Labigator: Calibration Management Software

User Manual

Labigator.com, Version 1.2

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Preface

Labigator is a system for organizing equipment and calibration information. It provides a simple interface for documenting calibration and equipment testing activities. The information requirements for these activities are enforced within Labigator to maintain high-quality records, build audit trails, and facilitate reverse traceability.

This manual is intended to be used by calibration and management personnel. This manual describes how to perform the administrative processing of a calibration and manage equipment within the Labigator system.

Important Definitions

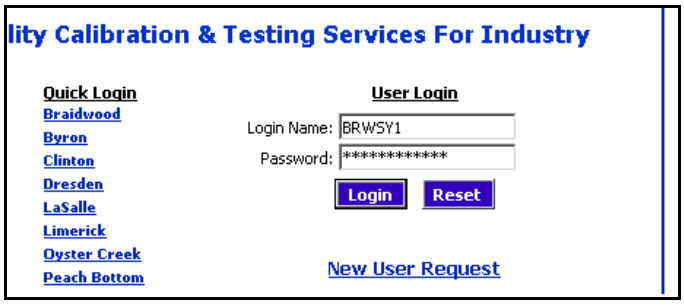
For the purpose of creating a common vocabulary, the following important terms are defined as they relate to Labigator. A complete Glossary is included in Appendix I.

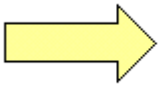
Asset	A piece of Measuring and Test Equipment (M&TE) owned by a site or shared between sites
Equipment ID (or UTC)	The unique identifier for an Asset. Usually scanned with a "barcode" reader for faster input. Must be unique to the customer (external clients), or unique within Exelon (internal clients).
Cal Formats	Controlled Microsoft Excel templates that define calibration test points and tolerances for a piece of equipment. These templates also define the standards required to maintain an adequate Test Accuracy Ratio (TAR). These templates are developed using specifications provided by equipment end-users, manufacturer data, GIDEP procedures, NAVAir, and other government or industrial resources.
Cal Record	A database record containing information that is pertinent to a calibration event (asset, cal date, technician, etc.).
Datasheet	When test point data is ready to be taken, the Cal Format for the Asset being calibrated is copied to a permanent electronic storage location and is associated to the Cal Record. This file is then called the Datasheet for the individual calibration.
Reverse Trace	Describes the ability to determine what calibrations were performed with a particular piece of M&TE over a given date range. Labigator performs this electronically.
Standard	A certain type of Asset that has been determined to have a level of accuracy that assures the equipment it is used to calibrate will be within required tolerances.
Test Accuracy Ratio (TAR)	Ratio between the unit under test (UUT) accuracy (or uncertainty) and the standard accuracy (or uncertainty). The industry recommended ratio is 4 (UUT) to 1 (STD). However, there are exceptions, and no calibration can be performed at less than 1 to 1.

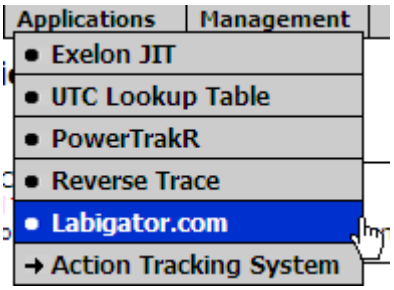
How To…

Log In to the System:

Labigator.com is a secure application that is available from the Exelon PowerLabs Client Information Center. When logging in to the Client Info Center with a Username and Password that has access to Labigator.com, a menu item will appear under the Applications option:



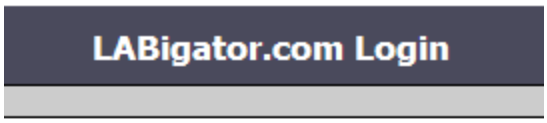


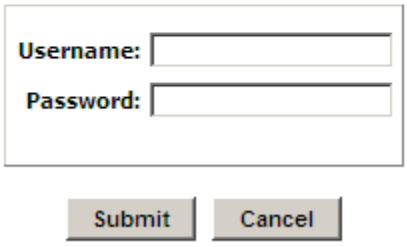


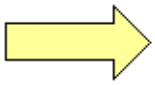
1. Log In to the Client Info Center

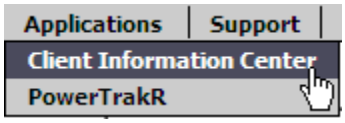
2. Select the Labigator menu option

Alternatively, one may log directly into Labigator.com (www.labigator.com or https://www.exelonpowerlabs.com/LABigator). Once in Labigator.com, one can navigate to the Client Info center by clicking the menu item under the Applications option:



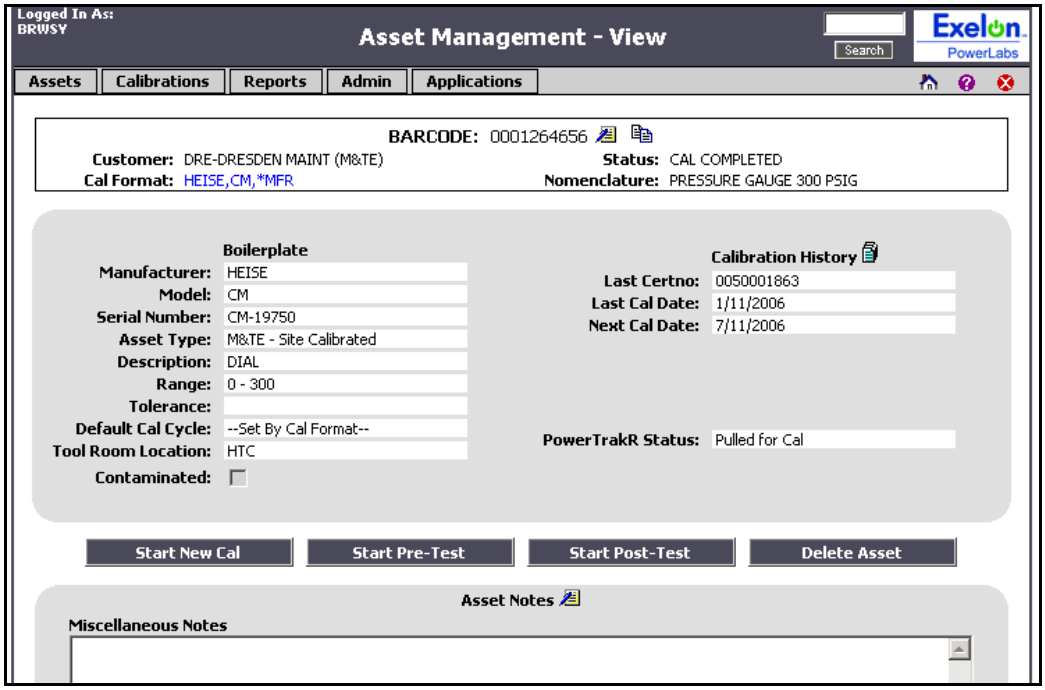






View Asset Information:

By selecting the "Assets" menu option, a list of search criteria will be displayed. Use any number of these fields to retrieve a list of Assets that your user account has access to. This list will have a "Select Asset" icon ⇨ in the Actions column. Selecting this icon will display the Asset Management screen:



Asset Management Screen

Start a new Calibration, Pre-Test, or Post-Test:

Towards the bottom of the Asset Management Screen there are several buttons to perform actions on the listed Asset. Calibrations and Tests can be started by selecting the appropriate button:

There may be several reasons why these buttons are missing or inactivated. Some of these scenarios are outlined below:

Constraint	Reason
"Start New Cal" is inactivated	The Asset must be Pulled for Cal in PowerTrakR (Internal/PowerLabs users only) before it can be calibrated.
"Start New Cal", "Start Pre-Test", and "Start Post-Test" are inactivated	A Calibration or Test is currently in progress for this Asset. The Calibration or Test must be completed before another can begin.
"Start New Cal" and "Delete Asset" are inactivated	For PowerLabs users, "Exelon – Shared Inventory" assets may only be Pre- or Post- Tested. Calibration functionality is disabled, and the asset cannot be edited or deleted.
Only "Delete Asset" is disabled	The Asset belongs to another customer and cannot be deleted.

Only "Delete Asset" is displayed	The Asset is Out of Service. It must be placed back In Service before it can be calibrated or tested.

Constraints when Starting a new Calibration

Process a Calibration:

The Cal Data Entry screens contain several sections. These sections correspond to the colored buttons towards the top of the screen. The buttons will be Red if the section is incomplete and Green if all of the requirements for the section have been met.

Cal Data Entry navigation buttons

These Cal Data Entry screens can be navigated by using the colored section buttons or by using the Next--> and <--Previous buttons. The current screen is saved by using any of these buttons. The sections do not necessarily need to be completed in the left-to-right sequence.

Section	Description	Requirements
Boilerplate	Verify the physical piece of equipment being calibrated matches the electronic record. Any discrepancies can be fixed by using the "Edit Asset" button.	- Manufacturer - Model - Serial Number - Nomenclature - Cal Format - Procedure
Standards	Enter the Standards that were used to calibrate the instrument and the date the Standard was used.	- At least one Standard (The system will only allow Standards that are In Service and not overdue for calibration)
Data Entry	Contains the technical information about the calibration. Test Point data is recorded on the Datasheet in the designated cells. The next calibration due date can be calculated using this icon:	- As Found Date - As Left Date - Temperature - Rel. Humidity - Temp./RH Standard - Datasheet
Results	Contains information about the results of the calibration. Any notes that are to be included on the Printable Cal Report should be documented in the Notes section.	- As Found Results - As Left Results - Limited Use Restrictions (if applicable)
Cal Complete	Provides options for completing the calibration, printing a Calibration Sticker, and viewing a Cal Report. This section also lists any missing requirements from the previous sections. Messages in **Red** indicate missing requirements. Messages in **Green** are warnings which should be reviewed for accuracy.	- Cal Complete

Cal Data Entry Requirements

Add a New Asset:

New site calibrated equipment can be added by selecting the "Assets" menu item and using the 

button, or by selecting "New Asset" from the menu. After the required fields are populated, the new asset can be saved and calibrated.

Approve a Calibration:

When a calibration is completed, it is submitted for approval. Calibrations that are submitted for approval will appear on the Labigator Home Page for users that have approval access. The Cal Data Entry icon will allow an authorized user to review and approve the calibration. The approval option will appear under the "Cal Complete" section. When a Calibration is approved, it is archived and moved to Cal History.

View Calibration History:

Calibration History for an Asset can be accessed through the Calibrations -> Cal History menu item or by selecting the Cal History icon for a particular asset. Additional detail for the historical calibration record can be viewed using the View Calibration icon .

Find Cal Format Information:

Calibration Format details can be accessed through the Calibrations -> Cal Formats menu item. The Cal Format screen can also be accessed from the hyperlinks on the Asset Management and Cal Data Entry screen. The Cal Format document can be viewed from this screen.

Request a New Cal Format:

If a calibration format does not exist for the instrument being calibrated, a new format can be requested by using the Contact Us -> Contact PowerLabs menu option from the Client Info Center. Any pertinent information should be provided to develop the cal format (Manufacturer, Model, specifications, etc.)

Add/Edit/Delete Calibration Procedures:

Authorized users can modify the list of calibration procedures from the Admin -> Procedures menu item.

Contact Support Personnel:

An Action Tracking Ticket can be created by using the Contact Us -> Contact PowerLabs menu option from the Client Info Center. This is typically the most effective way to get help with the system.

Phone # contacts for Labigator support:
610-380-2449 (PowerLabs IT Helpdesk)
610-380-2326 (Tom Wachter)
610-380-2679 (Mike Shoemaker)

Frequently Asked Questions

What is the relationship between an Asset, a Cal Format, and a Cal Record?

When an Asset is created in Labigator, a Cal Format is selected. When the Asset is calibrated, a Cal Record is created and the Asset's Cal Format is copied to the Cal Record. The Cal Format for the specific Cal Record can be changed at any time during the calibration. When the Cal Record is marked as complete, the Cal Format that was used is written back to the Asset. This ensures that the Asset will utilize the same Cal Format when it is calibrated again (unless it is specifically changed for an Asset when it is not being calibrated).

How is the Calibration Due Date calculated?

The Calibration Due Date is calculated by adding the Cal Cycle to the As Left Date. The Cal Cycle is determined by the Cal Format or the specific Asset being calibrated. If the Asset has a specific Cal Cycle defined, it is used. Otherwise, the Cal Cycle is pulled from the Cal Format.

When is the Calibration Due Date recorded?

The calibration due date is written to the Asset as soon as it is Cal Completed. If the Asset is not marked as Out of Service, it can be issued in PowerTrakR as soon as the calibration is completed. The calibration record does not necessarily have to be approved before the tool is issued in PowerTrakR. (Note: PowerTrakR connection applies to internal/PowerLabs Labigator.com users only)

Do Pre-Tests and Post-Tests show up in PowerTrakR?

Yes, Pre- and Post-Tests will create an Event in PowerTrakR that are visible on the PowerTrakR Event History reports.

Appendix I. Glossary

As Found Results	The condition of the test point data before any adjustments or repairs. Measurements found Out-Of-Tolerance may have implications for prior uses of the piece of equipment.
As Left Results	The condition of the test point data after any adjustments or repairs
Asset	A piece of Measuring and Test Equipment (M&TE) owned by a site or shared between sites
Asset Notes	Notes that pertain to the piece of equipment. These notes are available every time the asset is calibrated or viewed in the Asset Management screen.
Asset Type	Assets can be one of three types. "M&TE – Site Calibrated" are pieces of test equipment that are calibrated at your facility. "Standard – Site Calibrated" are assets that you use as Standards and calibrate at your facility. "Standards" are used to calibrate the other two asset types but are calibrated at a different facility.
Equipment ID (or UTC)	The unique identifier for an Asset. Usually scanned with a "barcode" reader for faster input.
Boilerplate	The specific information that describes a piece of equipment (Manufacturer, Model #, Serial Number, etc.)
Cal Cycle	The frequency (in days or months) in which a piece of equipment should be calibrated
Cal Formats	Controlled Microsoft Excel templates that define calibration test points and tolerances for a piece of equipment. These templates also define the standards required to maintain an adequate Test Accuracy Ratio (TAR). These templates are developed using specifications provided by equipment end-users, manufacturer data, GIDEP procedures, NAVAir, and other government or industrial resources.
Cal Record	A database record containing information that is pertinent to a calibration event (asset, cal date, technician, etc.).
Cal Report	A printable report containing the calibration details (including test point data).
Cal Sticker	A sticker placed on a piece of equipment that contains pertinent calibration information (due date, limited use restrictions, etc.)
Cal Type	A Full Calibration, Pre-Test, or Post-Test
Calibration Log	A running log of calibration activity. Entries are added by the system and can also be added manually at any time during the calibration.
Cert Number	A unique identifier for a calibration or test.
Company	The current owner of an Asset
Datasheet	When test point data is ready to be taken, the Cal Format for the Asset being calibrated is copied to a permanent electronic storage location and is associated to the Cal Record. This file is then called the Datasheet for the individual calibration.
Limited Use	Restrictions of how a piece of equipment should be used.
Nomenclature	A short, generic description of an asset (Torque Wrench, Dial Indicator, etc.)
Out of Service	An equipment status that removes the asset from reports and prevents it from being used
Procedure	The technical details of how to perform a calibration
Special Cal Instructions	A field to save notes that are pertinent to a calibration event. These notes do not show up on the Cal Report.
Standard	A certain type of Asset that has been determined to have a level of accuracy that assures the equipment it is used to calibrate will be within required tolerances.

Reverse Trace	Describes the ability to determine what calibrations were performed with a particular piece of M&TE over a given date range. Labigator performs this electronically.
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