.2 How to Use

1. Access the Feature: Navigate to the instrument index section within the application.
2. Make Modifications: Use this feature to:
    2.1. Add New Devices: Input details for any new instruments you wish to include.
    2.2. Remove Devices: Select and delete one or more devices that are no longer in use.
    2.3. Change Calibration Ranges: Adjust the calibration range for existing devices.
    2.4. Adjust Set Points: Modify the set points for pressure control valves (PCVs) or switches as necessary.
3. Update the Index: After making the required changes, ensure the instrument index is saved to keep it up to date.

6.3 Benefits

Keeping the instrument index current enhances the quality and accuracy of calibration sheets. This feature helps maintain an organized and efficient instrumentation database.

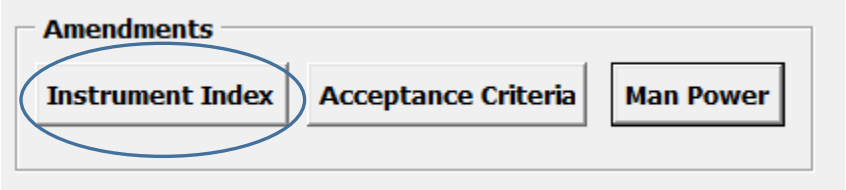


FIGURE 10 : UPDATE INSTRUMENT INDEX

7- Amending Acceptance Criteria

7.1 Overview

The (Amend Acceptance Criteria) feature allows users to modify the acceptance criteria for various types of instrumentation. Each device type—such as transmitters, gauges, control valves, on/off valves, and switches—has its own specific acceptance criteria.

7.2 How to Use

1. Access the Feature: Navigate to the acceptance criteria section in the application.
2. Log In: Since modifying acceptance criteria is password protected, only department managers can access this feature. Enter the required password to proceed.
3. Modify Acceptance Criteria:
    3.1. Select the device type for which you want to amend the acceptance criteria.
    3.2. Make the necessary changes to the criteria as needed.
4. Save Changes: Ensure to save the updated acceptance criteria to apply the changes.

7.3 Security Note

This feature is restricted to department managers to maintain the integrity and accuracy of the acceptance criteria.

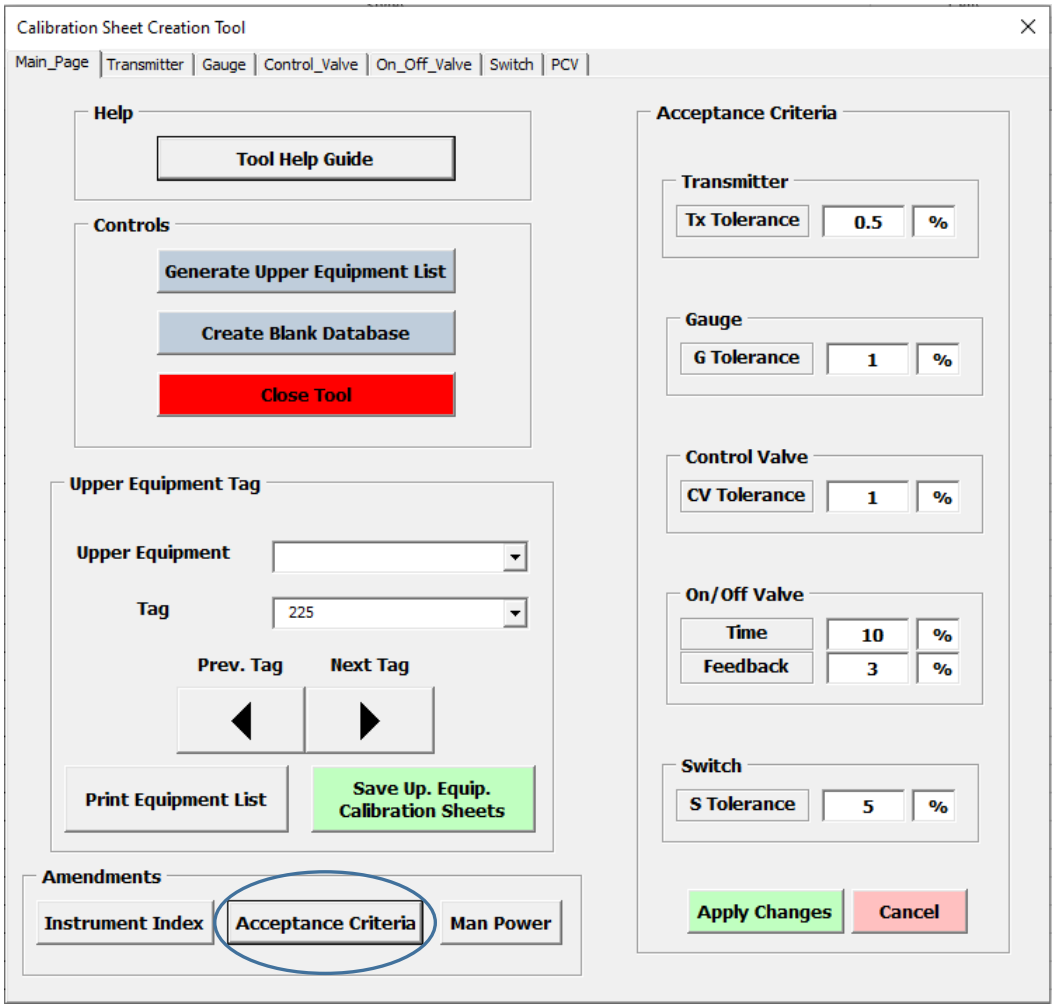


FIGURE 11 : AMEND ACCEPTANCE CRITERIA