2015

SpectraView PRISM

CLIENT USER MANUAL

SPECTRUM SYSTEMS, INC. | 3410 W Nine Mile Rd., Pensacola, FL 32526

Document Revisions

Date	Version Number	Revision Number	Document Changes
10/29/2015	0.1	15	Initial Draft
11/03/2015	0.1	22	Second Draft
11/03/2015	0.1	24	Third Draft (New Cover Page)
11/04/2015	0.1	26	Fourth Draft (Legal graphics changes)

COPYRIGHT © 2015 SPECTRUM SYSTEMS, INC. ALL RIGHTS RESERVED.

TABLE OF CONTENTS

Chapter 1 - Introduction **1-6**
SpectraPak®-E 1-6
SpectraView® Prism Server 1-6
SQL Database 1-7
SpectraView® Prism Client 1-7
Communication PROTOCOLS 1-7
Access Configuration 1-7
Chapter 2 - Installation and Removal Procedure **2-1**
Install Process 2-1
Uninstall Process 2-2
Chapter 3 - Launch and Familiarization **3-1**
Launch 3-1
SpectraView® Prism Main Window 3-3
SpectraView® Prism Style Guidelines 3-3
Special Controls 3-3
Borders and Flags 3-7
Settings and Status 3-9
Chapter 4 - Prism Main Window **4-1**
Main Window Overview 4-1
Alarm Bar 4-1
Daylog 4-2
Settings 4-2
Navigation Tabs 4-2
Chapter 5 - Overview Tab **5-1**
Overview 5-1
Actions 5-3
Instrument Service 5-3
Probe Purge 5-3
Auto-Calibration 5-3
Manual Calibration 5-4
Chapter 6 - Calibrations Tab **6-1**

Overview 6-1
Actions 6-3
Probe Service 6-3
Probe Purge 6-3
Auto-Calibration 6-4
Instrument Calibration 6-4
Chapter 7 - Alarms Tab 7-1
Overview 7-1
Panel Sub-Tab 7-1
History Sub-Tab 7-2
Actions 7-3
Acknowledging an Alarm 7-3
Chapter 8 - Trends Tab 8-1
Overview 8-1
Trend Zoom 8-1
Trend Detail 8-2
Actions 8-2
Accessing the Zoom Navigation Box 8-2
Exporting Trend Picture 8-2
Chapter 9 - I/O Points Tab 9-1
Overview 9-1
Raw Points Sub-Tab 9-1
Sequences Sub-Tab 9-2
Data Collector Service Sub-Tab ..... **Error! Bookmark not defined.**
Actions 9-4
Download Sequences 9-4
Search by Log Time 9-5
Search by Severity or Message Contents 9-5
Chapter 10 - System Tab 10-1
Overview 10-1
CEM Log Sub-Tab 10-1
Applications Sub-Tab 10-2
System Sub-Tab 10-2

Actions 10-3
CEM Log Sub-Tab 10-3
Applications Sub-Tab 10-4
System Log Sub-Tab 10-5
Chapter 11 - Modules Tab 11-1
Overview 11-1
Reports Module 11-2
Data Editor Module 11-2
CGA Module 11-2
Linearity Module 11-2
ECMPS Module 11-2
SIC Module 11-2
Chapter 12 - Compliance Tab 12-1
Overview 12-1
Events Sub-Tab 12-1
Downtime Sub-Tab 12-2
Data Sub-Tab 12-3
Chapter 13 - Admin Tab 13-1
Overview 13-1
Users and Security 13-2
Trend Configuration 13-3
Alarm Configuration 13-4
Sources Configuration 13-6
Tags Configuration 13-7
Expected Values 13-8
Application Messages 13-10
Startup Sessions 13-10
Part 75 13-11
Actions 13-13
Calibration Gas Cylinders 13-13
Other Expected Values 13-15
Chapter 14 - Troubleshooting 14-1
Log Files 14-1

Application Messages 14-1

Chapter 1 - INTRODUCTION

A Spectrum Systems Data Acquisition and Handling System with *SpectraView® Prism* consists of four major subsystems.

- SpectraPak®-E Data Acquisition Controller
- *SpectraView® Prism* Server
- SQL Database
- *SpectraView® Prism* Client

SPECTRAPAK®-E

Spectrum Systems SpectraPak®-E is a rack-mount data acquisition controller capable of handling analog and digital inputs as well as generating digital outputs. Two single-board embedded controllers allow the *SpectraPak®-E* to process 20 digital inputs, 20 digital outputs, 22 analog inputs as well as communicate to any *Modbus* capable device via *Modbus/TCP*. Each controller incorporates an *Ethernet* port for and *SpectraView® Prism Server* and *Modbus* connectivity. Configuration can be performed via the *RS-232* or *Ethernet* port.

Each onboard controller runs non-site specific firmware storing the value of each digital input/output, analog output, and *Modbus* value every 10-seconds for approximately 11 days. Standalone digital output sequencing provides for autonomous control of scheduled QA tasks, such as daily calibrations. Storage and sequencing allows each *SpectraPak®-E* controller to continue to operate if *SpectraView® Prism Server* communications are interrupted and provide a mechanism for data syncing when communications are restored.

SPECTRAVIEW® PRISM SERVER

SpectraView® Prism Server consists of the following *Microsoft Windows Services* running on a 64-bit computer with a *Windows Server 20XX Operating System* and *Microsoft SQL Server 20XX*.

- *Data Collection Services* - responsible for communication between the PRISM server appliance and *SpectraPak®-E appliances*, in addition to other compatible data servers. Data is stored in 10-second SQL database tables for one year, or as configured.
- *Database Update Service* - responsible for generating and storing one minute data averages for both raw and calculated values in SQL database tables. One minute averages are the basis for all qualified data stored in the database.
- *Qualifier Service* – qualifies data based on the one minute data stored and calculates one minute or higher time based averages used for compliance and reporting. The qualifier service also provides for ECMPS data used for electronic data reporting required by the EPA.
- *Tag Service* – Provides data to the *SpectraView® Prism Client* for display.
- *Alarm Service* – Provides for generation and clearing of alarms and messaging.

SQL DATABASE

The SQL Database contains all data; 10-second raw data, one minute averages, and long term averages used for reporting. All data, except 10-second data, is stored indefinitely as long as storage space is available. While the database typically resides on the *SpectraView® Prism Server*, it can be located remotely, provided network access is adequate.

SPECTRAVIEW® PRISM CLIENT

The *SpectraView® Prism Client* provides an end-user interface to the system and can be installed on any 64-bit version of *Windows 7*, or later, operating system with network access to the server. Roles, rights granted, views, and various services available are defined by login.

COMMUNICATION PROTOCOLS

SPECTRAPAK®-E -

- TCP/IP
- Telnet
- MODBUS

SpectraView® Prism Server -

- TCP/IP
- Telnet (Putty)
- Remote Desktop
- Modbus
- OPC (future)
- WCF
- SQL Native Protocols – TCP/IP

SpectraView® Prism Client -

- TCP/IP
- WCF

ACCESS CONFIGURATION

Connecting to a *SpectraView® Prism Server* via the *SpectraView® Prism Client* has several requirements. The Client, when launched, attempts to communicate with the SQL database defined in the .SVIEW XML session file. Provided access is granted, the client tool will receive information necessary to communicate with the *Windows Services* running on the *SpectraView® Prism Server*. Once this information has been received, the Client tool will attempt a connection to the *SpectraView® Prism* Server. This initial handshake between the *SpectraView® Prism Client*, *Server*, and *SQL Database* will determine which role has been assigned and which views to update.

Chapter 2 - INSTALLATION AND REMOVAL PROCEDURE

The *SpectraView® Prism* Client application is installed using a *Microsoft Installer (MSI)* file provided by Spectrum Systems, Inc. or your *Continuous Emissions Monitoring System (CEMS)* Administrator. It is used to install the files and supporting infrastructure for the *SpectraView® Prism* Client. In this chapter you will find the processes for installing and uninstalling the Client.

INSTALL PROCESS

To install the *SpectraView® Prism* Client, perform the following steps.

1. Double click on the MSI file and the End-User License Agreement, as shown in Figure 2-1, will appear.
2. Click **I accept the terms in the License Agreement**.
3. Click **Install**.

NOTE: SPECTRAVIEW® PRISM CLIENT REQUIRES A 64-BIT OPERATING SYSTEM AND MAY ONLY BE USED WITH A LICENSED VERSION OF SPECTRAVIEW® PRISM.

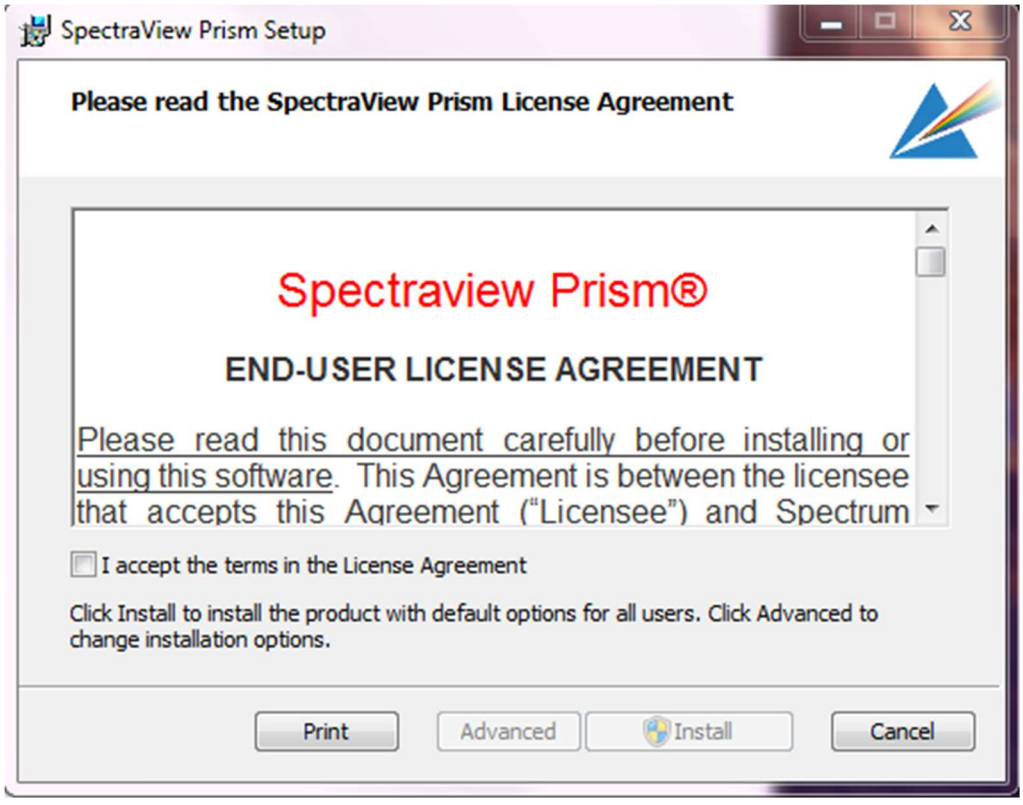


Figure 2-1 SpectraView® Prism End-User License Agreement

4. After a short delay, the installation screen, Figure 2-2, will appear and the *SpectraView® Prism* Client will begin installion.

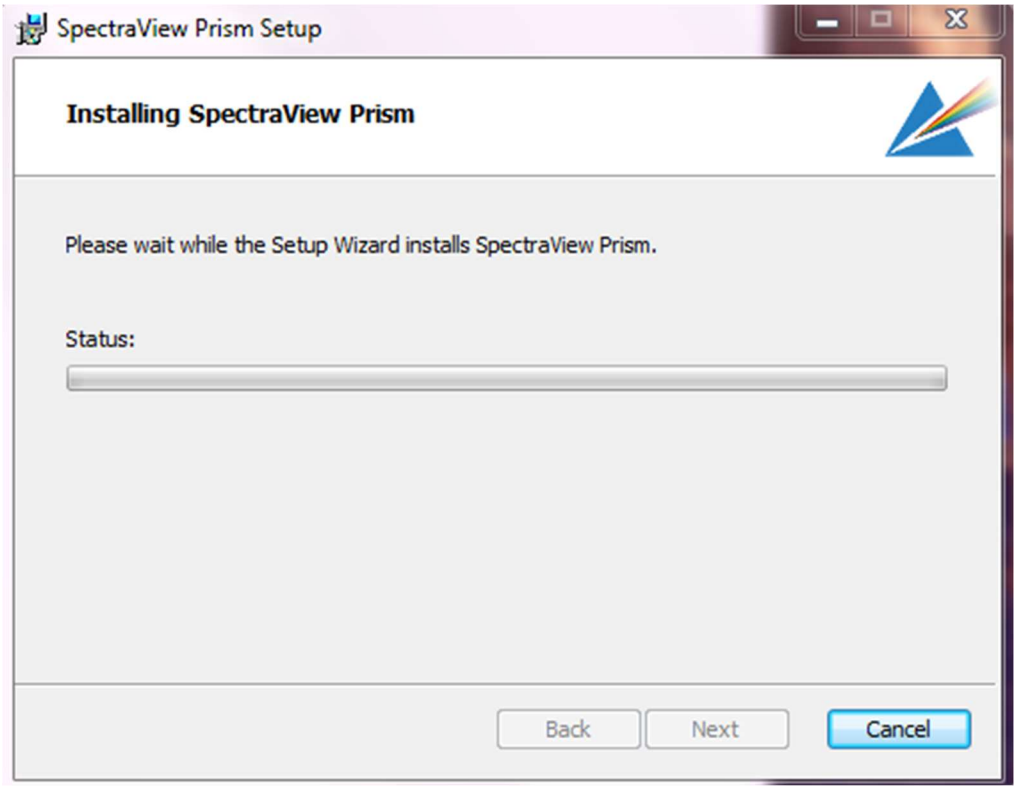


Figure 2-2 SpectraView® Prism Setup Screen

5. Upon completion, click the **Finish** button.

UNINSTALL PROCESS

SpectraView® Prism may be uninstalled using "Programs and Features" accessible under the Control Panel as follows.

1. Open the *Control Panel*.
2. Select *Programs and Features*.
3. Select the *SpectraView® Prism* program.
4. Click once to highlight the program *(The program is highlighted in Figure 2-3.)*.

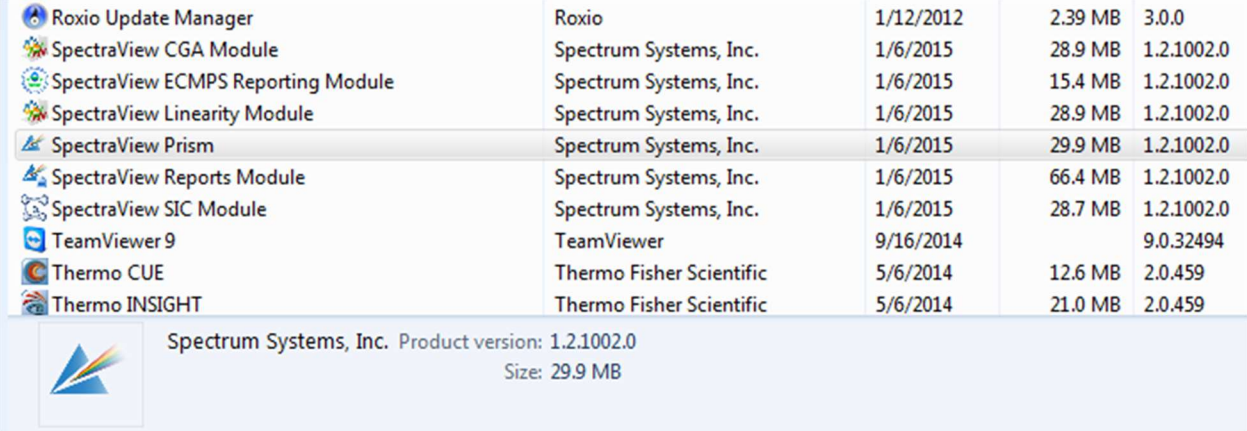


Figure 2-3 SpectraView® Prism Client Removal

5. Right click and select **Uninstall**, or select **Uninstall** at the top of the screen.

Chapter 3 - LAUNCH AND FAMILIARIZATION

LAUNCH

Opening the *SpectraView® Prism Client* is accomplished through a special *Extensible Markup Language (XML)* file. This file has a ".sview" extension and contains settings for the proper configuration of the client. This session file, as it is called, can be double-clicked to launch the *SpectraView® Prism* client.

To start the *SpectraView® Prism* client perform the following tasks.

1. Double-Click on the session file.
2. If a user or system is not yet configured, one of the following screens will result. If any of these error messages occur, contact the System Administrator for assistance.
    a. The *Not Authorized* error in **FIGURE 3-1** occurs when the application cannot authorize the login for any application privileges.

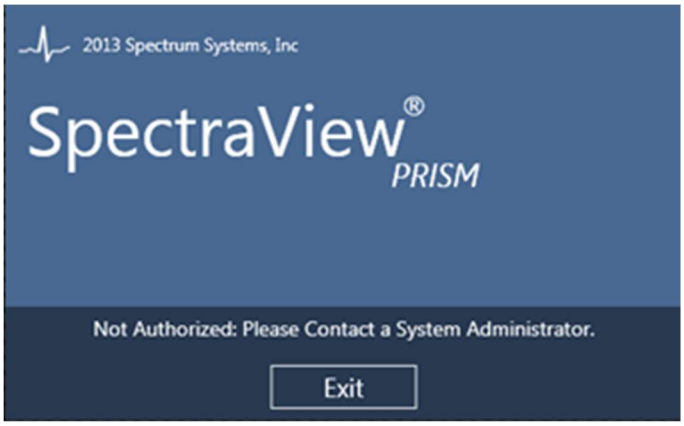


Figure 3-1 Not Authorized Launch Error

    b. The *Database Connection* error in **FIGURE 3-2** occurs when the application cannot connect to the database, or encounters a database error or misconfiguration.

Figure 3-2 Database Connection Launch Error

c. The *Tag Service* error in **FIGURE 3-3** occurs when the application cannot connect to the tag service, or encounters a *Tag Service* error or misconfiguration.

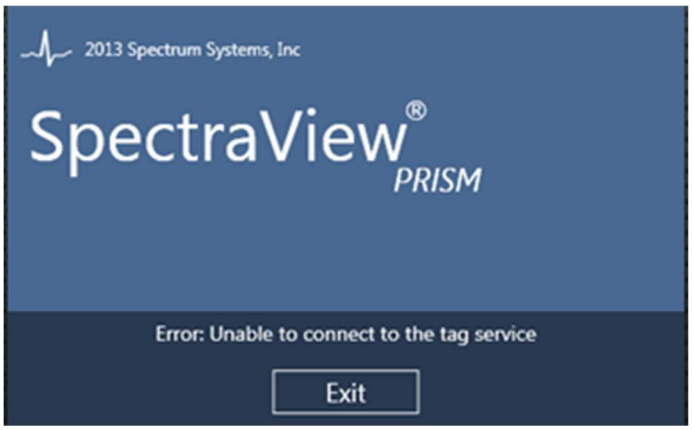


Figure 3-3 Tag Service Launch Error

3. There are no login actions required by the end-user. If there are no errors, the Main application Window, with the *Overview Tab* selected will appear, as seen in **FIGURE 3-4**.

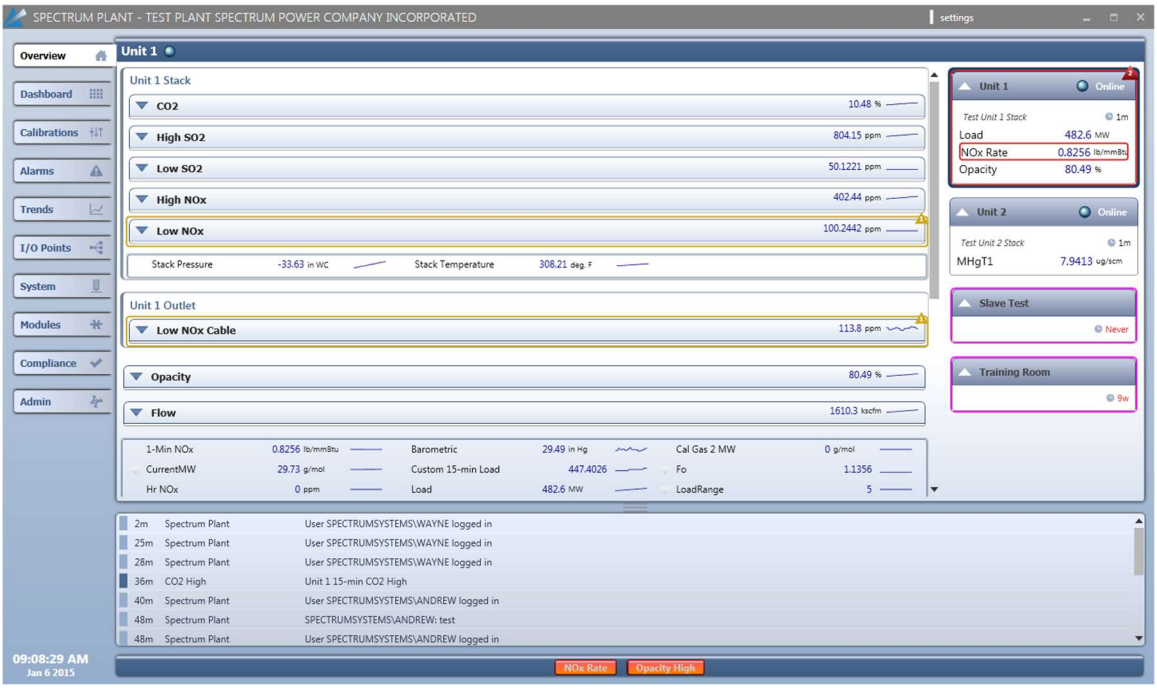


Figure 3-4 SpectraView® Prism Main Window showing Overview Page

SpectraView® Prism Main Window

The main window of the *SpectraView® Prism Client* application is the central point for all tasks performed within the application. Tasks are performed within the different areas of the application by selecting their corresponding navigation tabs. Navigation tabs will appear based on the privileges granted to the respective end-user.

The following items are always present in the main window, regardless of end-user or task being accomplished.

- *Alarm Bar* – located at the bottom of the main window
- *Daylog* – located at the bottom of the main window, just above the alarm bar
- *Navigation Tabs* – locate on the left side of the window
- *Settings* – located in the title bar of the main window

SpectraView® Prism Style Guidelines

Special Controls

Actions of the majority of the controls in the application are self-evident. However some are worth further explanation. There are multiple controls in this category.

- *Expansion Arrow Button* – marked with an up and down solid arrow
- *Ellipsis Button* – marked with an ellipsis
- *Instance Trend* – marked with a graph line

- *Analog Calculations* – marked with a small pulldown arrow beside data points
- *Digital & Digital Toggle Indicators* – marked with a small bubble

Data List Expansion Button

The data lists are collapsed by default to allow the end-user easy access to the different data sets that populate the client window. The data list expansion button, as see in **FIGURE 3-5** highlighted in yellow, allow for the expansion of these data sets**.**

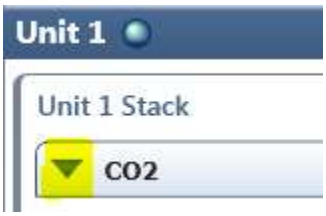


Figure 3-5 Data List Collapsed

Clicking on the expansion button will expand the data list as seen in **FIGURE 3-6**.

Figure 3-6 Data List Expanded

Clicking on the expansion button again will collapse the data list.

Action Menu Ellipsis Button

The data list may be further expanded by clicking on the ellipsis, as seen in **FIGURE 3-7**. This *Action Menu* provides the end-user the ability to perform certain tasks on the data points within the data list.

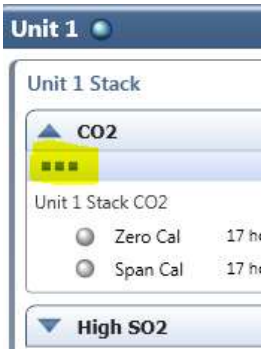


Figure 3-7 Action Menu Collapsed

Clicking on the ellipsis will further expand the data item, as seen in **FIGURE 3-8**, to reveal the action menu. In this example, the data item expands to give the end-user additional access to place the

Instrument In or Out of Service, start a probe purge, run an Auto-Cal, or manually control cylinder gas injection.

Figure 3-8 Action Menu Expanded

Clicking the ellipsis again will collapse the data item action menu.

Instance Trend

Analog values have micro trends providing end-users with feedback on historical data movement – current value is holding steady, moving up, and moving down. Analog values have trends that are available by clicking the control.

Clicking on the small trend as seen in **FIGURE 3-9** will expand to a larger window.

Figure 3-9 Micro Trend

This larger window will provide higher detail of that data, as seen in **FIGURE 3-10**.

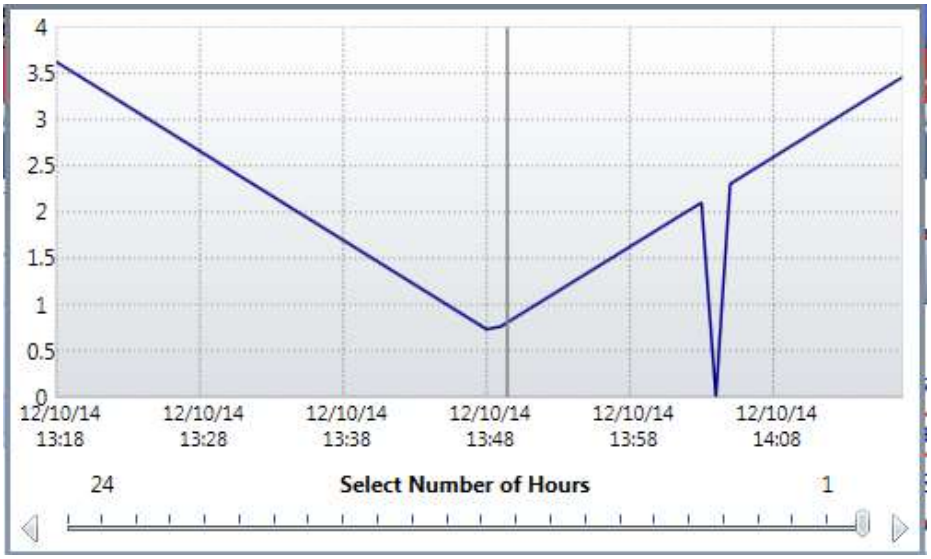


Figure 3-10 Instance Trends Expanded

The slider at the bottom of the expanded trend allows the end-user to view the trend for the 24-hour period leading up to the latest data capture.

Analog Calculations

A small pull down button is available, as seen highlighted in **FIGURE 3-11,** for displaying some calculations, and to possibly display the logic used for the calculation.

Figure 3-11 Analog Calculations Collapsed

Once the analog calculation is expanded, the logic, if any is available, and values used in the calculation are displayed in real-time as seen in **FIGURE 3-12.**

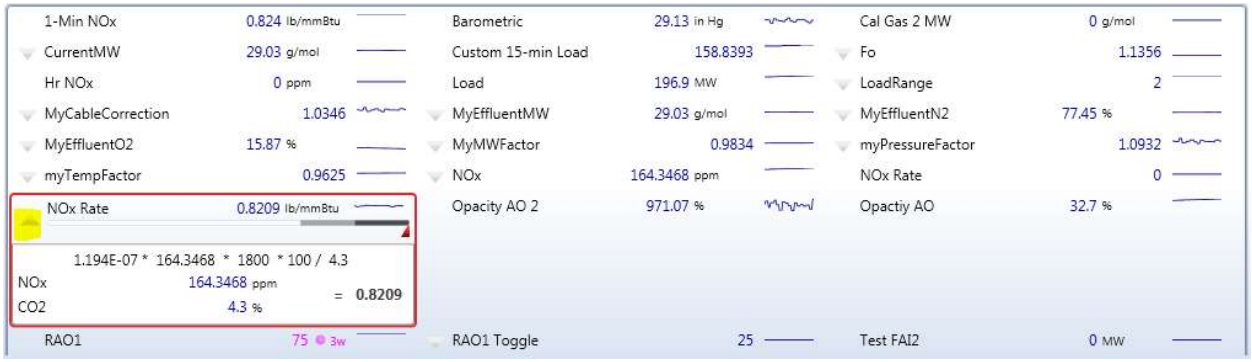


Figure 3-12 Analog Calculation Expanded

Digital Indicators

The *Digital Indicators* provide visual access to digital values in the system. The digital indicator signifies active when blue and inactive when grey as shown in Figure 3-13 below.

Figure 3-13 Digital Indicators

Digital Toggle Indicators

Some digital values can be changed, or toggled, from their existing state for a short period of time (until the next update cycle for that item). This can be accomplished, where applicable, by right-clicking on the indicator which will temporarily set the value to its opposite state, as shown in **FIGURE 3-14**.

Figure 3-14 Digital Toggle Indicator after Right-Click

NOTE: THIS FUNCTION REQUIRES THE END-USER TO HAVE THE REQUIRED PRIVILEGES. CONTACT THE SYSTEM ADMINISTRATOR FOR MORE INFORMATIN ON PRIVILEGES.

Borders and Flags

The status of the system is made visually apparent based on the colors associated with the different levels of acceptability.

Red, magenta, and yellow border colors indicate conditions that are outside of expected tolerances, or data points that contain stale, out-of-date data. Blue-gray indicates conditions that are inside the normal tolerances, or expected. The only exception is trends and the chart pens used to display trends.

Flags of matching color are used to identify the number of issues associate within a group.

- ***Dark Blue*** – Dynamic, updating, real-time data
- ***Magenta*** – Stale, out-of-date data (Needs attention)
- ***Red*** – Alarm state/error
- ***Yellow*** – Warning state

Out of Tolerance Data

Error – Red Borders and Flags

Red borders and flags indicate subsystems of systems that are at failure or fault and have conditions that warrant inspection.

A unit with an *Out of Tolerance Error* will have a red border and flag, as seen in **FIGURE 3-15**.

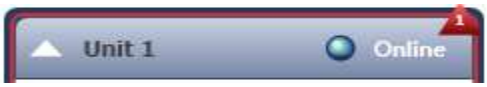


Figure 3-15 Unit Error Red Border and Flag

The data list containing that error will also have a red border and flag, as seen in **FIGURE 3-16**.

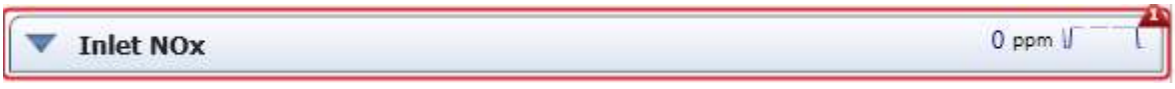


Figure 3-16 Data List Error Red Border and Flag

The item in the data list, once the data list is expanded, will also have a red border and flag, as seen in **FIGURE 3-17**.

Figure 3-17 Data List Item Error Red Border and Flag

Finally, by drilling all the way down, the end-user may access the actual data point that is flagged as having an error. This will allow the end-user to easily view the offending item to enable quick resolution of any errors encountered. The actual data item is as seen in **FIGURE 3-18**.

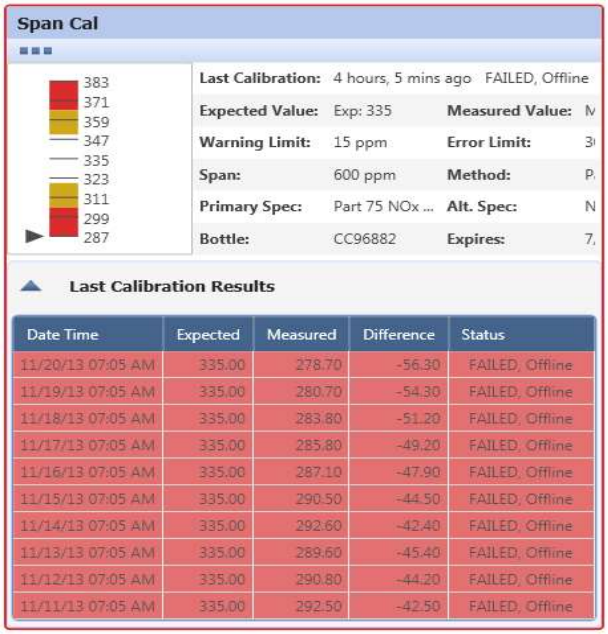


Figure 3-18 Cause of Error

Warning – Yellow Borders and Flags

Yellow borders and flags indicate subsystems of systems that are nearing failure or fault and may have conditions that warrant inspection. They are represented exactly as errors, but with yellow coloration.

Expected Tolerances Border

The Blue-gray border indicates subsystems of systems that are within normal tolerances. This status is as seen in **FIGURE 3-19**.

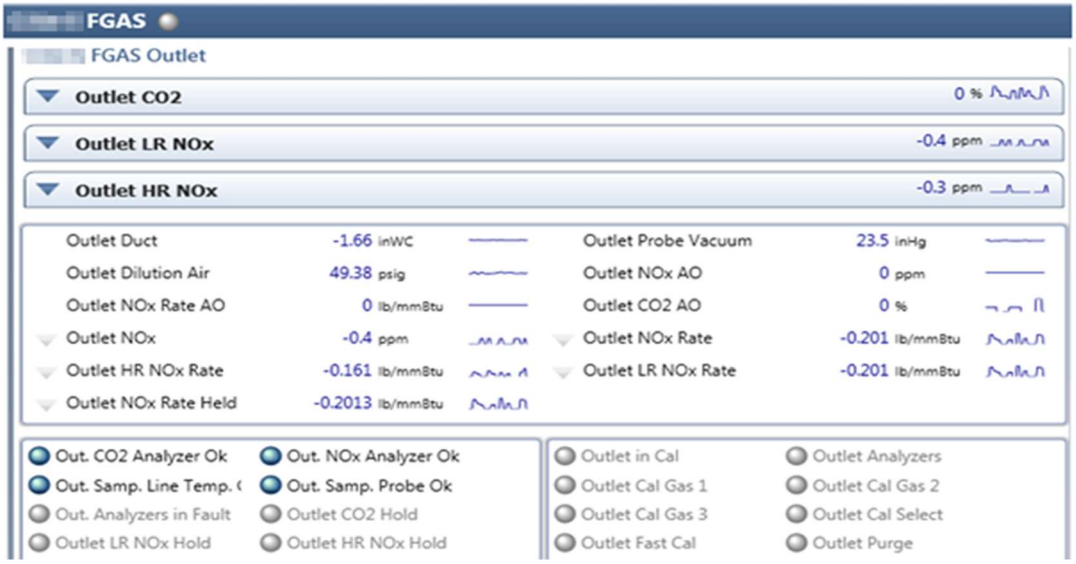


Figure 3-19 Expected Tolerances Normal Display

SETTINGS AND STATUS

Most settings are options to change how the Client looks and behaves. Most of the settings will impact the end-users by increasing the load on the computer, or hiding items. The Status bar provides company and plant information, time and date, current end-user login details and the client version number. The settings bar enables the user to hide or show the navigation tabs and the Daylog. The end-user may also toggle, on or off, the animations and previews, alarm sounds, and alarm repeat sounds. Refer to **FIGURE 3-20** below for details.

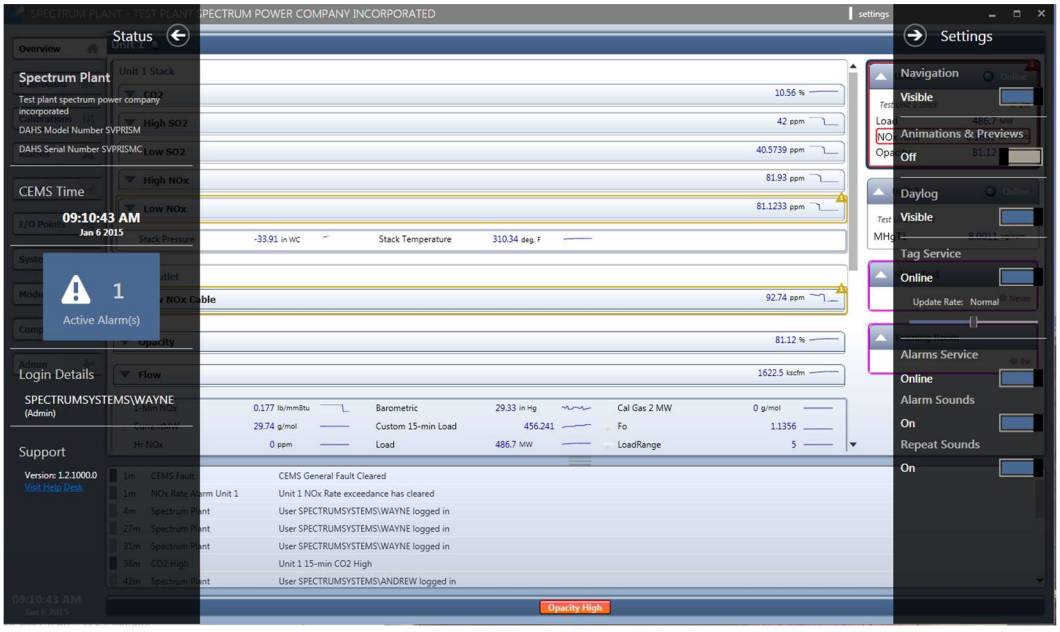


Figure 3-20 Settings and Status

Chapter 4 - PRISM MAIN WINDOW

MAIN WINDOW OVERVIEW

The *SpectraView® Prism Client* is the end-user interface to the *SpectraView® Prism* system. As noted in the **SPECTRAVIEW® PRISM MAIN WINDOW** section, the client main window consists of multiple areas, with the Alarm Bar, Daylog, Navigation Tabs, and Settings being visible at all times.

ALARM BAR

The Alarm Bar, as seen in **FIGURE 4-1**, provides a means to readily visualize any Alarm/Alert being currently emitted by the system. These alarms will flash, and the system will emit an audible alarm (if turned on in settings), until acknowledged by a system end-user. Once acknowledged, the Alarm/Alert will remain visible, and silent, until the issue is resolved.

Figure 4-1 Alarm Bar

To acknowledge an Alarm/Alert, perform the following steps.

1. Hover over the Alarm/Alert, as seen in **FIGURE 4-2**. This will provide a date/time stamp of the event.

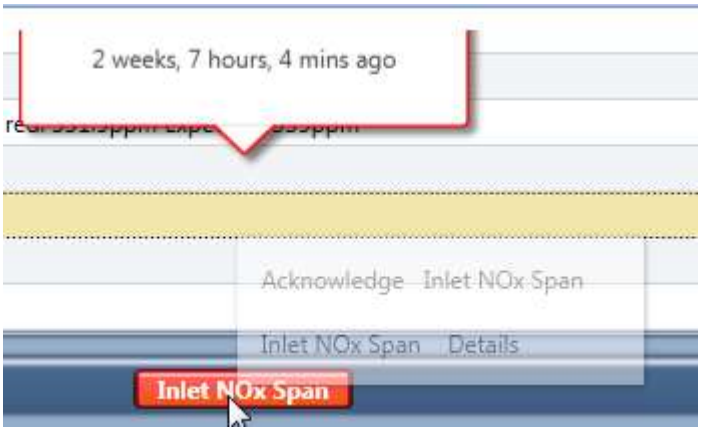


Figure 4-2 Acknowledge Alarms & Alerts

2. Right-click on the Alarm/Alert, which will bring up a context menu that will allow the end-user to acknowledge the Alarm/Alert, or provide further detail.

3. As stated above, the Alarm/Alert will remain visible until the issues causing the event are resolved. Using the *Details* selection in the context menu will allow the end-user to obtain the information needed to effect the necessary changes required to resolve the issue.

DAYLOG

The Daylog, as seen in **FIGURE 4-3**, is a running log of messages regarding system events or messages that are entered by end-users. This will include any notable I/O changes, system changes, system messages, or compliance messages generated by the system. End-users may also enter messages to keep a record of events that could have a bearing on the system operating environment, including whether *Spectrum Systems, Inc.* employees were logged into the system performing upgrades or service.

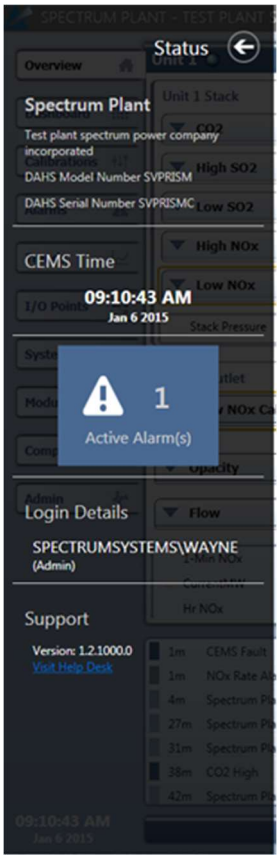
Figure 4-3 Daylog

SETTINGS

The *SpectraView® Prism Client Settings* are available at the top of the window, as seen in **FIGURE 4-4**.

Figure 4-4 Title Bar with Settings

1. To view settings, select the **settings** control in the *Title Bar* as in **FIGURE 4-4** above. This will result in two panes appearing, one on the left side, and the other on the right side of the main window.
2. The pane on the left side will contain the application status information; company name, site name, DAHS model and serial number, the system date and time, count of active alarms, login details, and the current version of the *SpectraView® Prism Client* software.



3. The right side pane, as seen in **FIGURE 4-5**, will contain the available settings for the *SpectraView® Prism Client*. In this pane you can change settings for whether the navigation tabs are visible, whether animations and previews are enabled, the visibility of the Daylog; whether the Tag Service is connected, and its update rate; and control the settings of the Alarm Service.

4. For the Alarm Service, the following steps can be used to control how alarms are reported.

    a. These steps control the Alarm Service connectivity.

        i. To turn the Alarm Service connectivity on, if gray, click on **Online**.

        ii. To turn the Alarm Service off, if blue, click on **Online**.

    b. These steps control the Alarm Sounds.

        i. To turn Alarm Sounds on, if gray, click on **On**.

        ii. To turn the Alarm Sounds off, if blue, click on **On**.

    c. These steps control the repeating of the Alarm Sounds.

        i. To cause Alarm Sounds to repeat, if gray, click on **On**.

        ii. To cause Alarm Sounds to only sound one time, if blue, click on **On**.

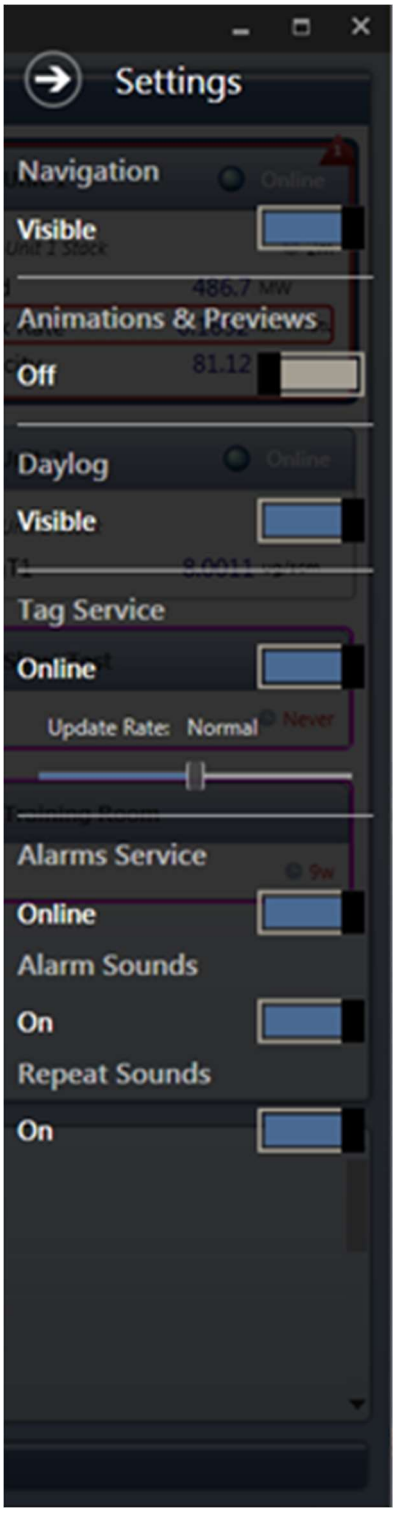


Figure 4-5 Settings Pane

NAVIGATION TABS

Navigation Tabs, as seen in **FIGURE 4-6**, are made available based on the permissions allotted to the end-user logged in to the *SpectraView® Prism Client*.

NOTE: REQUESTS FOR PERMISSIONS WILL GO THROUGH THE SYSTEM ADMINISTRATOR.

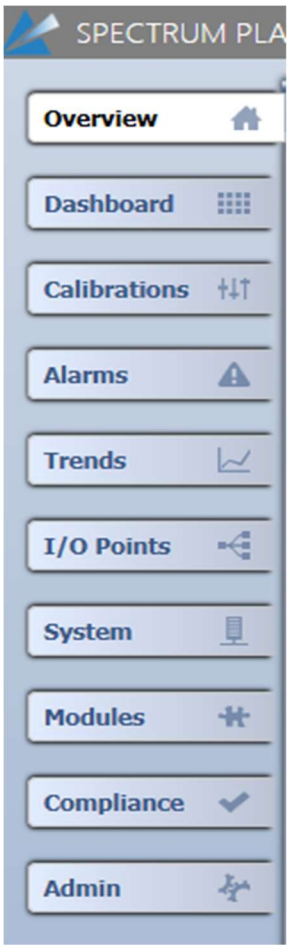


Figure 4-6 Navigation Tabs

Navigation Tabs and their content will be covered starting with **CHAPTER 5 - OVERVIEW TAB**.

Chapter 5 - OVERVIEW TAB

OVERVIEW

The *Overview Tab* is, as it states, an overview of the real time conditions, logs and readings. The values displayed on the overview tab are from defined tags (see Tag Administration). The right side pane, as seen in **FIGURE 5-1**, contains information related to all of the units at a given site. This pane doubles as the selection mechanism for the main pane in the Overview Tab.

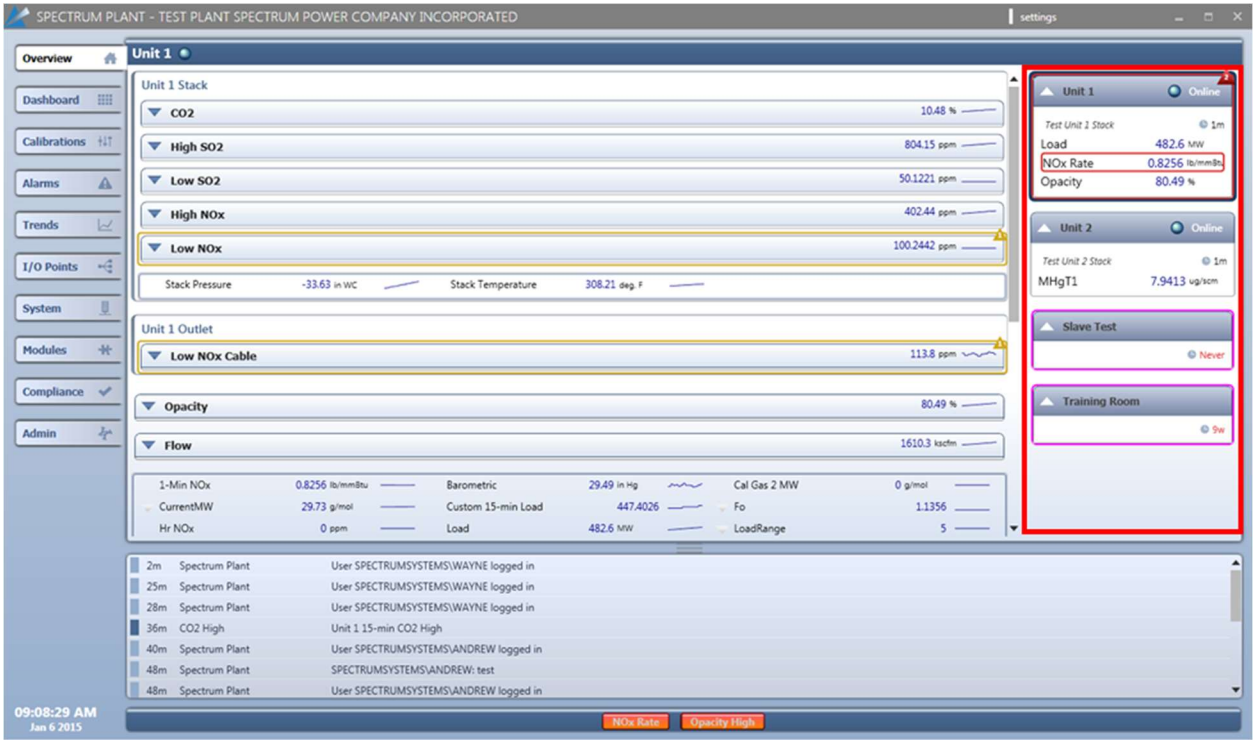


Figure 5-1 Unit Pane

Each of these unit displays may be expanded to show selected status data for each unit, as seen in **FIGURE 5-2**.

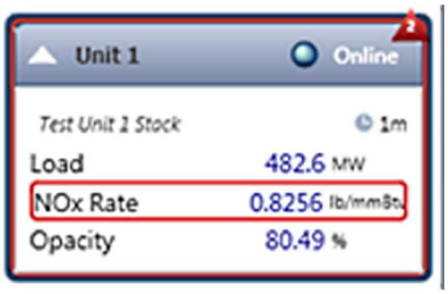


Figure 5-2 Expanded Unit in Unit Pane

The center pane, as seen in **FIGURE 5-3**, contains a complete listing of the unit's information, and, as mentioned above, represents the unit selected in the unit pane.

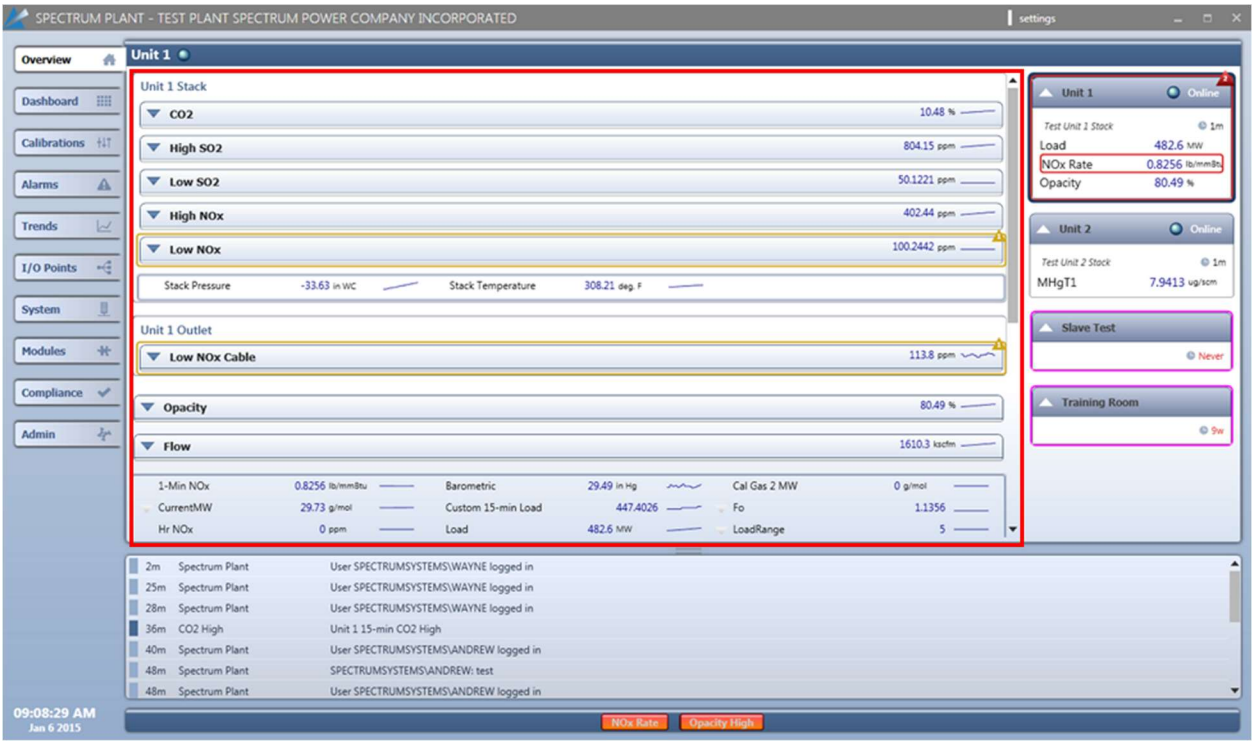


Figure 5-3 Full Unit Information

This includes data such as stack probe readings and information, analog readings, and digital status readings, as seen in **FIGURE 5-4**.

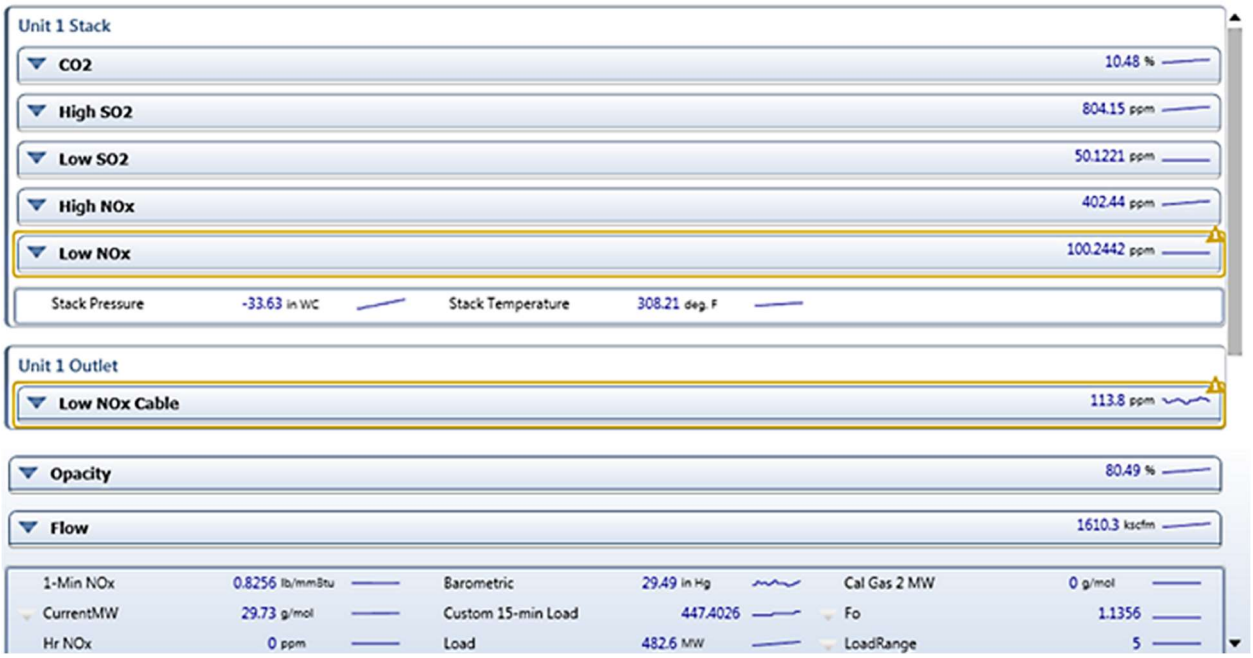


Figure 5-4 Unit Detail

The data lists that are located in the center of the tab are drillable, as explained in **DATA LIST EXPANSION BUTTON** and **ACTION MENU ELLIPSIS BUTTON**, as seen in **FIGURE 5-5**.

Figure 5-5 Overview Tab Drill-Down

ACTIONS

There are actions that can be performed on the *Overview Tab* by drilling down and accessing the *Action Menu* for the relevant instruments listed in the data lists.

Instrument Service

The instruments listed on the data lists may be taken in and out of service for maintenance purposes.

To place an instrument in or out of service, perform the following steps.

1. Click on the expansion button for the requisite instrument.
2. Click on the ellipsis button for the instrument.
3. Under the *Instrument Service* heading, click on **Out of Service** or **In Service** as required to place the instrument in or out of service.

Probe Purge

The probe to which the instruments listed are connected, may be purged.

To purge a probe, perform the following steps.

1. Click on the expansion button for the requisite instrument.
2. Click on the ellipsis button for the instrument.
3. Under the *Probe Purge* heading, click on **Start** or **Stop** as required to start or stop the probe purge.

Auto-Calibration

An auto-calibration may be performed on an instrument.

To perform an auto-calibration on a selected instrument, perform the following steps.

1. Click on the expansion button for the requisite instrument.
2. Click on the ellipsis button for the instrument.
3. Under the requisite *AutoCalc(x)* heading, click on **Start** or **Stop** as required to start or stop the auto-calibration.

Manual Calibration

In addition to auto-calibration, manual calibration can be performed, as required, on instruments. The difference between the two being that auto-calibration takes care of all calibrations tied to the instrument, where manual calibrations exist for each calibration gas.

To manually calibrate a selected instrument with a selected calibration gas, perform the following.

1. Click on the expansion button for the requisite instrument.
2. Click on the ellipsis button for the instrument.
3. Under the requisite *Man CG(x)* heading, click on **Start** or **Stop** as required to start or stop the manual calibration.

Chapter 6 - CALIBRATIONS TAB

OVERVIEW

The *Calibrations Tab* is used for verifying and controlling analyzers and probes[1]. The *Calibrations Tab*, as seen in **FIGURE 6-1**, is much like the *Overview Tab* in that the right-side pane contains all of the units for the site, and selecting those units will change the *Calibrations Tab* contents.

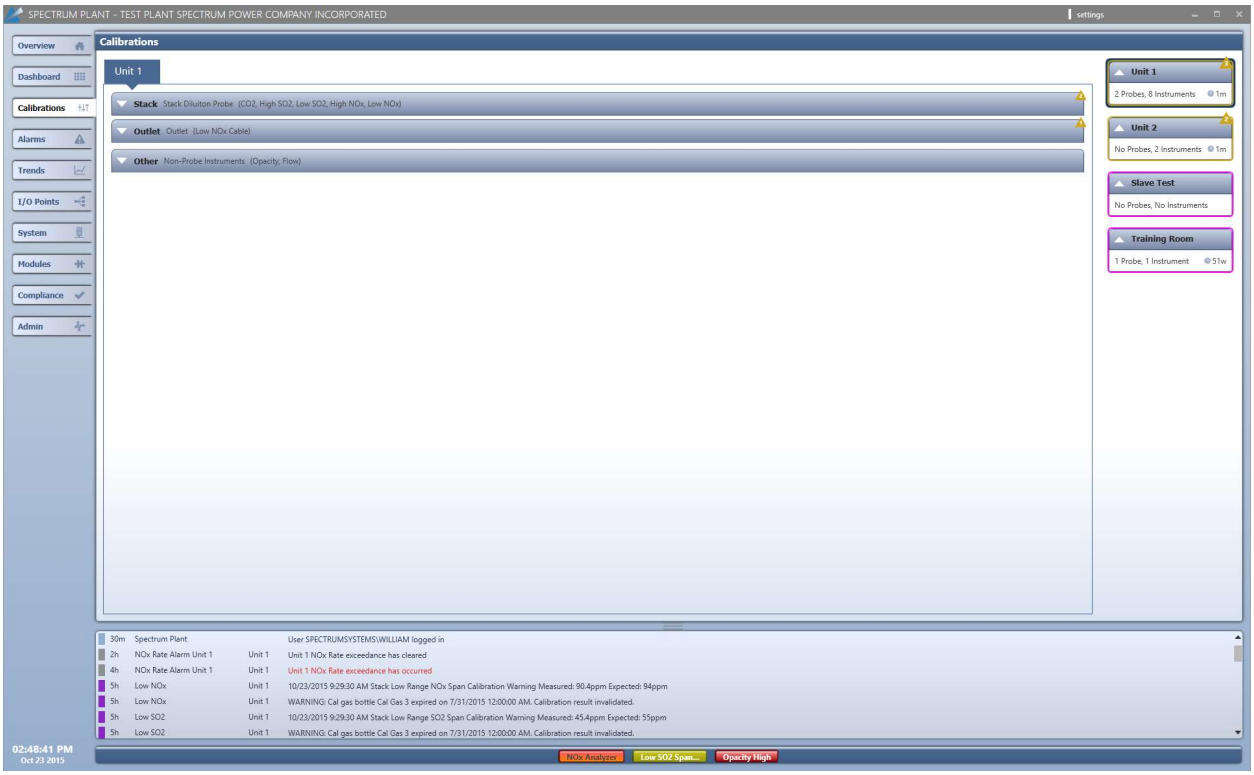


Figure 6-1 Calibrations Tab

The center pane of the *Calibrations Tab*, as seen in **FIGURE 6-2**, contains data lists presenting all of the calibration items for the selected unit. The end-user information such as the status of the last instrument calibration; when the calibration took place, whether or not the instrument is online, and whether the instrument passed calibration; along with expected values, measured values, limits, and other pertinent information regarding the instrument's calibration procedure.

[1] Depending on roles and rights user may not have the listed options.

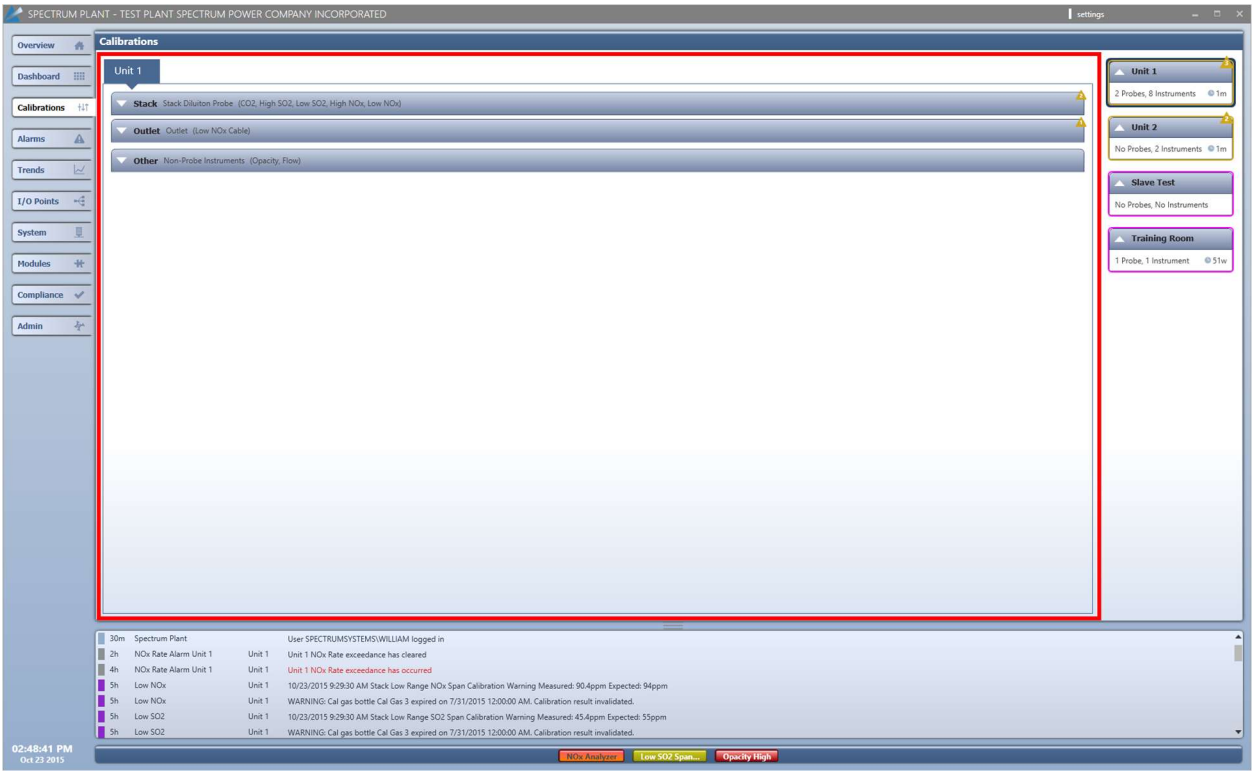


Figure 6-2 Calibrations Information

The items can be drilled into, as explained in **DATA LIST EXPANSION BUTTON** and **ACTION MENU ELLIPSIS BUTTON**, to allow for further detail and actions, as seen in **FIGURE 6-3**.

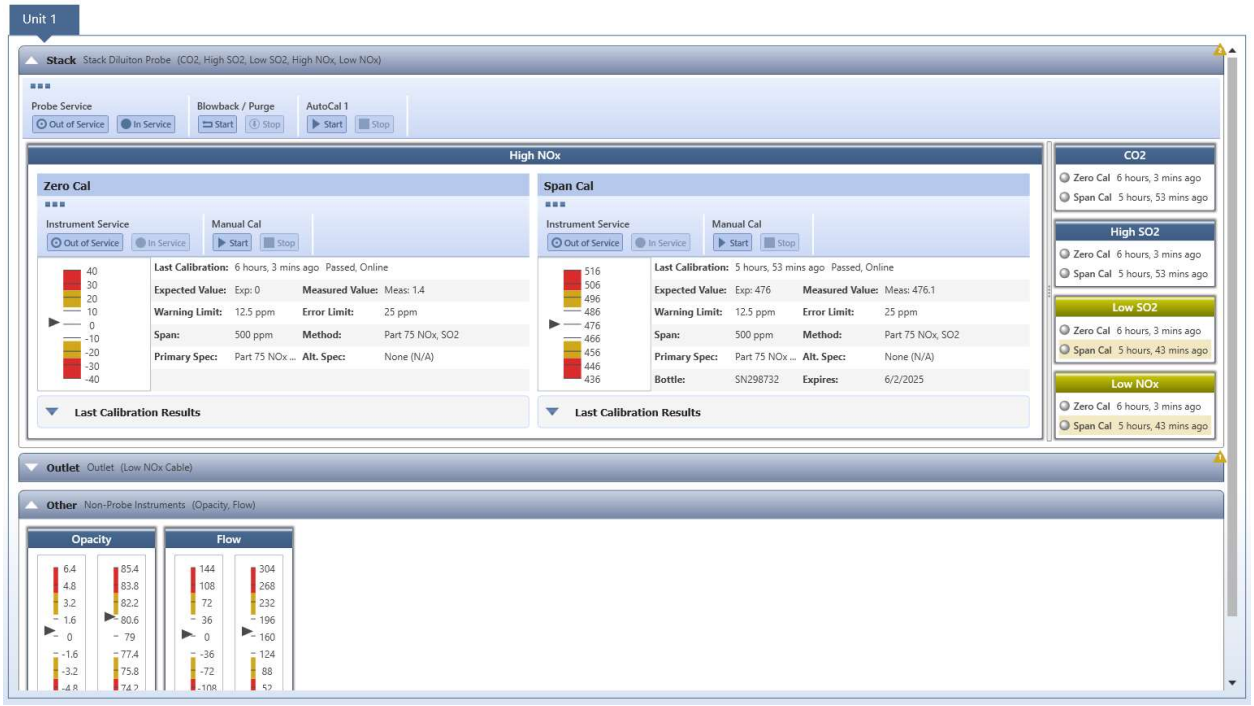


Figure 6-3 Calibrations Tab Drill-Down

By clicking on the *Last Calibration Results* expansion button, as seen in **FIGURE 6-4**, the end-user can obtain a historical look at past calibrations for the instrument.

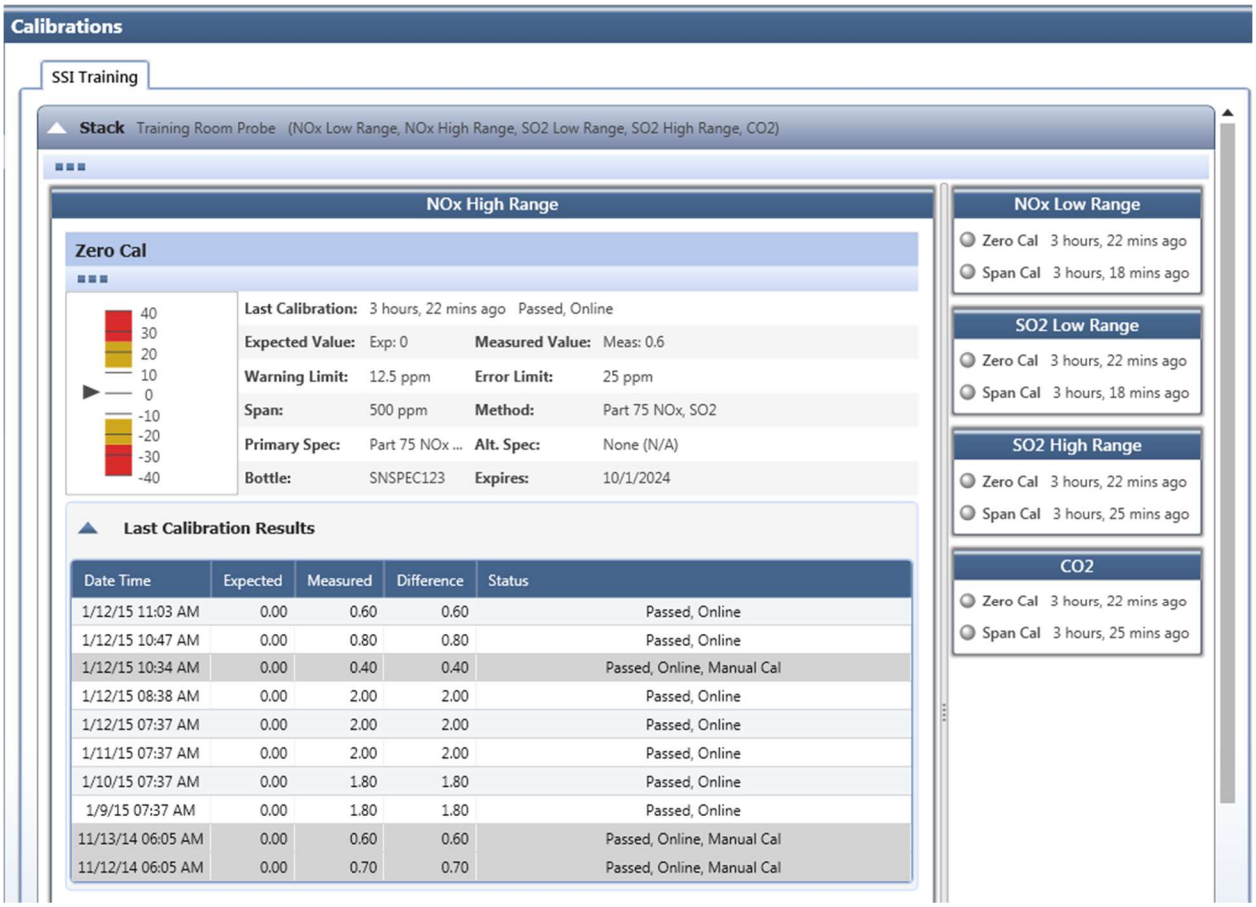


Figure 6-4 Last Calibration Results

ACTIONS

There are actions that can be performed on the *Calibrations Tab* by drilling down and accessing the *Action Menu* for the relevant probes listed in the data lists.

Probe Service

The probes listed on the data lists may be taken in and out of service for maintenance purposes.

To place a probe in or out of service, perform the following steps.

1. Click on the expansion button for the requisite probe.
2. Click on the ellipsis button for the probe.
3. Under the *Probe Service* heading, click on **Out of Service** or **In Service** as required to place the probe in or out of service.

Probe Purge

Probes may be purged from this tab.

To purge a probe, perform the following steps.

1. Click on the expansion button for the requisite probe.
2. Click on the requisite instrument.
3. Under the *Blowback / Purge* heading, click on **Start** or **Stop** as required to start or stop the probe purge.

Auto-Calibration

An auto-calibration may be performed on a probe. Performing an auto-calibration on a probe will perform all calibrations on all instruments connected to that probe.

To perform an auto-calibration on a selected probe, perform the following steps.

1. Click on the expansion button for the requisite probe.
2. Click on the ellipsis button for the probe.
3. Under the requisite *AutoCalc(x)* heading, click on **Start** or **Stop** as required to start or stop the auto-calibration.

Instrument Calibration

Instrument calibration can be performed on the *Calibrations Tab*, in addition to the already mentioned procedure on the *Overview Tab*.

Instrument Service

The instruments listed on the data lists may be taken in and out of service for maintenance purposes.

To place an instrument in or out of service, perform the following steps.

1. Click on the expansion button for the requisite probe.
2. Double-click on the requisite instrument's heading.
3. Click on the ellipsis button for the requisite calibration for the instrument.
4. Under the *Instrument Service* heading, click on **Out of Service** or **In Service** as required to place the instrument in or out of service.
5. The Instrument view may be closed by double-clicking on the instrument's heading.

Manual Calibration

In addition to auto-calibration, manual calibration can be performed, as required, on individual instruments. The difference between the two being that auto-calibration takes care of all calibrations tied to the probe, where manual calibrations exist for each instrument.

To manually calibrate a selected instrument, perform the following.

1. Click on the expansion button for the requisite probe.
2. Double-click on the requisite instrument's heading.

3. Click on the ellipsis button for the requisite calibration for the instrument.
4. Under the requisite *Man Cal* heading, click on **Start** or **Stop** as required to start or stop the manual calibration.
5. The Instrument view may be closed by double-clicking on the instrument's heading.

Chapter 7 - ALARMS TAB

OVERVIEW

The *Alarms Tab* provides access to system alarms, as seen in **FIGURE 7-1**. The *Alarms Tab* allows any alarm to be explored for occurrences, and acknowledged if required. The *Alarms Tab* differs from previous tabs in that the selection of the *Reporting Group(s)*, takes place in the top row of the pane, along with providing the ability to filter on *Alarm Types*. Alarms may also be searched from within the *Search* box, also located in the top row.

Figure 7-1 Alarms Tab

The *Alarms Tab* contains two sub-tabs, *Panel* and *History*, each offering up a historical view of alarms that have been raised.

Panel Sub-Tab

The *Panel* sub-tab contains the alarms for the system, as seen in **FIGURE 7-2**. These alarms are real-time representations of alarm conditions.

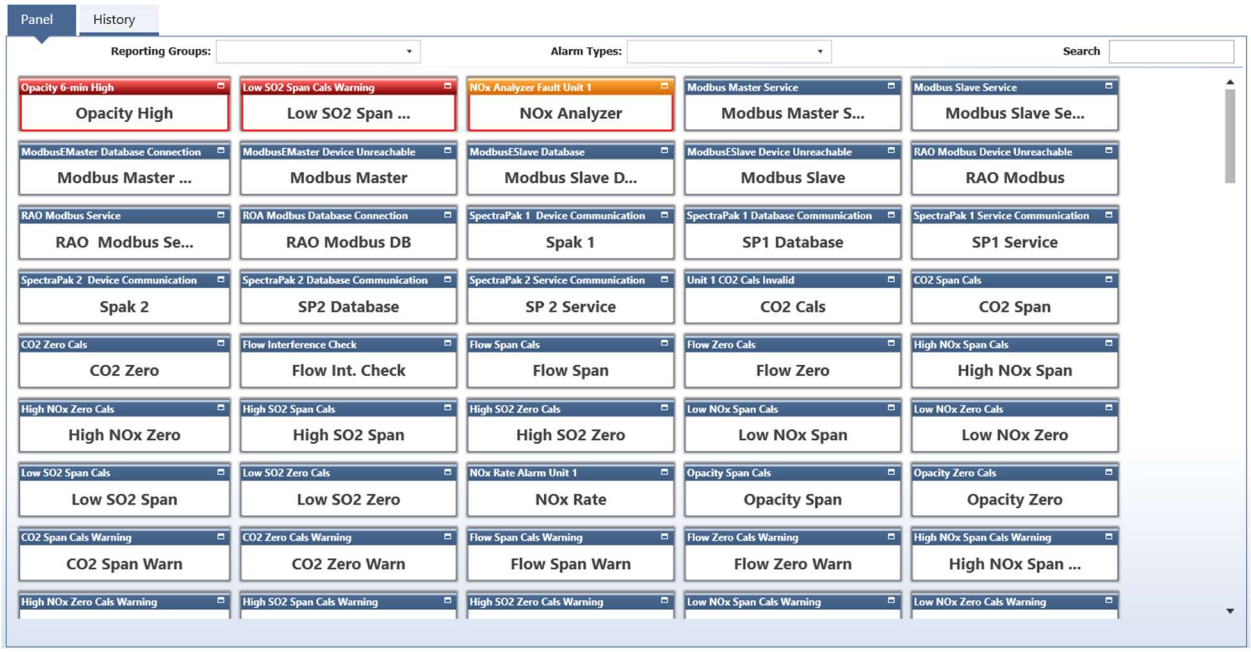


Figure 7-2 Panel Sub-Tab

Double clicking on an alarm will expand the alarm, as seen in **FIGURE 7-3**, to provide more detail on the respective alarm, including history for that particular alarm.

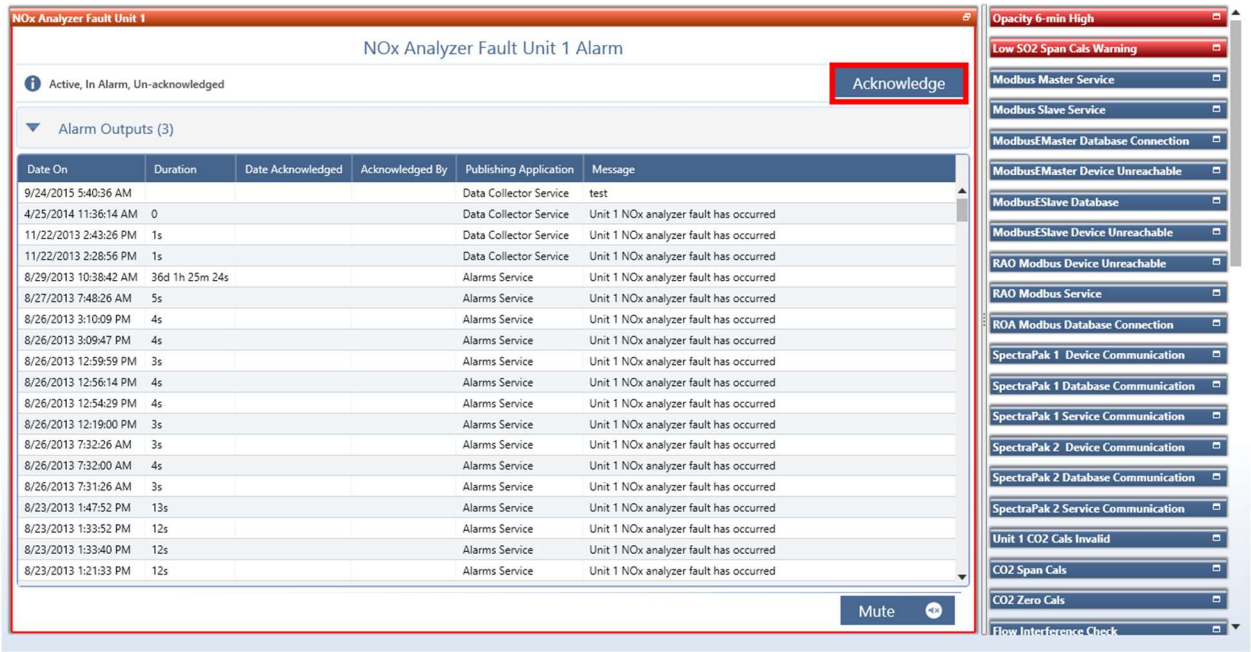


Figure 7-3 Expanded Alarm

History Sub-Tab

The *History* sub-tab contains a history of all alarm events over the past thirty days, as seen in **FIGURE 7-4**. Each alarm event is color coded based on analyzer type. The slide bar at the top of the window shows a key for the analyzer color. The popup flags indicate the alarm messages in relation to the time on the

timeline zoom bar. The alarm history grid, in the bottom half of the sub-tab, provides information about the alarm such as time occurred, duration of alarm, the publisher, and provides an input for a message describing the alarm.

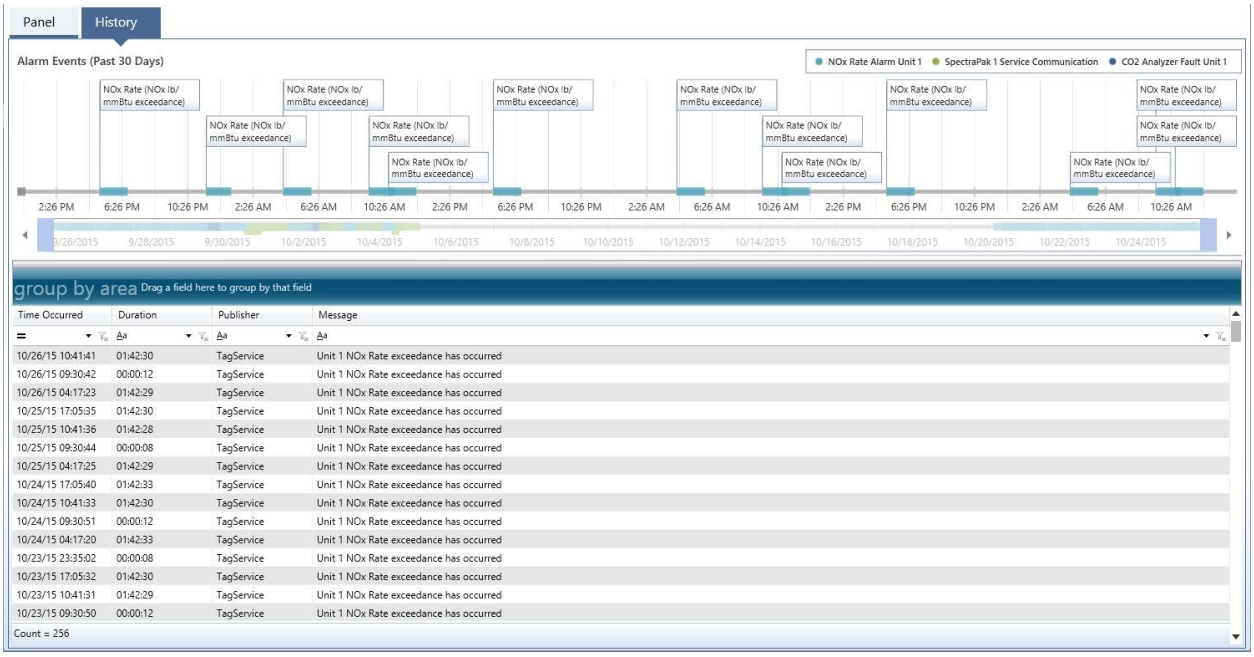


Figure 7-4 History Sub-Tab

ACTIONS

Acknowledging an Alarm

There is only one action that can take place on the *Alarms Tab*, acknowledging an alarm.

To acknowledge an alarm on the *Alarms Tab*, perform the following steps.

1. Double-click on the alarm that is in alarm condition.
2. Click on the **Acknowledge** button.

Chapter 8 - TRENDS TAB

OVERVIEW

The *Trends Tab*, as seen in **FIGURE 8-1**, provides the end-user with the ability to select historical trend data from predefined trends. The trend pens can be turned on and off, the trend zoomed in and out, and the historical data window can be changed to display older data. The timeline zoom bar, located at the bottom of the pane, allows for selecting the date range.

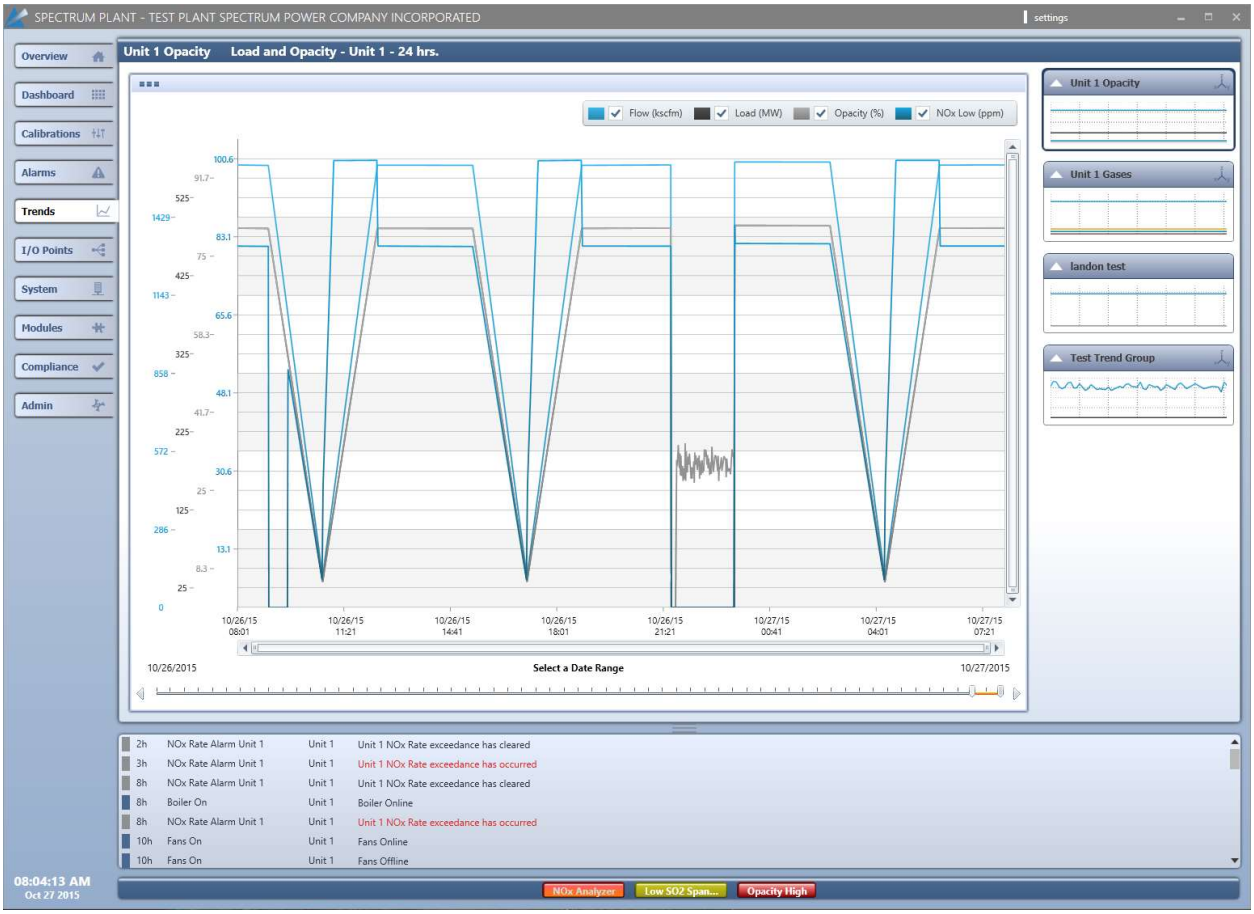


Figure 8-1 Trends Tab

To select, or deselect, pen, click on the check box, as seen in **FIGURE 8-2**.

Figure 8-2 Trend Pens Control

Trend Zoom

Clicking and dragging the mouse over an area of the trend graph allows the end-user to draw a box that will zoom in to provide more finite detail. Double-clicking will return the screen to the default zoom level.

Trend Detail

Hovering over a point on a trend line will result in a popup box appearing which will contain the value for that trend at that point in time.

There is also a navigation tool for viewing data. This tool allows the end-user to zoom in, and move the area of the zoom around the trend graph. This navigation tool is accessed by clicking on the ellipsis button on the trend pane and will appear as seen in Figure 8-3.

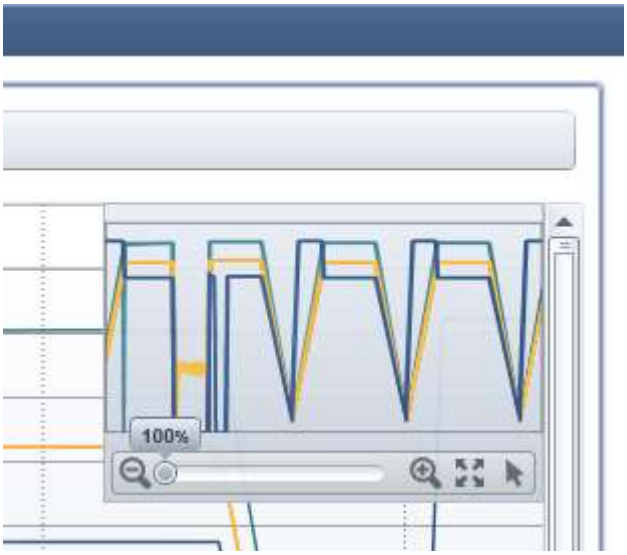


Figure 8-3 Navigation Tool

From this action menu, the end-user may also save a picture copy of the graph as it exists on the screen.

ACTIONS

Accessing the Zoom Navigation Box

To access the zoom navigation box, perform the following steps.

1. Click on the ellipsis button.
2. Select the **Show Zoom Box** item in the action menu. The navigation box will appear in the right upper corner of the trend graph.

Exporting Trend Picture

To export a picture of the current trend graph, perform the following steps.

1. Click on the ellipsis button.
2. Click on the **Export** button.
3. Select a location and name for the picture being saved.
4. Click on **OK**.

Chapter 9 - I/O POINTS TAB

OVERVIEW

The *I/O Points Tab* allows the end-user to observe the data from the system *Sources*, to include data from the *SpectraPak®-E* and *Modbus* devices, etc., as seen in **FIGURE 9-1**. The right side of the *I/O Points Tab* contains all of the *Sources* in the system. By selecting one of these sources, the end-user can view all of the I/O points associated with that source.

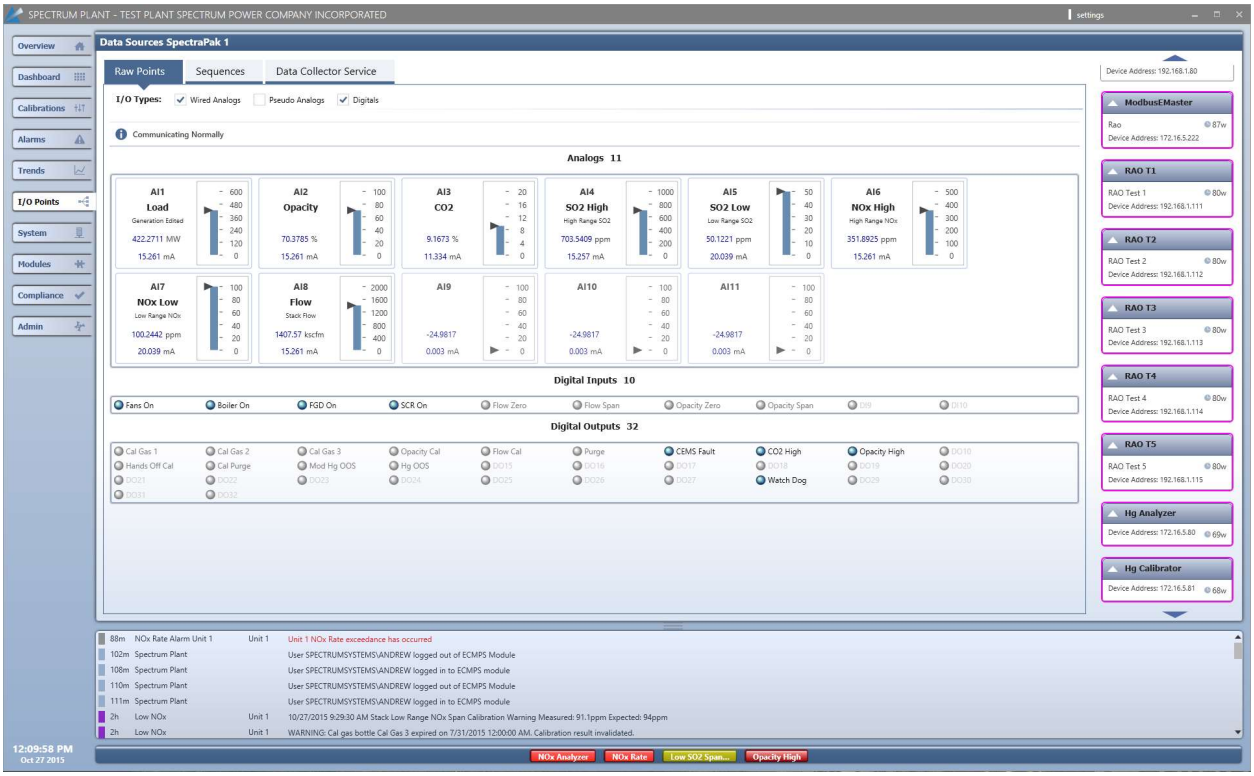


Figure 9-1 I/O Points Tab

There are three sub-tabs contained in the *I/O Points Tab*. They are the *Raw Points* sub-tab, the *Sequences* sub-tab, and the *Data Collector Service* sub-tab. An explanation of each follows.

Raw Points Sub-Tab

The *Raw Points* sub-tab, as seen in **FIGURE 9-2**, presents the I/O for the source selected in the right-hand pane. This source presentation is divided into three parts; the *Wired Analogs*, represented by the *Analogs XX* section of the sub-tab; the *Pseudo Analogs*, also represented by the *Analogs XX* section; and the *Digitals*, represented by the *Digital Inputs XX* and *Digital Outputs XX* sections. The *XX* in the section headings represents a number that is the count of I/O points in that particular section, *(i.e., Digital Inputs 11 means there are 11 digital inputs in that section)*.

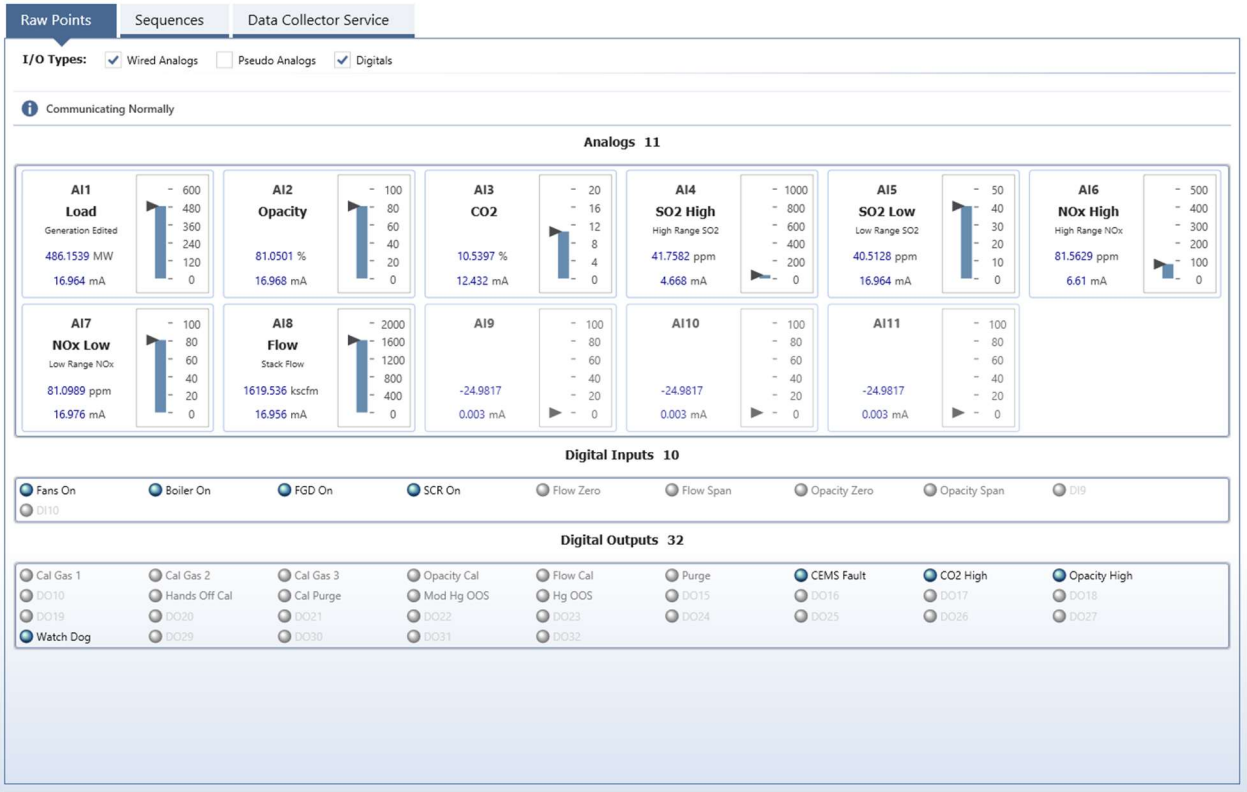


Figure 9-2 I/O Points Tab - Raw Points

Wired Analogs

The *SpectraPak®-E* has eleven wired 4-20ma analog inputs. The inputs have no engineering scaling and must be configured – additionally the inputs are internally stored as 0 - 4095 – integer values. Each analog input can be stored and recalled for up to 10 days.

Pseudo Analogs

For calculations and Modbus operations prepared internally on the *SpectraPak®-E*, the Pseudo Analogs are used. The advantage in any pseudo analog is data storage and recovery in the event the computer is turned off. The disadvantage is the logic to determine a calculated value is simplistic and may not cover all the rules as computed in the computer.

Digitals

Each *SpectraPak®-E* has ten digital inputs and 10 digital outputs for contact/switch monitoring and alarm/value operation. In addition, each *SpectraPak®-E* has twenty-two pseudo digital points used for intermediate logic calculations, *(i.e., the Watchdog Timer is fed into the CEMS alarms)*.

Sequences Sub-Tab

The *Sequences Sub-Tab* presents the sequences necessary to for controlling activities in the *CEMS*. Each *SpectraPak®-E* has a *Sequences* table for controlling event, calibration, and purge activities. This table is represented in the *Sequences Sub-Tab* by a grid containing the *Sequences*, as seen in **FIGURE 9-3**. If the sequence table is empty, then, no *Sequences* have been defined for that *SpectraPak®-E*.

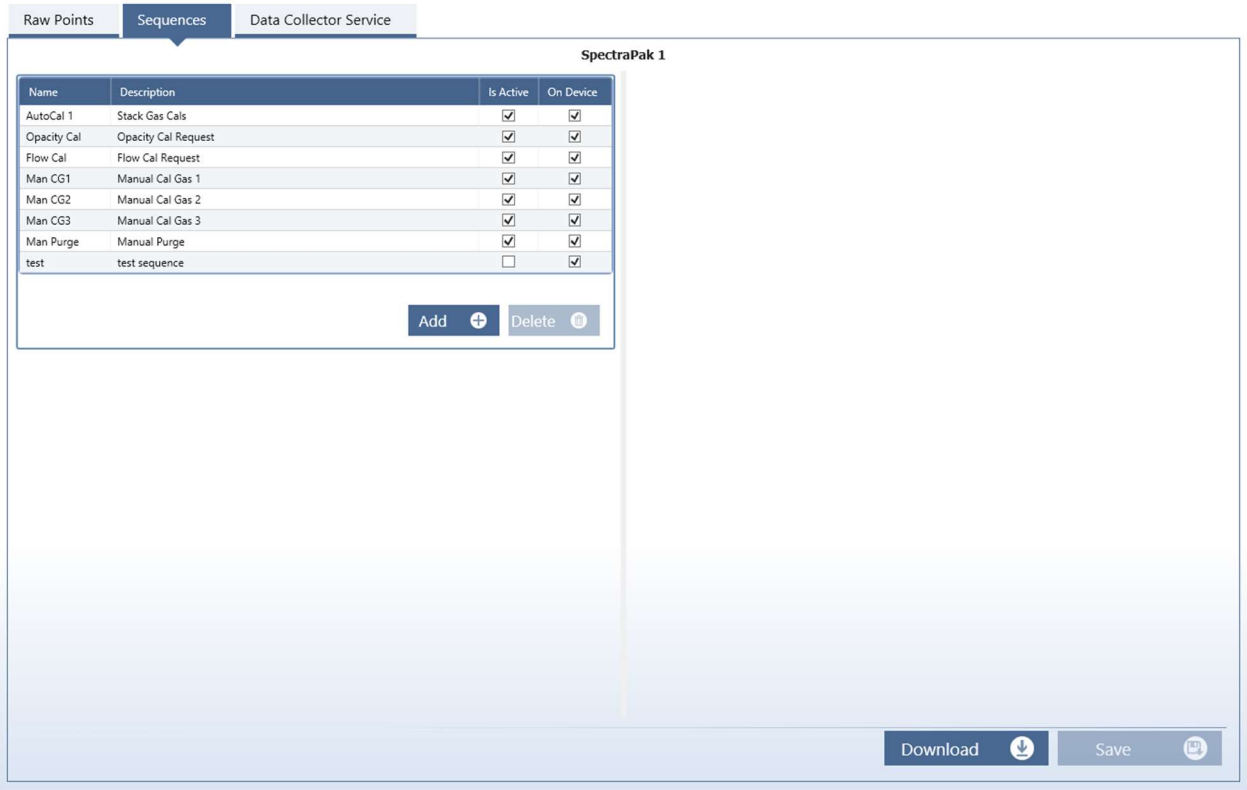


Figure 9-3 Sequences Sub-Tab

The *Sequences Sub-Tab* grid items may be drilled into by clicking on a row in the grid. This will bring up additional data grids in the right-hand portion of the screen that contain the start times and steps for the selected *Sequence*, as seen in **FIGURE 9-4**.

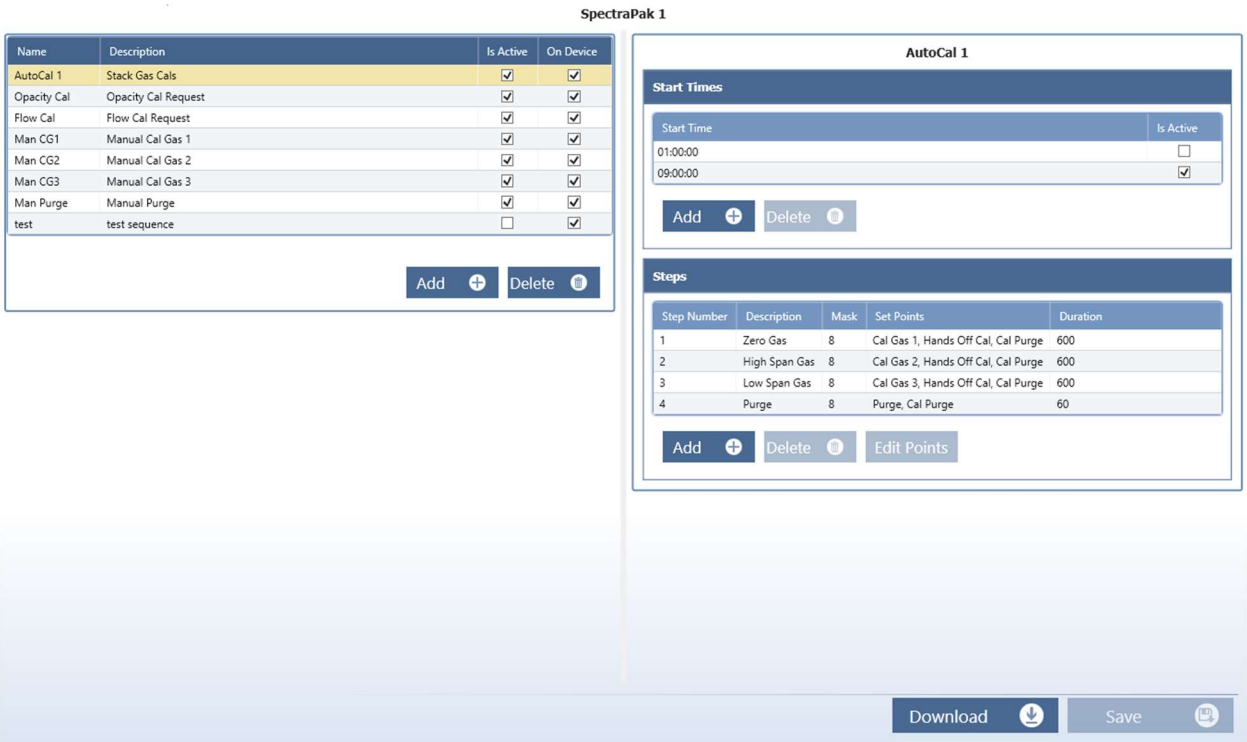


Figure 9-4 Sequences Grid Drill-Down

Sequence Start Times

The *Start Times* grid displays the start times for the event selected in the *Sequences* grid. Multiple starts time are possible. If the "Is Active" is selected the event will run at the listed time. Deselecting the "Is Active" option will prevent the Sequence from running. The Start time could be blank indicating is a manually run operation only. To change the start time click on the number then enter the new time then press save.

Sequence Steps

Each of the *Sequence Steps* has a duration, listed in seconds, for the relevant operation. When a *Sequence Step* is completed the next *Sequence Step* listed will trigger and run for the duration listed. Clicking on the *Sequence Step* allows the end-user to edit the point that is used. To change the duration click on the number then enter the new duration in seconds then press save.

what

ACTIONS

Download Sequences

Once created, the *Sequences* must be downloaded to the *SpectraPak®-E*. Perform the following steps to download the *Sequences*.

1. Select the **Sequences Sub-Tab**.
2. Click the **Download** button. The button will disable and fade and change to **Downloading**. Once the operation is completed, the button will enable and change back to **Download**.

Search by Log Time

The *Log Time* search is performed using pre-defined entries in a drop-down list, or entering a custom string.

To search by log time, perform the following steps.

1. The search string can be entered in one of two ways.
    a. Click on the down arrow on the left edge of the **Log Time** search box.
        i. Select the pertinent entry from the drop-down list.
        ii. If **Custom** was selected, build the search string with the provided tool.
    b. Type in a valid date/time string, *(e.g., 2015-07-01, 07/01/2015, 2015-07-01 00:00)* and hit **Enter**.
2. The filter is applied and the event log list is automatically updated.

Search by Severity or Message Contents

The *Severity* search is performed using pre-existing entries in a drop-down list, or entering a custom string.

To search by severity, perform the following steps.

1. The search string can be entered in one of two ways.
    a. Click on the down arrow on the left edge of the appropriate search box.
        i. Select the pertinent entry from the drop-down list.
        ii. If **Custom** was selected, build the search string with the provided tool.
    b. Type in a valid string and hit **Enter**.
2. The filter is applied and the event log list is automatically updated.

Chapter 10 - SYSTEM TAB

OVERVIEW

The *System Tab* is a collection of logs for the *CEMS* operation status and history, as seen in **FIGURE 10-1**. The *System Tab* contains three sub-tabs; the *CEM Log Sub-Tab*, the *Applications Sub-Tab*, and the *System Log Sub-Tab*.

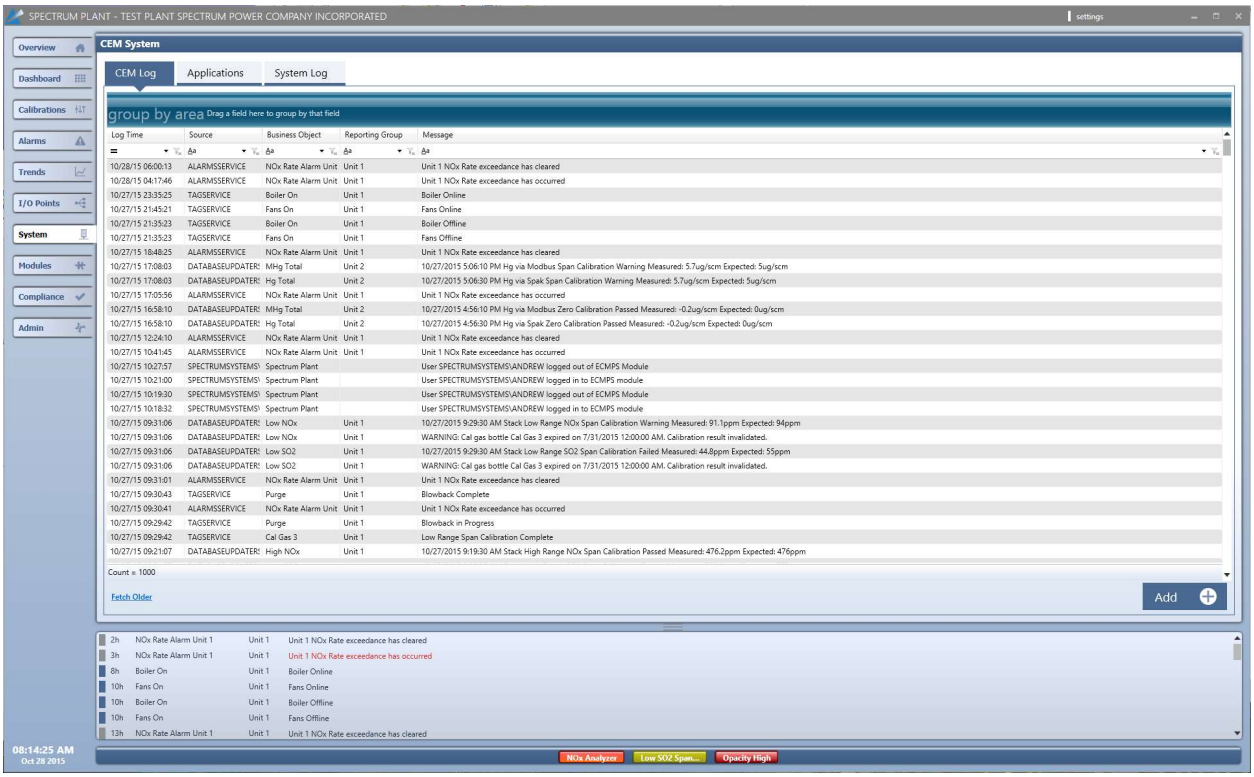


Figure 10-1 System Tab

CEM Log Sub-Tab

The *CEM Log Sub-Tab* contains all of the entries that are seen in the *Daylog*, as see in **FIGURE 10-2**. These entries are comprised of both system generated and end-user generated items.

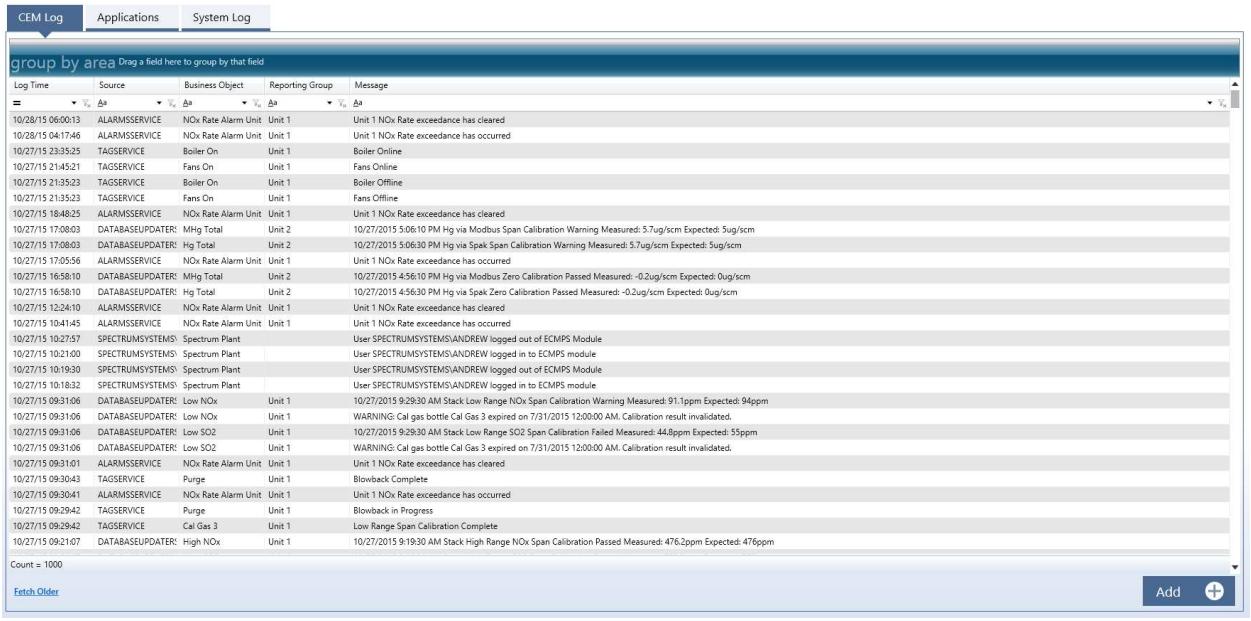


Figure 10-2 CEM Log Sub-Tab

Applications Sub-Tab

The *Applications Sub-Tab* contains alarm logs from each of the *SpectraView® Prism Services*, as seen in **FIGURE 10-3**.

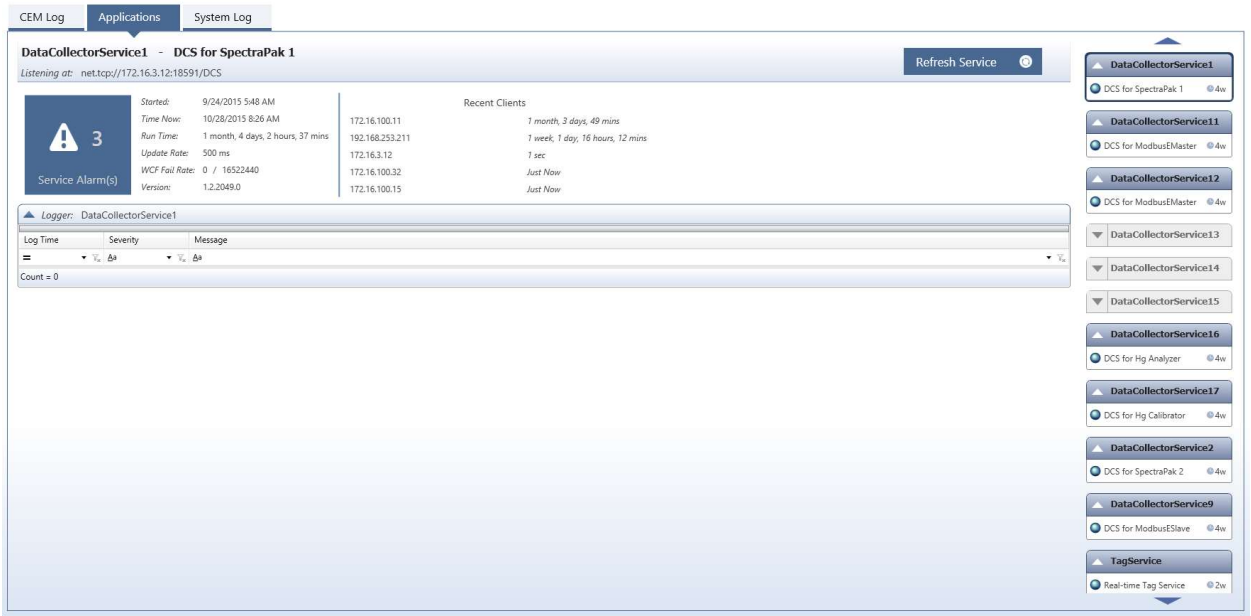


Figure 10-3 Applications Sub-Tab

System Sub-Tab

The *System Log Sub-Tab* contains system logs for each of the *SpectraView® Prism Services*, as see in **FIGURE 10-4**.

Figure 10-4 System Log Sub-Tab

ACTIONS

CEM Log Sub-Tab

Adding an End-User Message

The *CEM Log Sub-Tab* allows for adding end-user messages which will also show up in the *Daylog*. To add an end-user message, perform the following steps.

1. Select the **CEM Log Sub-Tab**.
2. Click on the **Add** button in the lower right corner of the sub-tab. A pop-up will appear on the window called *Add New Daylog Message*, as seen in **FIGURE 10-5**.

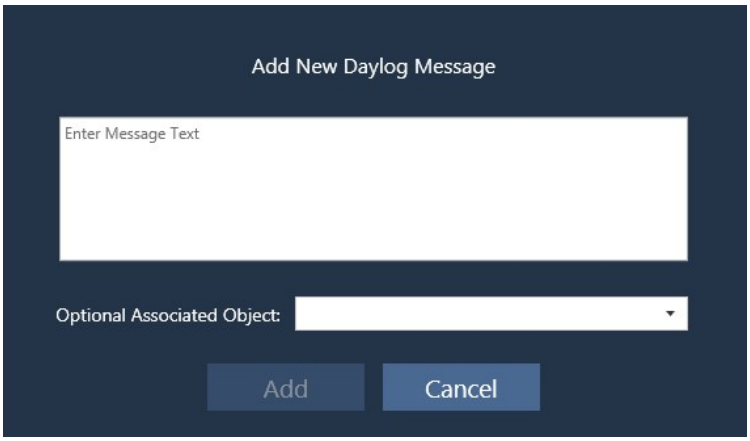


Figure 10-5 Add New Daylog Message Pop-up

3. Enter a message.

4. Select an *Optional Associated Object*.
5. Click on the **Add** button. The message will now show up in both the *CEM Log* and the *Daylog*.

Search by Log Time

The *Log Time* search is performed using pre-defined entries in a drop-down list, or entering a custom string.

To search by log time, perform the following steps.

1. The search string can be entered in one of two ways.
    a. Click on the down arrow on the left edge of the **Log Time** search box.
        i. Select the pertinent entry from the drop-down list.
        ii. If **Custom** was selected, build the search string with the provided tool.
    b. Type in a valid date/time string, *(e.g., 2015-07-01, 07/01/2015, 2015-07-01 00:00)* and hit **Enter**.
2. The filter is applied and the event log list is automatically updated.

Search by Source, Business Object, Reporting Group, or Message

The search is performed using pre-existing entries in a drop-down list, or entering a custom string.

To search by source, perform the following steps.

1. The search string can be entered in one of two ways.
    a. Click on the down arrow on the left edge of the appropriate search box.
        i. Select the pertinent entry from the drop-down list.
        ii. If **Custom** was selected, build the search string with the provided tool.
    b. Type in a valid string and hit **Enter**.
2. The filter is applied and the event log list is automatically updated.

Applications Sub-Tab

Search by Log Time

The *Log Time* search is performed using pre-defined entries in a drop-down list, or entering a custom string.

To search by log time, perform the following steps.

1. The search string can be entered in one of two ways.
    a. Click on the down arrow on the left edge of the **Log Time** search box.
        i. Select the pertinent entry from the drop-down list.

ii. If **Custom** was selected, build the search string with the provided tool.

b. Type in a valid date/time string, *(e.g., 2015-07-01, 07/01/2015, 2015-07-01 00:00)* and hit **Enter**.

2. The filter is applied and the event log list is automatically updated.

Search by Severity or Message

The search is performed using pre-existing entries in a drop-down list, or entering a custom string.

To search by severity, perform the following steps.

1. The search string can be entered in one of two ways.

    a. Click on the down arrow on the left edge of the appropriate search box.

        i. Select the pertinent entry from the drop-down list.

        ii. If **Custom** was selected, build the search string with the provided tool.

    b. Type in a valid string and hit **Enter**.

2. The filter is applied and the event log list is automatically updated.

System Log Sub-Tab

Search by Log Time

The *Log Time* search is performed using pre-defined entries in a drop-down list, or entering a custom string.

To search by log time, perform the following steps.

1. The search string can be entered in one of two ways.

    a. Click on the down arrow on the left edge of the **Log Time** search box.

        i. Select the pertinent entry from the drop-down list.

        ii. If **Custom** was selected, build the search string with the provided tool.

    b. Type in a valid date/time string, *(e.g., 2015-07-01, 07/01/2015, 2015-07-01 00:00)* and hit **Enter**.

2. The filter is applied and the event log list is automatically updated.

Search by Source, Severity or Message

The search is performed using pre-existing entries in a drop-down list, or entering a custom string.

To search by severity, perform the following steps.

1. The search string can be entered in one of two ways.

    a. Click on the down arrow on the left edge of the appropriate search box.

i. Select the pertinent entry from the drop-down list.

ii. If **Custom** was selected, build the search string with the provided tool.

b. Type in a valid string and hit **Enter**.

2. The filter is applied and the event log list is automatically updated.

Chapter 11 - MODULES TAB

OVERVIEW

The *Modules Tab* contains add-on modules for the *SpectraView® Prism Client*, as seen in **FIGURE 11-1**. Modules will appear in the *Installed Modules* section as required by each facility's regulatory requirements. The additional modules allow the end-user to permissions specific actions in the relevant module.

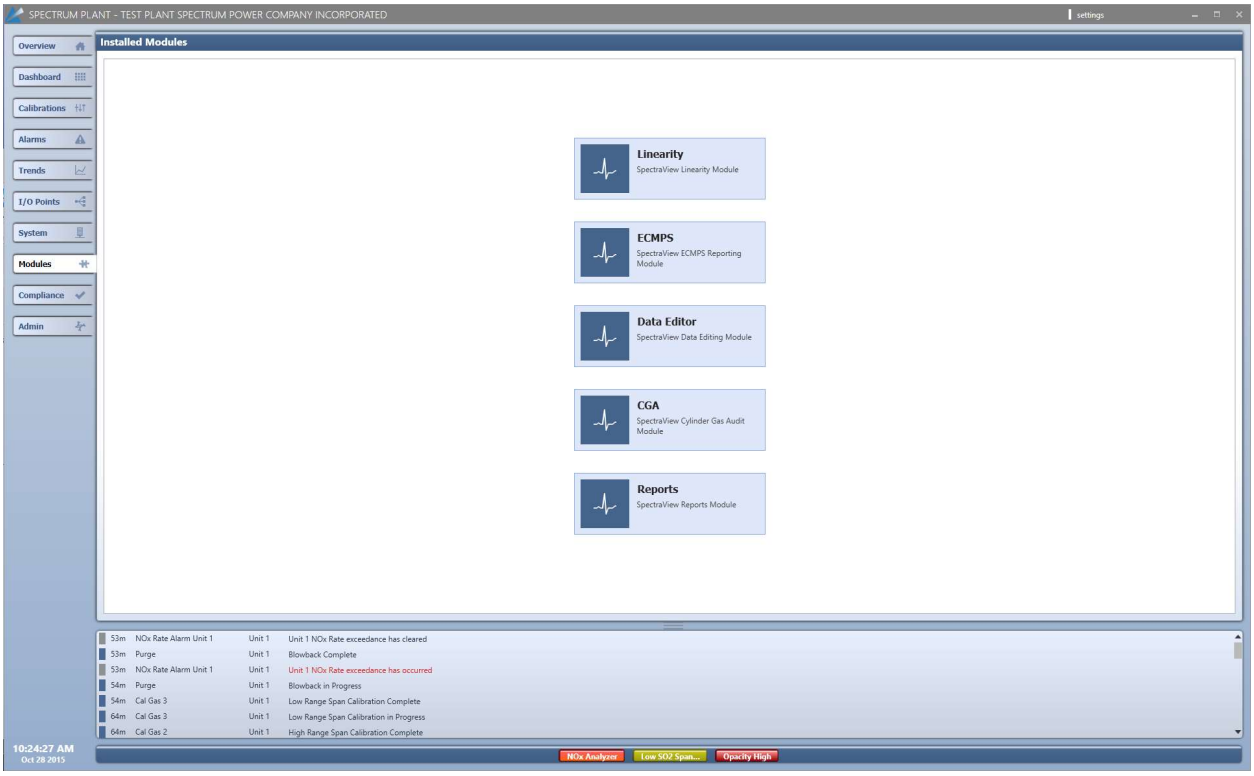


Figure 11-1 Modules Tab

The *Modules* will need to be installed as separate programs on the computer and the appropriate permissions are required to execute the *Modules*. The *Modules* will be covered in separate addendums to this manual to address facility specific requirements.

The modules in the *Modules Tab* could consist of any of the following modules.

- Reports Module
- Data Editor
- CGA
- Linearity
- ECMPS

- SIC

Reports Module

The *Reports Module* provides report generation capabilities to the end-users having permission to use the module. These reports are predefined, and created, for reporting certain aspects of the *CEMS* system.

Data Editor Module

The *Data Editor Module* allows end-users the ability to edit certain data points in *SpectraView® Prism*.

CGA Module

The *CGA Module* provides *Cylinder Gas Audit (CGA)* capability.

Linearity Module

The *Linearity Module* provides the ability to perform *Linearity* testing.

ECMPS Module

The *ECMPS Module* provides *ECMPS* reporting for the installation.

SIC Module

The *SIC Module* provides the ability to perform a *System Integrity Check (SIC)* on a mercury system.

Chapter 12 - COMPLIANCE TAB

OVERVIEW

The *Compliance Tab* allows for viewing of *Exceedances* and current *Compliance* data, as seen in **FIGURE 12-1**. The *Compliance Tab* consists of three sub-tabs; the *Events Sub-Tab*, the *Downtime Sub-Tab*, and the *Data Sub-Tab*. The far right-hand pane of the *Compliance Tab*, once again provides the ability to select the appropriate unit's data by selecting the unit from the list.

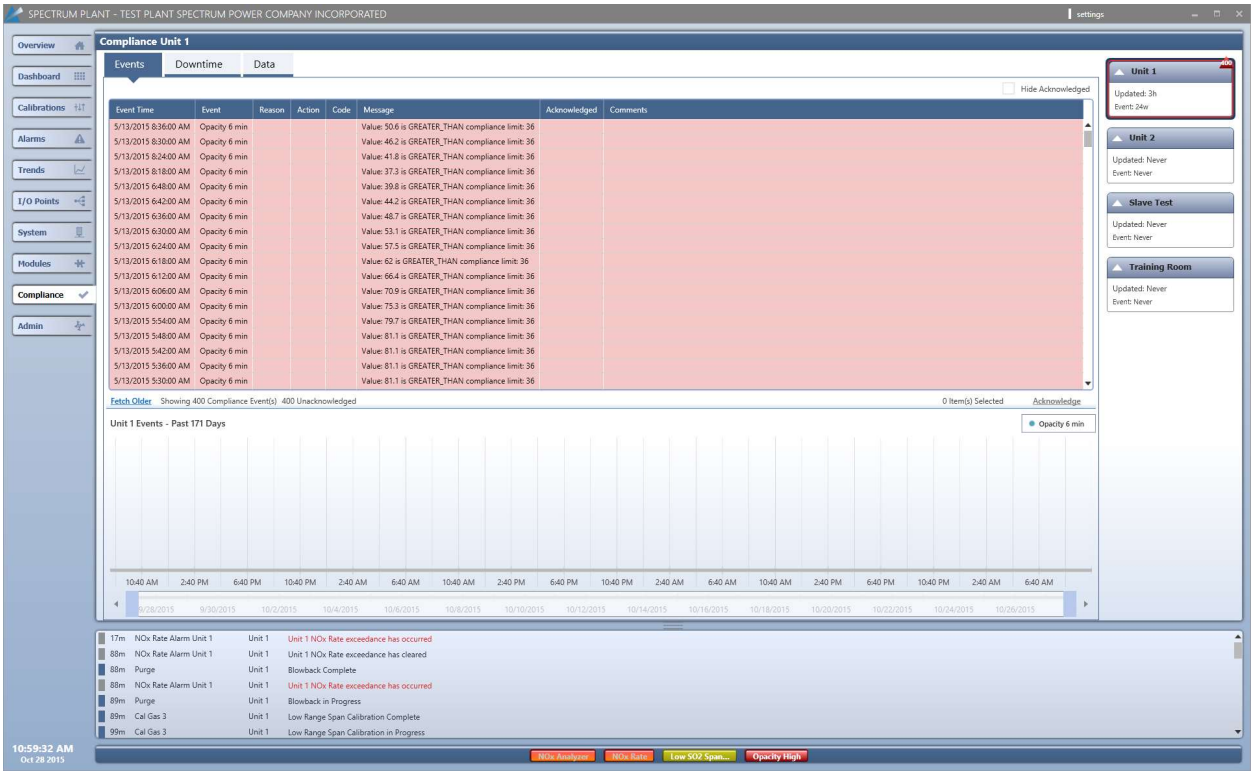


Figure 12-1 Compliance Tab

Events Sub-Tab

The *Events Sub-Tab* is a listing of current *Exceedances*, as seen in **FIGURE 12-2**. The end-user can also acknowledge these events from this sub-tab. The acknowledged *Exceedances* can be hidden from view by selecting the *Hide Acknowledged* box in the top row of the *Events Sub-Tab*.

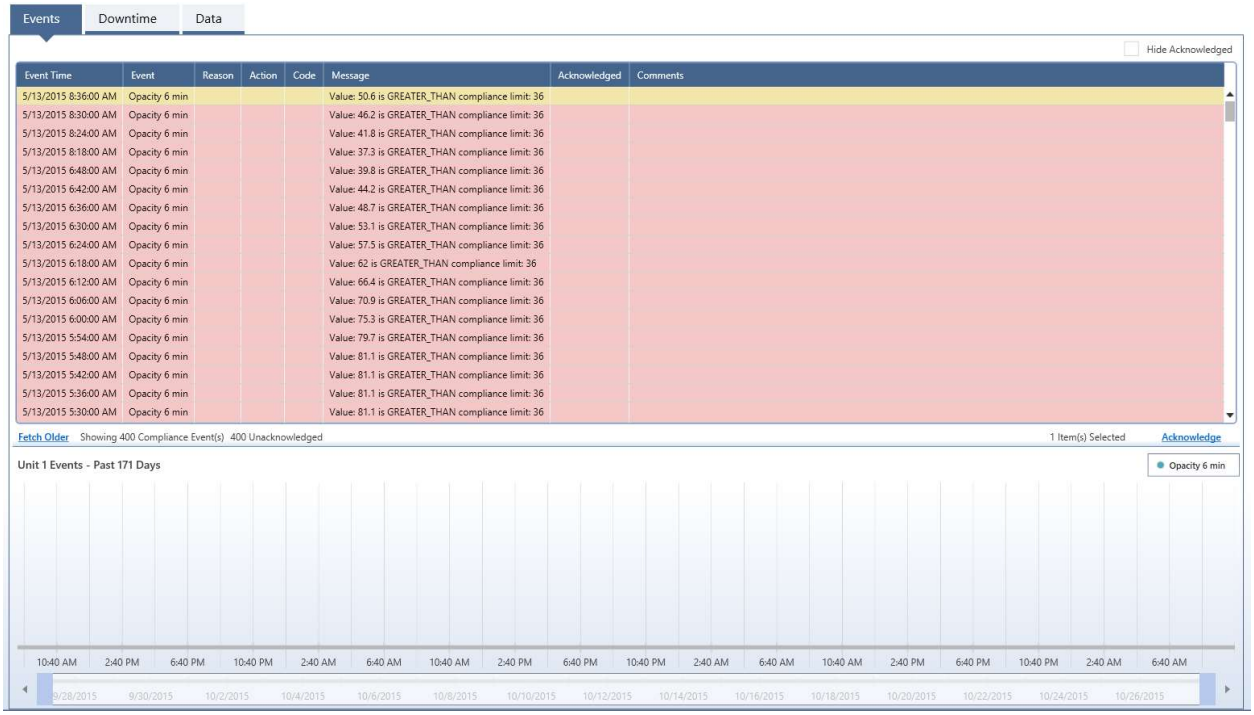


Figure 12-2 Events Sub-Tab

Downtime Sub-Tab

The *Downtime Sub-Tab* allows the end-user to view any downtime incidents of the selected unit, as seen in **FIGURE 12-3**. The timeline zoom bar, located at the bottom of the pane, allows for selecting the date range.

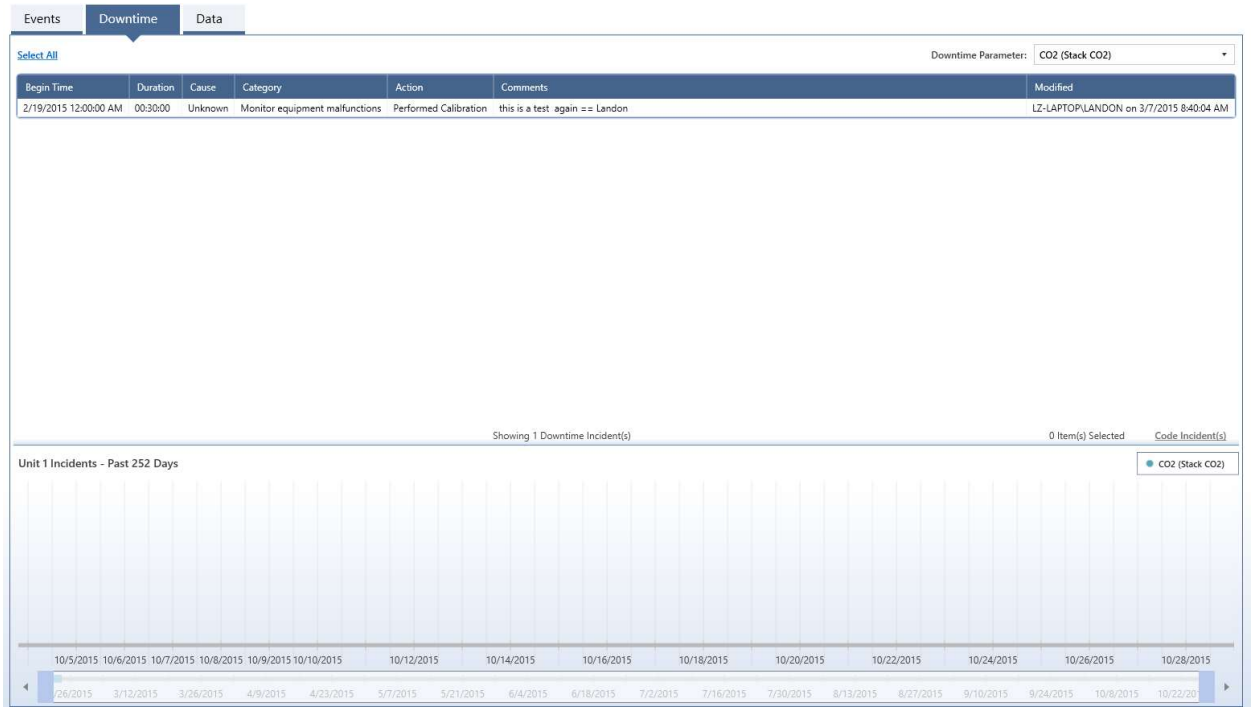


Figure 12-3 Downtime Sub-Tab

Data Sub-Tab

The *Data Sub-Tab* is used to display current compliance data. The parameters will be plant specific. The timed averages will be programed by *Spectrum Systems, Inc.* and will display on the screen, as seen in **FIGURE 12-4**.

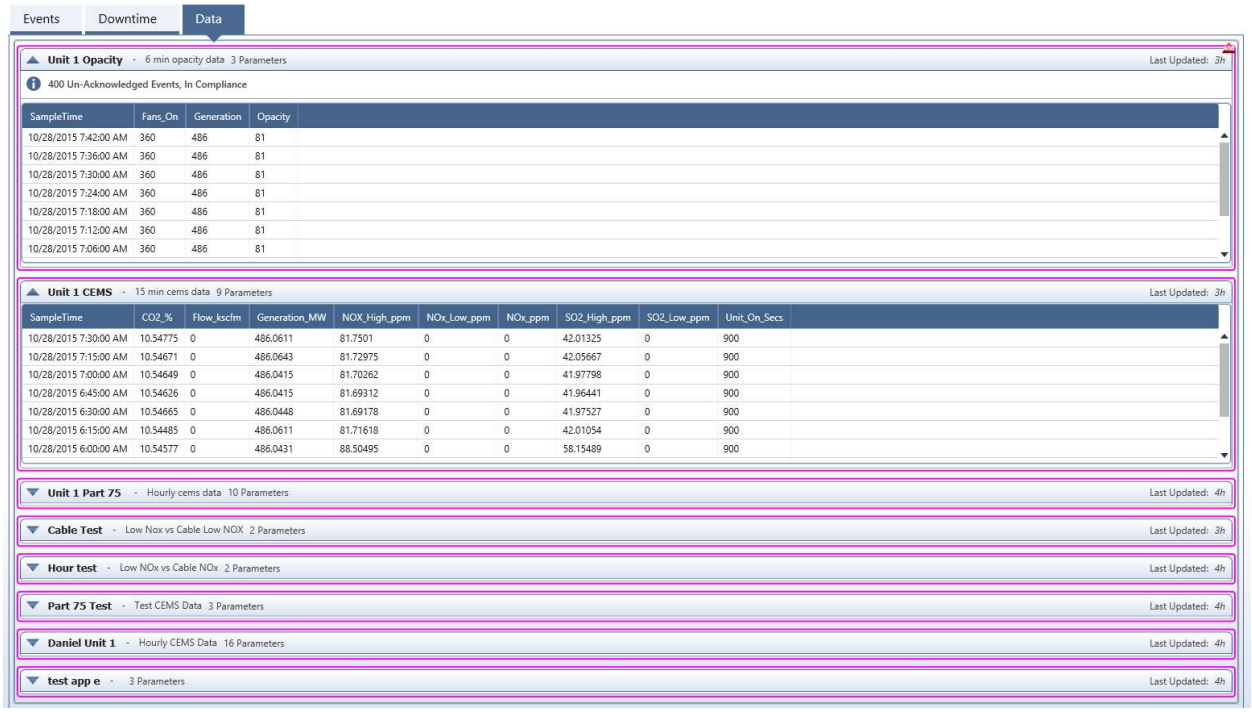


Figure 12-4 Data Sub-Tab

Chapter 13 - ADMIN TAB

OVERVIEW

The *Admin Tab* contains the functionality required to administer the *SpectraView® Prism System*, as seen in **FIGURE 13-1**. The contents of the *Admin Tab* are generally restricted to a limited number of end-users. Also, not all end-users who have access to the *Admin Tab* will have access to all of the functions on the tab, *(i.e., one may have access to Application Messages, but not to Users and Security)*.

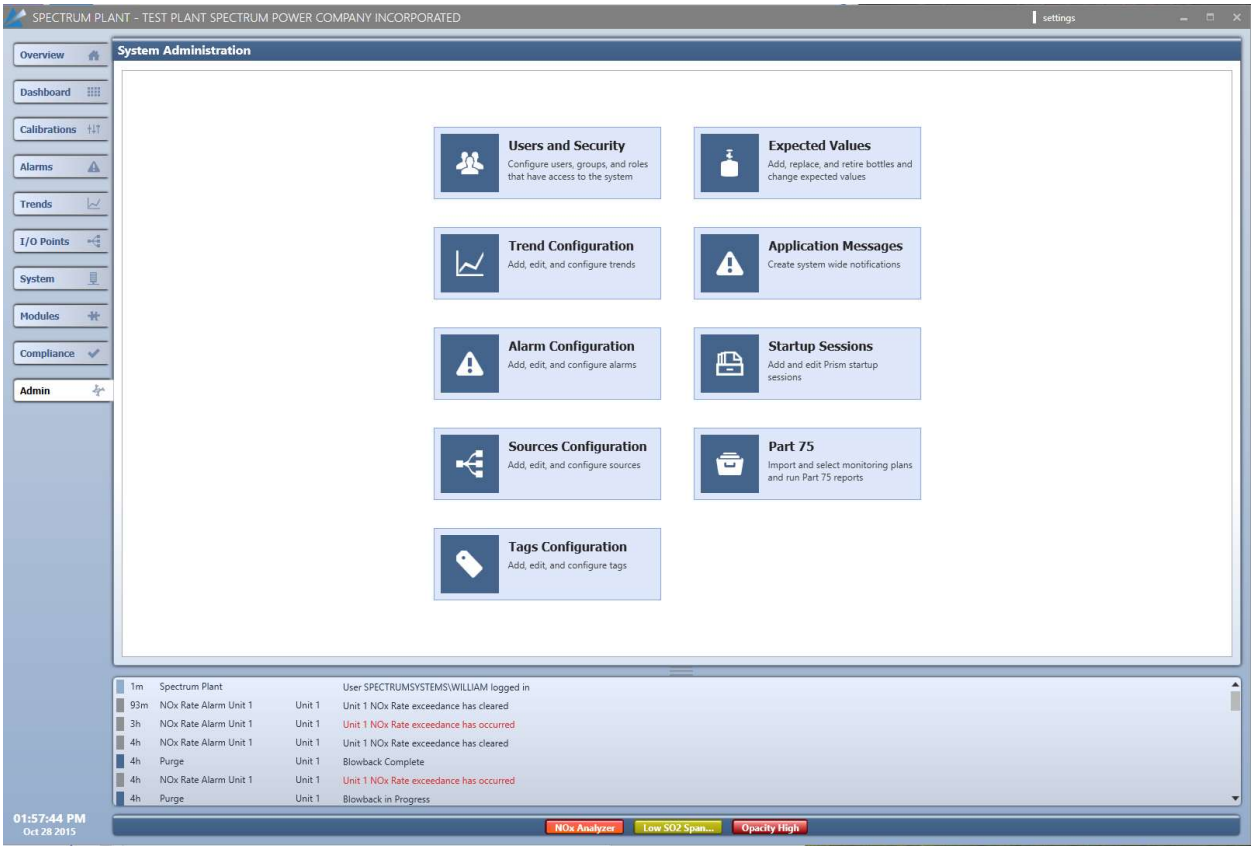


Figure 13-1 Admin Tab

The *Admin Tab* includes the administrative functions for *Users and Security*, *Trend Configuration*, *Alarm Configuration*, *Sources Configuration*, *Tags Configuration*, *Expected Values*, *Application Messages*, *Startup Sessions*, and *Part 75*, as seen in **FIGURE 13-2**.

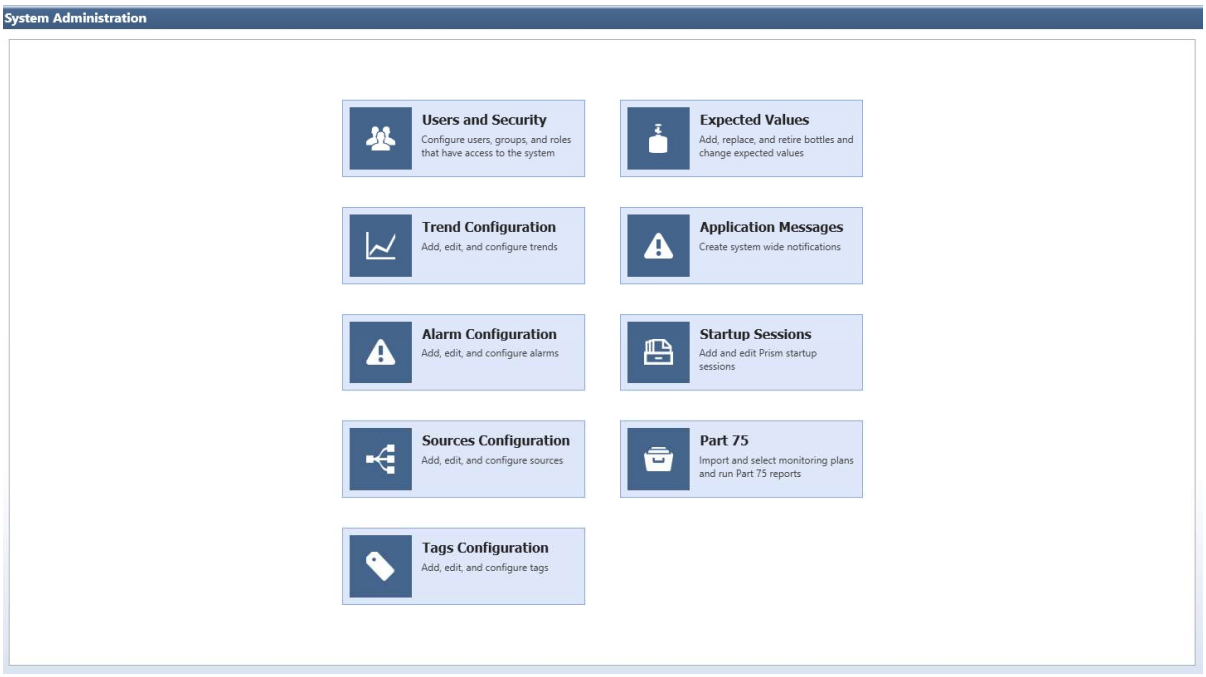


Figure 13-2 Admin Functions

Users and Security

The *Users and Security Tool* in the *Admin Tab* is used for setting up end-users and their roles.

Users Sub-Tab

In order for a user to interact with *SpectraView® Prism* the user will need to be created and assigned a role, as seen in **FIGURE 13-3**.

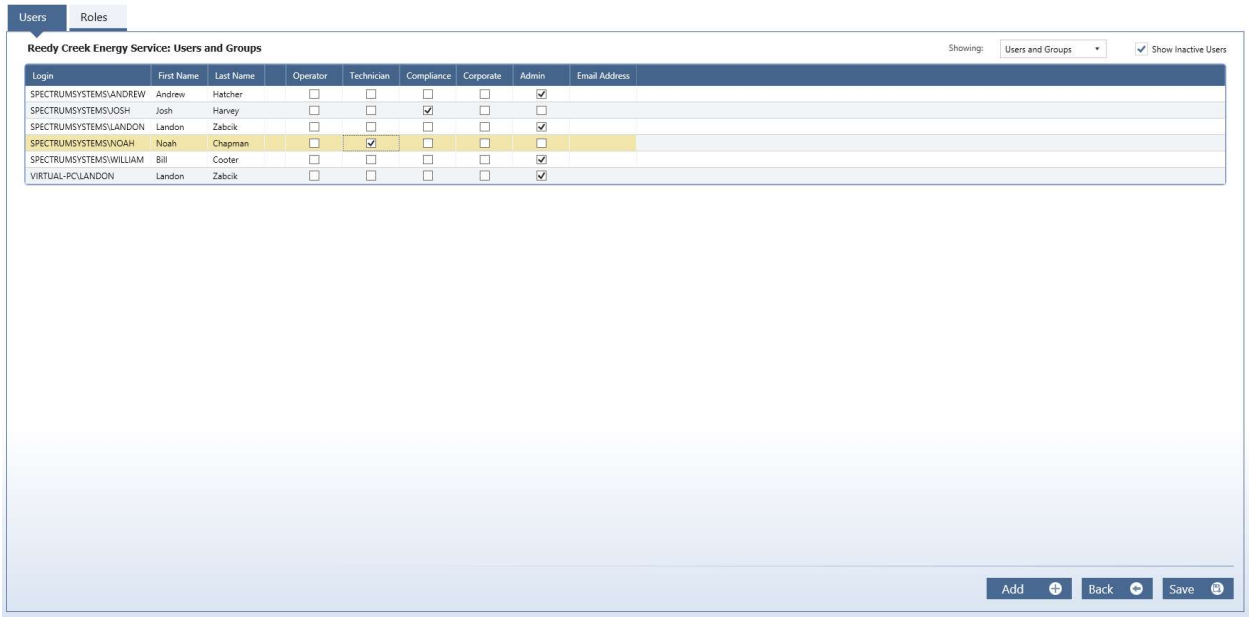


Figure 13-3 Users Sub-Tab

Normally a user is only assigned one role. However, a user may have several roles, but Prism will assign the most intrusive permissions, first. For example, if a user is assigned *Operator* and *Admin*, if either option has the rights to a particular function, then, the user will be granted access. Deselect all roles for a user and that user will become unable to access any functionality.

When a user first attempts to gain access to a new system, the account will be created, but no roles will be assigned, effectively disabling the account. An administrator must assign rights so the user will have access.

Roles Sub-Tab

For each tab shown on the left hand side of the *SpectraView® Prism Client*, very detailed rights are allowed for each role, as seen in **FIGURE 13-4**.For example, the *Calibration Tab* can be expanded to list other rights such as *Start Auto-Cal*, *Stop Auto-Cal, etc.* By checking the option box under each role, the administrator is able to grant rights to that role. The number listed next to a tab name identifies the number of sub-items for that role. Clicking on the rows with numbers will expand those roles.

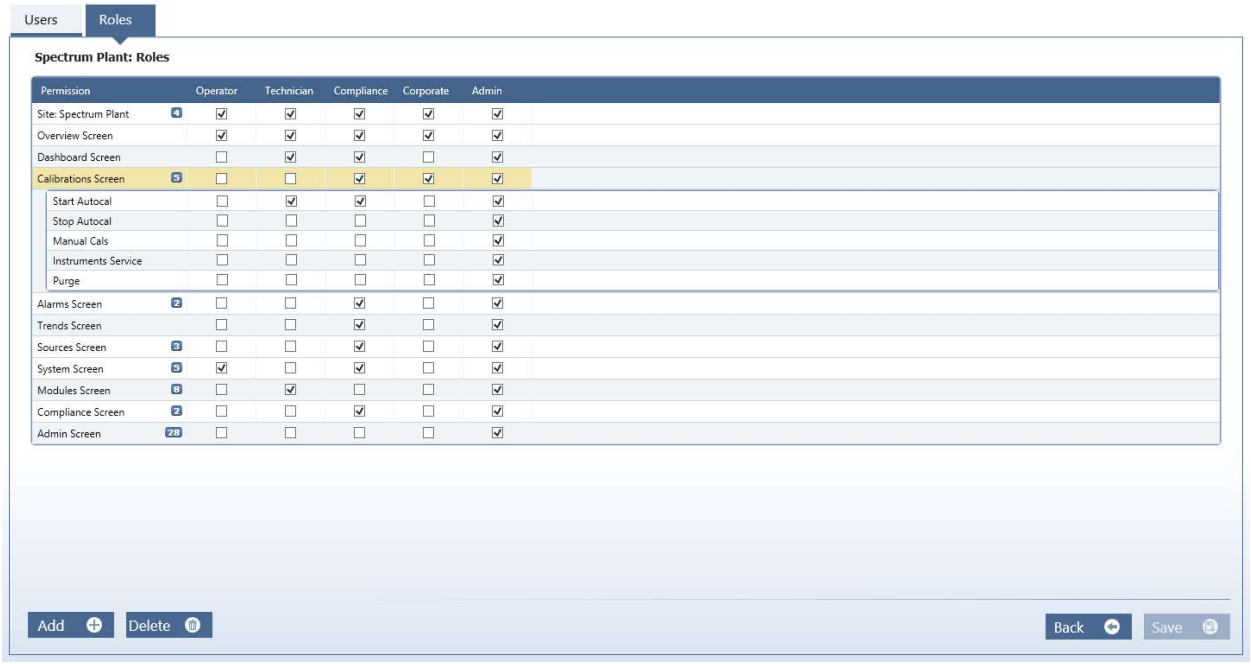


Figure 13-4 Roles Sub-Tab

Trend Configuration

The *Trend Configuration Tool* in the *Admin Tab* allows the user to add, edit or configure trends. The tool also allows the end-user to create new trends or determine which units or parameters are to be shown on the *Trends Tab*, as seen in the right-hand side, upper right of **FIGURE 13-5**. A *Trend* group may be multi-scaled (each pen is rescaled 0-100% for visibility), made public, activated, given a default amount of data to display, and assigned a Reporting Group, as seen in the right-hand side, upper left of **FIGURE 13-5**. If an item is not listed in the *Tags*, the administrator may create a new *Tag*, then, return to *Trends Configuration* for monitoring, (see **TAGS CONFIGURATION** for more information on configuring tags).

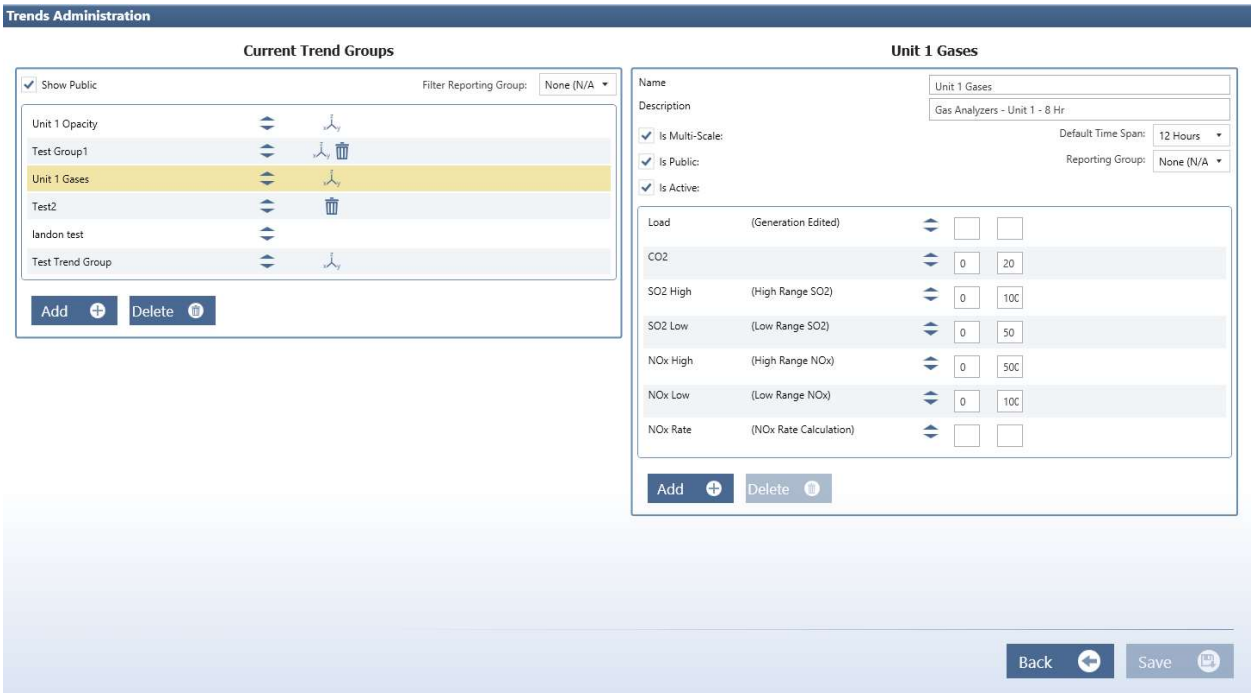


Figure 13-5 Trend Configuration

Alarm Configuration

The *Alarm Configuration Tool* in the *Admin Tab* allows for the addition or modification of alarms, including system alarms, compliance alarms, warnings, instrument faults, and other alarms. Initial creation of alarms should be performed by Spectrum Systems, Inc. Changes to Alarms are easy to complete using the existing points. The *Alarm Configuration Tool* consists of two sub-tabs; the *Alarms Sub-Tab*, and the *Outputs Sub-Tab*, as seen in **FIGURE 13-6**.

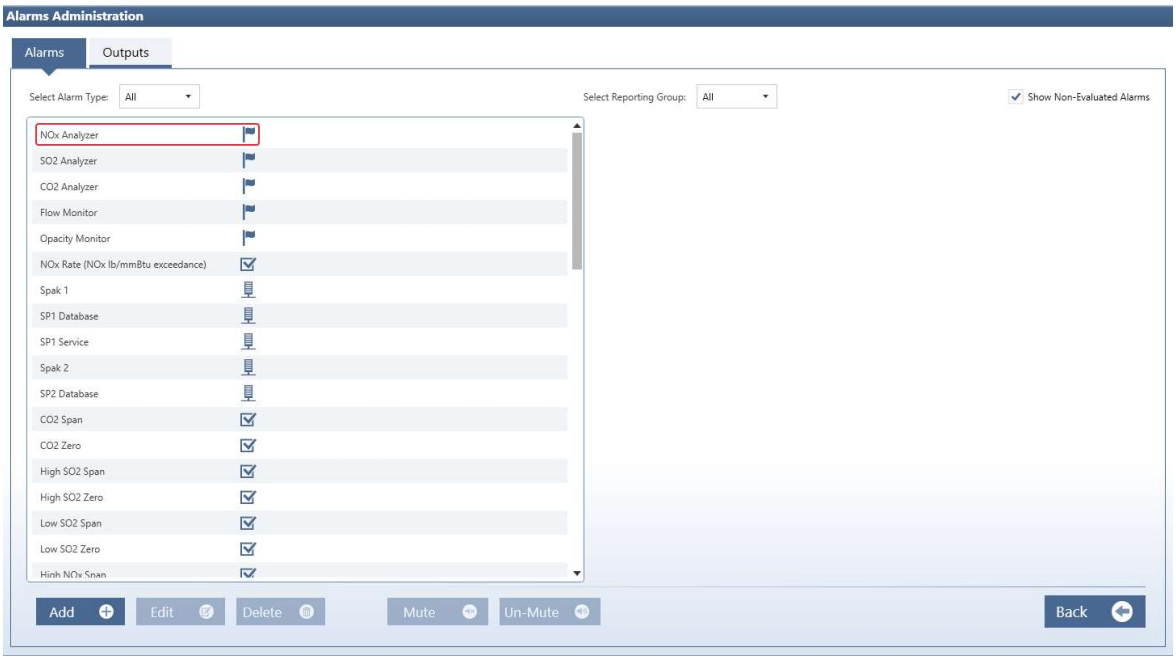


Figure 13-6 Alarm Configuration Tool

Alarms Sub-Tab

The *Alarms Sub-Tab* allows the end-user to view, *Add*, *Edit*, or *Delete* alarms. The *Alarms Sub-Tab* is comprised of three separate areas; *Alarms*, *Alarm Details*, and *Associated Alarm Outputs*; as seen in **FIGURE 13-7**.

Above this area, and in the top row of the sub-tab, is a drop-down box, *Select Alarm Type,* which allows the end-user to select the type of alarms to view, along with a drop-down box, *Select Reporting Group*, which allows the end-user to select the reporting group to view. There is also a checkbox, *Show Non-Evaluated Alarms*, to hide or show alarms that have not yet been evaluated.

Below this area, in the bottom row of the sub-tab, there are buttons to *Add*, *Edit*, *Delete*, *Mute*, and *Un-Mute* an alarm.

Alarms

On the left of **FIGURE 13-7** are the *Alarms*, themselves. The contents of this list are controlled by the drop-down lists as noted above in **ALARMS SUB-TAB**.

Alarm Details

On the right of **FIGURE 13-7**, in the upper area, are the *Alarm Details*. By selecting an *Alarm* on the left-hand side of the sub-tab, the end-user may view the *Alarm Details*.

Associated Alarm Outputs

On the right of **FIGURE 13-7**, in the lower area, are the *Associated Alarm Outputs*. Again, by selecting an *Alarm* on the left-hand side of the sub-tab, the end-user may view any *Associated Alarm Outputs*.

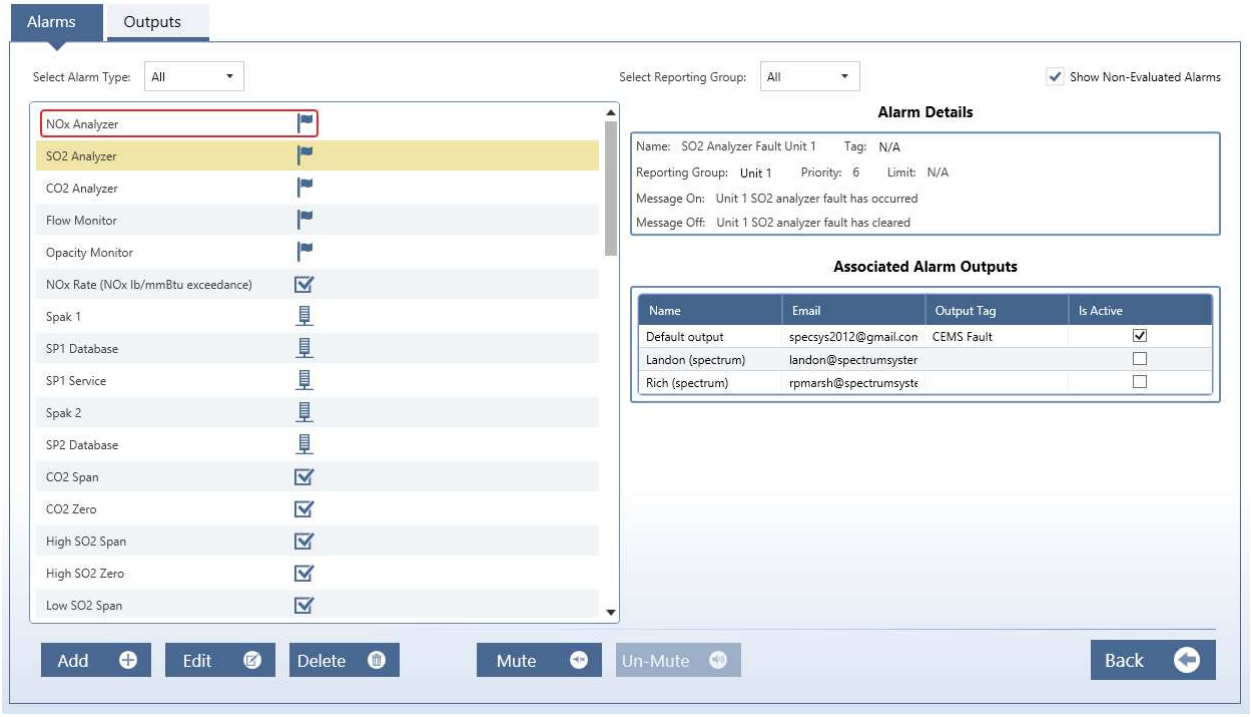


Figure 13-7 Alarms Sub-Tab

Outputs Sub-Tab

The *Outputs Sub-Tab* allows the end-user to view, *Add*, *Edit*, or *Delete* outputs. The *Alarms Sub-Tab* is divided into two areas; the *Outputs*, and the *Associated Alarms*; as seen in **FIGURE 13-8**.

Below this area, in the bottom row of the sub-tab, there are buttons to *Add*, *Edit*, and *Delete* an alarm.

Outputs

On the left of **FIGURE 13-8** are the Outputs, themselves.

Associated Alarms

On the right of **FIGURE 13-8**, are the *Associated Alarm Outputs*. Again, by selecting an *Alarm* on the left-hand side of the sub-tab, the end-user may view any *Associated Alarms*. When selecting an output from the left-hand side of this sub-tab, the *Associated Alarms* grid will fill with any alarms that are tied to that output.

Figure 13-8 Outputs Sub-Tab

Sources Configuration

NOTE: ADDING OR REMOVING SOURCES WOULD BE BEST LEFT TO SPECTRUM SYSTEMS, INC. AS MISCONFIGURATIONS COULD CAUSE DATA LOSS.

The *Sources Configuration Tool* in the *Admin Tab* allows the end-user to view, *Add*, or *Retire* sources, as seen in **FIGURE 13-9**. The *Sources Configuration Sub-Tab* also allows for basic confirmation of the *SpectraPak® Prism Servers* and *Modbus* configurations.

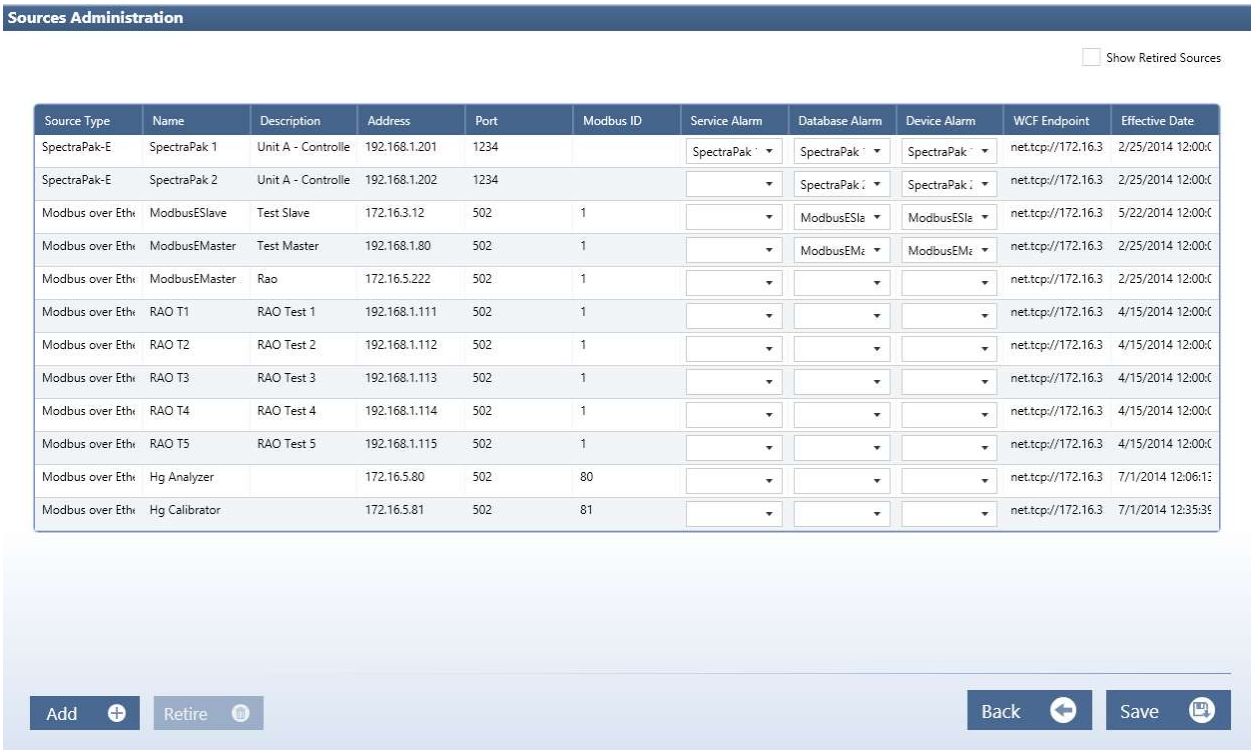


Figure 13-9 Sources Configuration

Tags Configuration

The *Tags Configuration Tool* in the *Admin Tab* allows the end-user to view, *Add*, *Edit*, or *Delete* tags, as seen in **FIGURE 13-10**. Tags are the fundamental building blocks of the *SpectraView® Prism System*. A *Tag* may have as its basis a *Raw Point*, a *Calculation*, or *Database*.

Raw Point

A *Raw Point* can be defined as a *Digital Input*, a *Digital Output*, an Analog Input, or an Analog Output.

Calculated Point

A *Calculated Point* can be defined as a *Calculated Analog Value*, or a *Calculated Digital (Logical) Value*.

Database Point

A *Database Point* allows Database values to be added as a *Tag*. For example, the *Compliance Hourly* values could be added as a *Tag*.

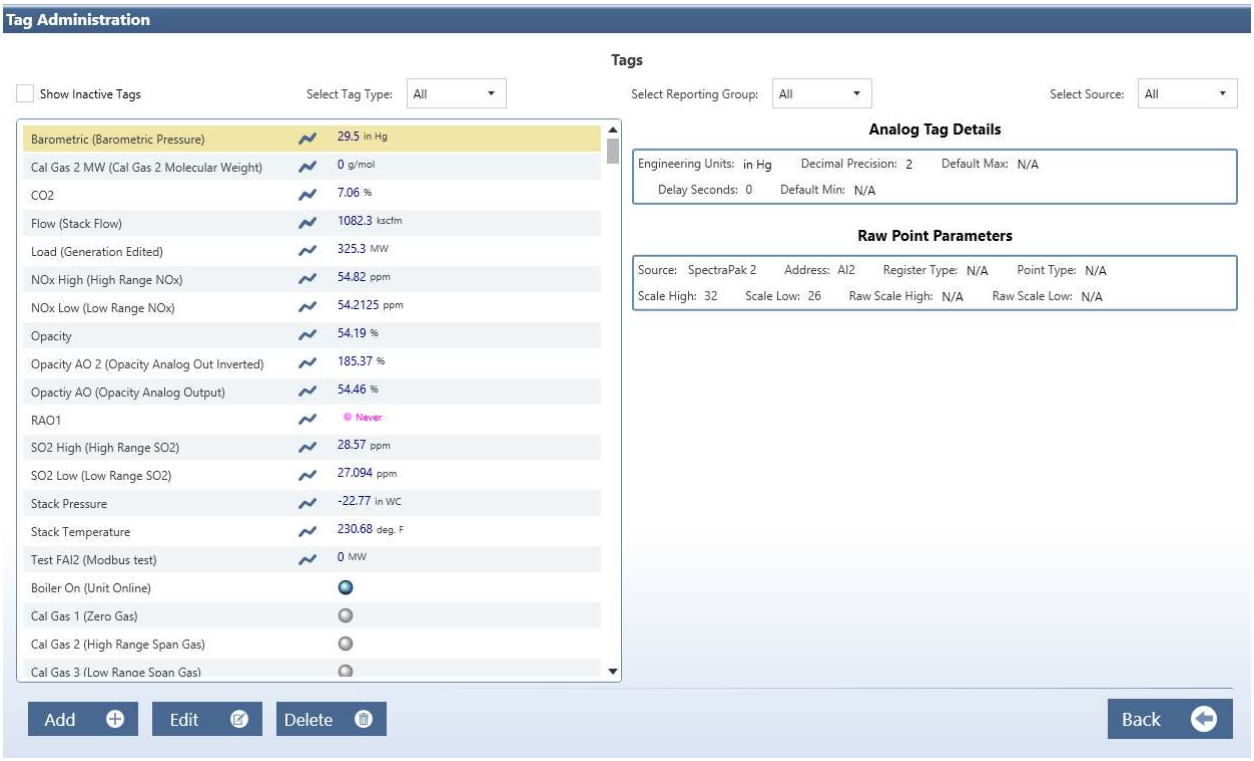


Figure 13-10 Tags Configuration

Expected Values

The *Expected Values Tool* in the *Admin Tab* allows the end-user, through the *Bottle Manager*, to view, *Add*, *Edit*, and *Retire* bottles, along with the ability to *Edit Other Expected Values*, as seen in **FIGURE 13-11**.

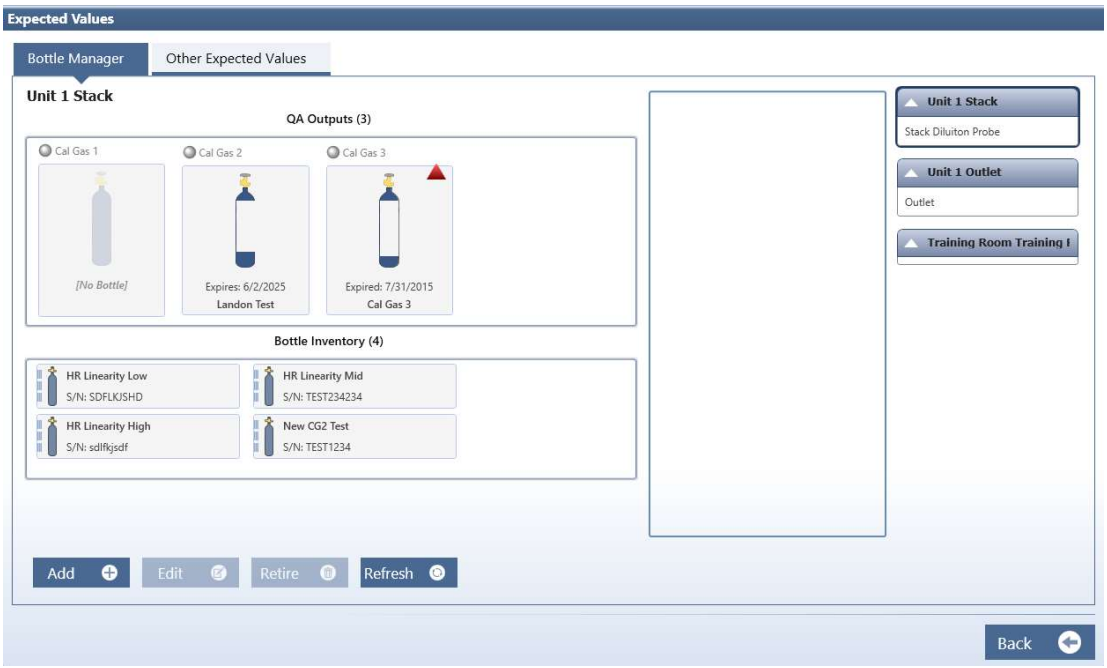


Figure 13-11 Expected Values Tool

The Expected Values Tool contains two sub-tabs; the Bottle Manager Sub-Tab, and the Other Expected Values Sub-Tab.

Bottle Manager Sub-Tab

The *Bottle Manager Sub-Tab*, as seen in **FIGURE 13-12**, is used to view, *Add*, *Edit*, and *Retire* calibration gas cylinder inventory used by the *CEMS*.

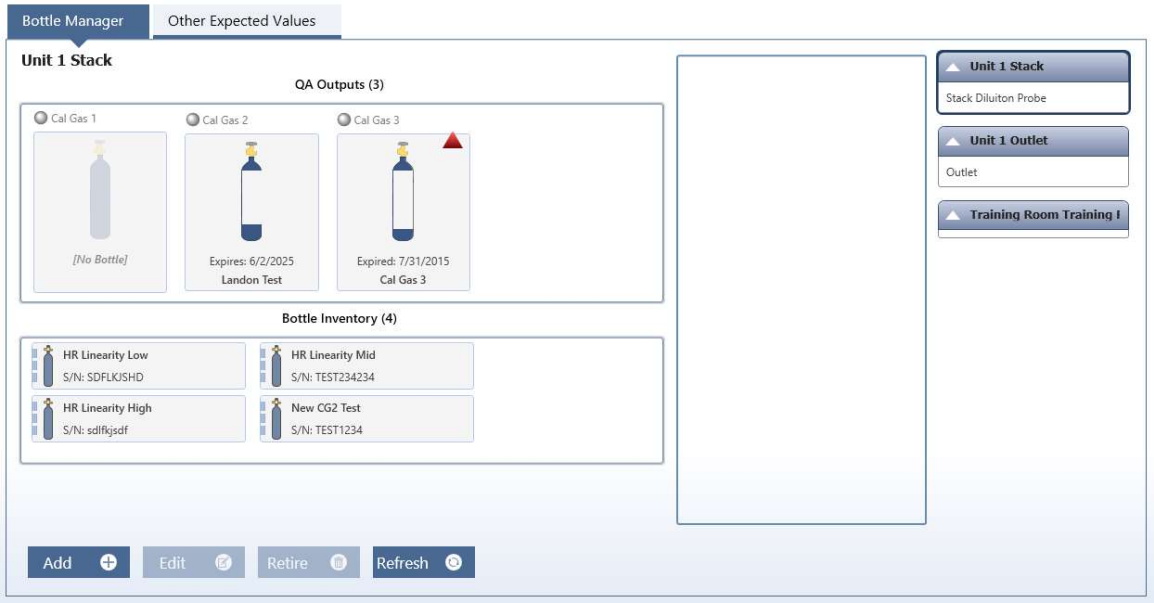


Figure 13-12 Bottle Manager Sub-Tab

Other Expected Values Sub-Tab

The *Other Expected Values Sub-Tab*, as seen in **FIGURE 13-13**, is used for other instruments that have daily calibration values that are not dependent on a calibration cylinder, *(i.e., Hg, Opacity, Flow, etc.)*.

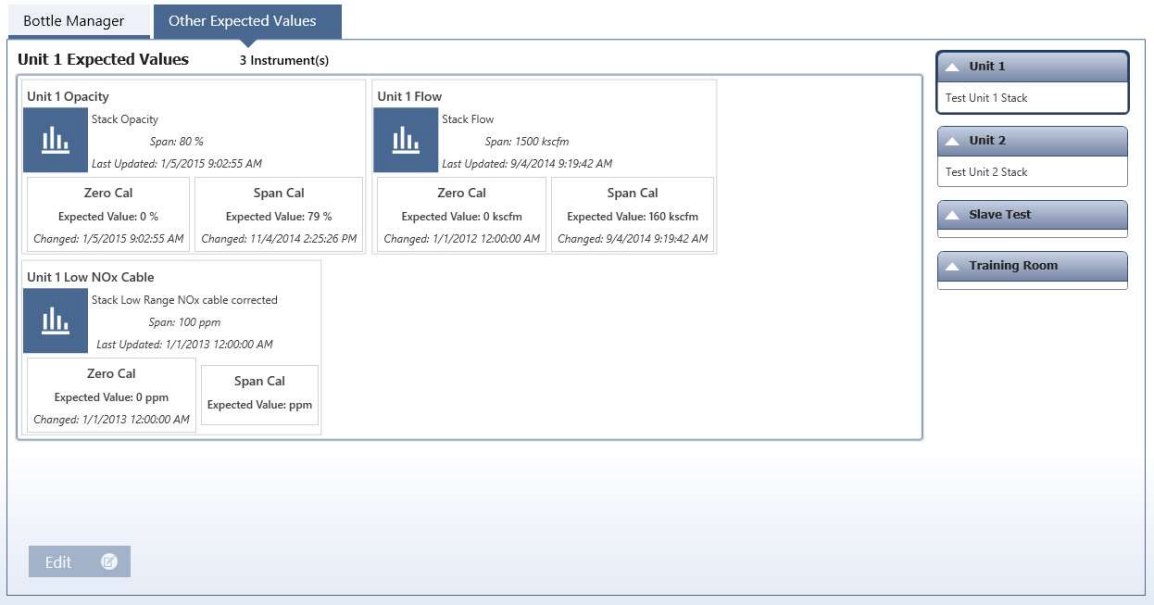


Figure 13-13 Other Expected Values Sub-Tab

Application Messages

The *Application Messages Tool* in the *Admin Tab* allows the Administrator to view, or *Add* site-wide *CEMS* messages which are broadcast to every end-user, immediately, as seen in **FIGURE 13-14**.

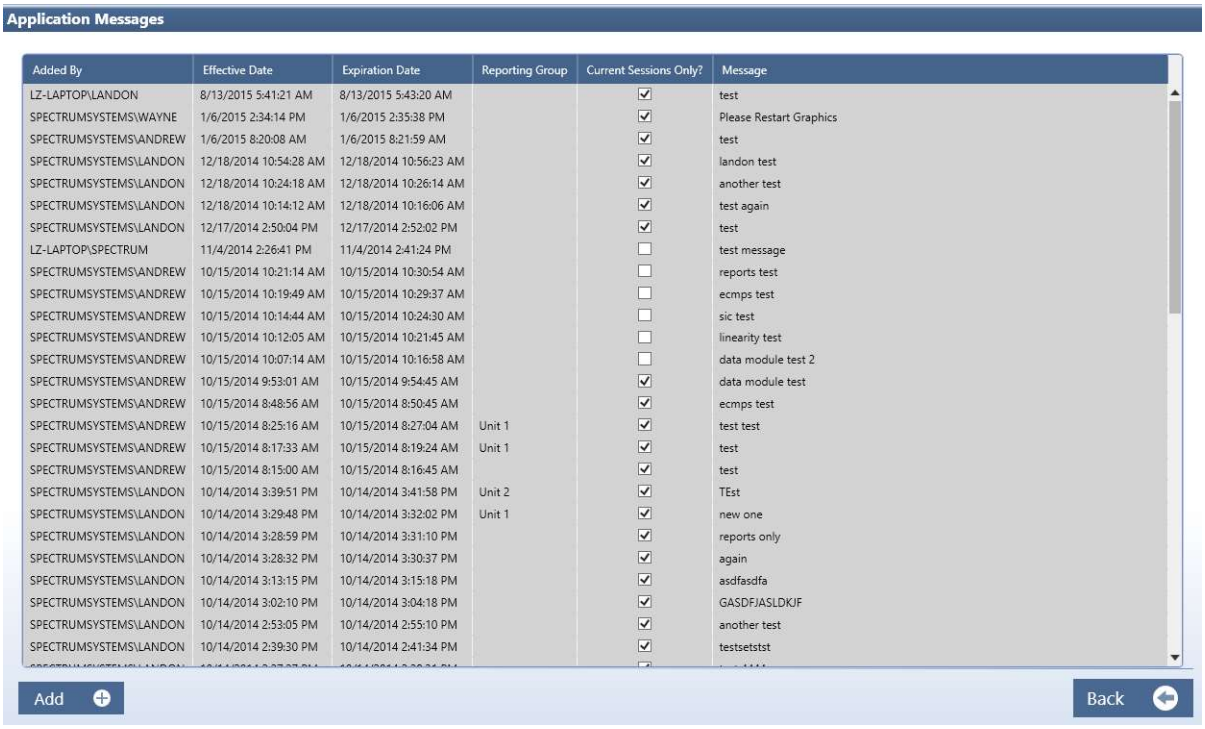


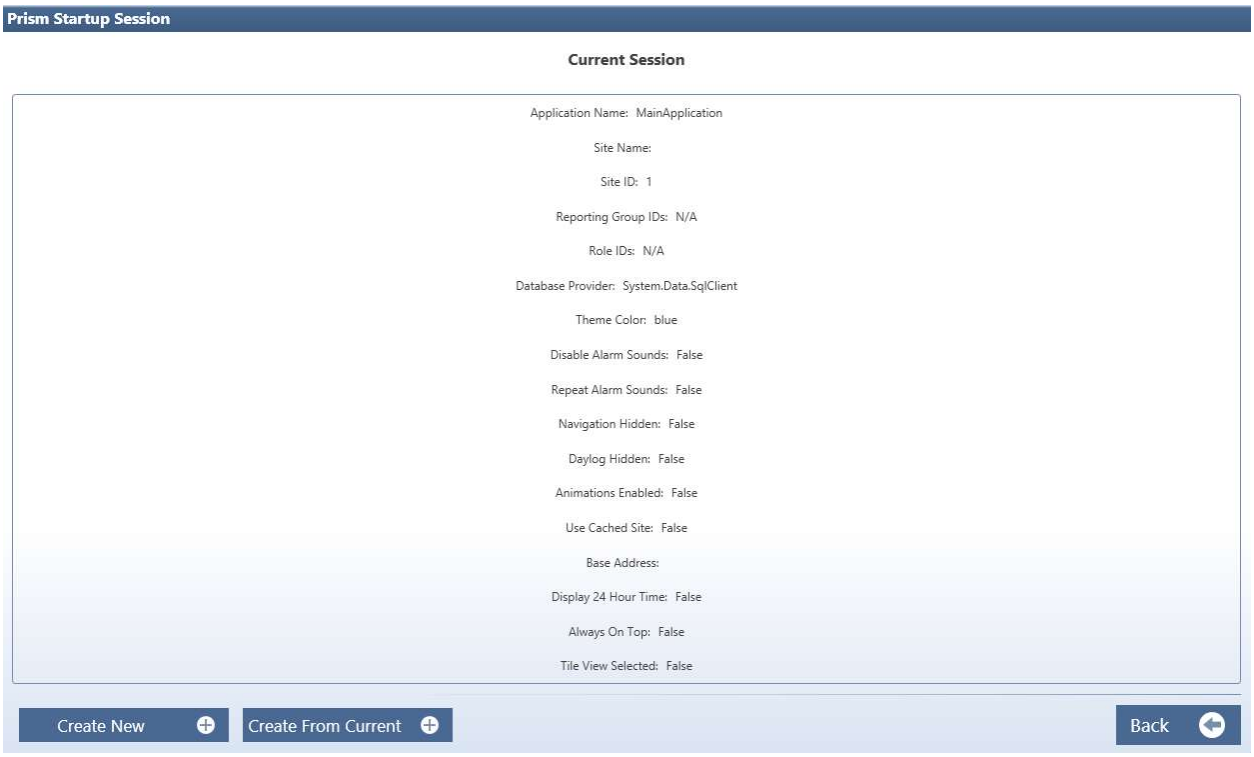
Figure 13-14 Application Messages Tool

New messages flash at the top of the window, in the *Title Bar*, and the end-user has the ability to delete those messages after viewing.

The *Application Messages*, at addition, can be set to expire in a set number of minutes, on a certain date/time, or after the current end-user session is ended.

Startup Sessions

The *Startup Sessions Tool* in the *Admin Tab* allows the end-user to create new *Startup Session* files. As mentioned in **LAUNCH**, the *SpectraView® Prism Client* requires a *Startup Session* file to launch the application. The *Startup Sessions Tool* provides the end-user the ability to create this file from scratch, *Create New*, or from the current session file, *Create From Current*.



Part 75

The *Part 75 Tool* in the *Admin Tab* allows the Administrator to import *Monitoring Plans*, run Federal *Part 75 Reports*, and view *DAHS Verification* history. The Part 75 Tool contains three sub-tabs; the *Monitoring Plans Sub-Tab*, the *Reports Sub-Tab*, and the *DAHS Verification Sub-Tab*; as seen in **FIGURE 13-15**.

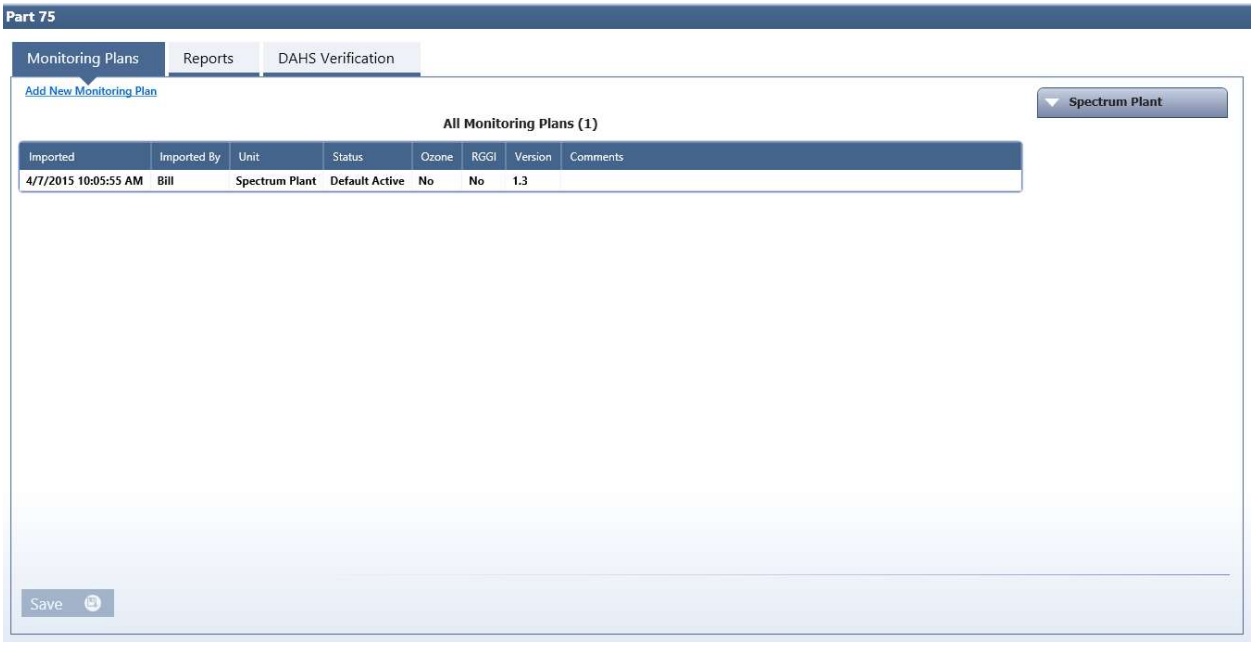


Figure 13-15 Part 75 Tool

Monitoring Plans Sub-Tab

The *Monitoring Plans Sub-Tab*, as seen in **FIGURE 13-16**, allows the end-user to view or upload the facility's current *Monitoring Plan* into *SpectraView® Prism*. A facility's *Monitoring Plan* is initially loaded by *Spectrum Systems, Inc.* If revisions are made to the existing *Monitoring Plan*, requiring the plan be updated in *SpectraView® Prism*, click on *Add New Monitoring Plan* at the top left of the sub-tab.

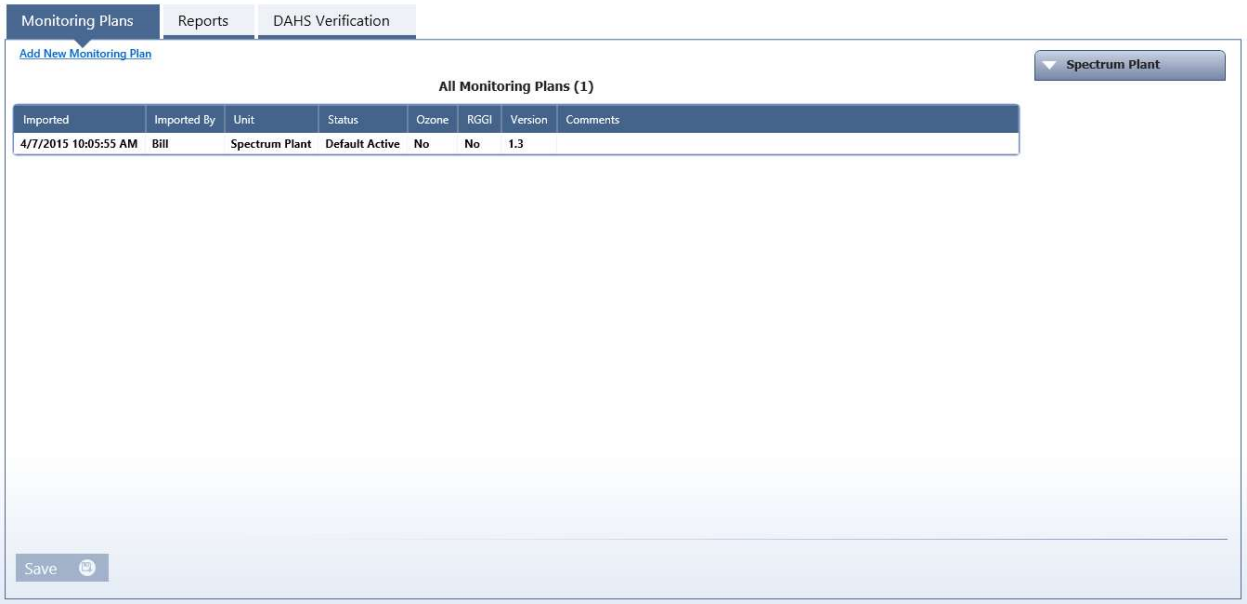


Figure 13-16 Monitoring Plans Sub-Tab

Reports Sub-Tab

The Reports Sub-Tab allows the end-user to run reports required by Federal Regulations pertaining to Part 75, as seen in **FIGURE 13-17**.

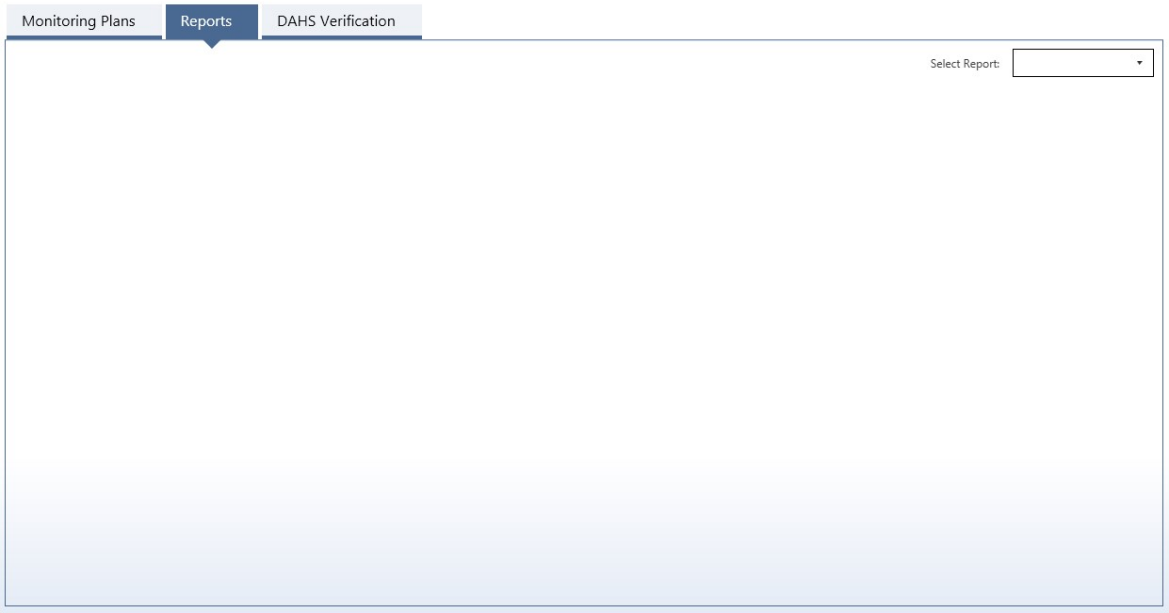


Figure 13-17 Reports Sub-Tab

DAHS Verification Sub-Tab

The DAHS Verification Sub-Tab allows the end-user to view the DAHS Verifications for the unit(s) at the site, as seen in **FIGURE 13-18**.

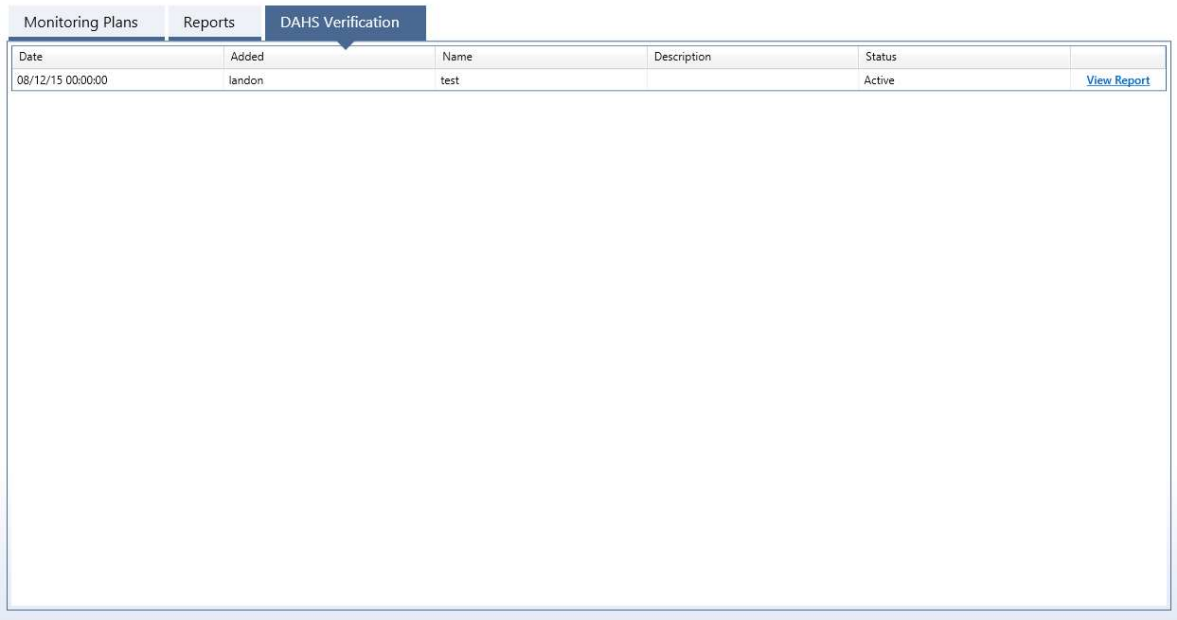


Figure 13-18 DAHS Verification Sub-Tab

ACTIONS

Calibration Gas Cylinders

All of the following actions are performed on the *Bottle Manager Sub-Tab* of the *Expected Values Tab*.

Adding Calibration Gas Cylinders

To add a calibration gas cylinder, perform the following steps.

1. Click on **Add** at the bottom of the pane.
2. A pop-up window will appear titled, *Add a Bottle*. Click on **Next**.
3. The pop-up will switch to the *Bottle Data* view.
4. Enter a **Description** for the bottle.
5. Enter the **Vendor ID** as provided on the *Certificate of Analysis* from the calibration gas vendor.
6. Enter the **Serial Number** as provided on the *Certificate of Analysis* from the calibration gas vendor.
7. Enter the **Certification Date** as provided on the *Certificate of Analysis* from the calibration gas vendor.
8. Enter the **Expiration Date** as provided on the *Certificate of Analysis* from the calibration gas vendor.

9. Click on **Next**.
10. The pop-up will switch to the *Expected Values* view.
11. Click on **Add**.
12. Select the **Gas Type** from the drop down list.
13. Double-click on the **Value** field and enter the calibration gas value.
14. **Engineering Units** are automatically populated with the proper units for the calibration gas.
15. For a blend of multiple types of calibration gases, repeat steps 1 – 14 for each gas type.
16. Once all gas types are added, click on **Finish**.

Editing Calibration Gas Cylinders

To edit a calibration gas cylinder, perform the following steps.

1. Select the desired calibration gas cylinder.
2. Click on **Edit** at the bottom of the pane.
3. A pop-up window will appear titled, *Edit an Active Bottle*. Click on **Next**.
4. The pop-up will switch to the *Bottle Data* view.
5. Update the information, as required. Click on **Next**.
6. The pop-up will switch to the *Expected Values* view.
7. Update the information, as required.
8. Click on **Finish**.

Activating Calibration Gas Cylinders

To activate a calibration gas cylinder, perform the following steps.

1. In the **Bottle Inventory** section, on the desired bottle, left-click and hold the mouse button down.
2. Drag the bottle into the **QA Outputs** section, and release the mouse button.

Retiring Calibration Gas Cylinders

To retire a calibration gas cylinder, perform the following steps.

1. Select the relevant calibration gas cylinder in the *Bottle Inventory* section.
2. Click on **Retire**.
3. A pop-up window will appear with the question, **Are you sure you want to retire this bottle?**
4. Click on **Retire**.

Other Expected Values

All of the following actions are performed on the *Other Expected Values Sub-Tab* of the *Expected Values Tab*.

Editing Other Expected Values

To edit an expected value, perform the following steps.

WARNING: THE INFORMATION IN THE EXPECTED VALUES FIELD MAY BE BASED ON CALCULATIONS SUBMITTED TO STATE AND FEDERAL REGULATORY AGENCIES. DO NOT MAKE CHANGES TO THE EXPECTED VALUES WITHOUT CONSULTING THE REGULATORY DOCUMENTS TO ENSURE ACCURACY.

1. Select either **Zero Cal** or **Span Cal** of the relevant expected value.
2. Click on **Edit** at the bottom of the pane. A pop-up window will appear
3. Enter the **New Expected Value**.
4. Click on **OK**.

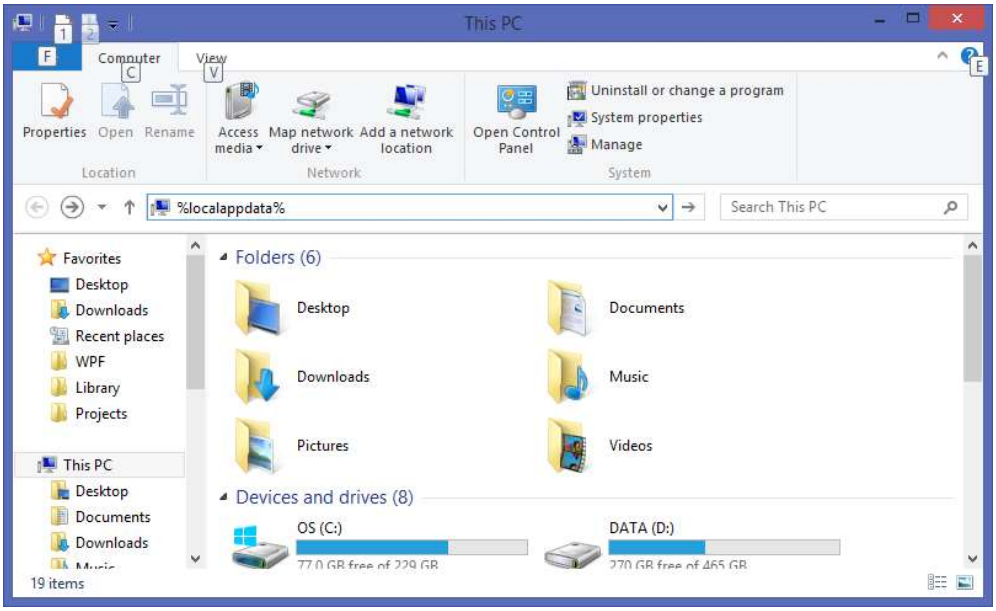
Chapter 14 - TROUBLESHOOTING

LOG FILES

In some circumstances, a log file may need to be downloaded and emailed to *Spectrum Systems, Inc.* for troubleshooting assistance.

To obtain and send the file to Spectrum System, Inc., perform the following steps.

1. Open Windows File Explorer and type *%localappdata%* into the location box.



2. Hit *Return*.
3. Click on the *Spectrum Systems* folder, then on the *SpectraView® Prism* folder.
4. Select the MainApplication-log.txt file and email the file to Spectrum Systems, Inc.

Name	Date modified	Type	Size
MainApplication-log.txt	10/29/2015 1:54 PM	TXT File	8,877 KB
MainApplication-log.txt.1	10/27/2015 3:23 PM	1 File	9,768 KB
MainApplication-log.txt.2	10/26/2015 1:27 AM	2 File	9,768 KB
MainApplication-log.txt.3	10/20/2015 1:17 PM	3 File	9,769 KB
MainApplication-log.txt.4	10/20/2015 8:06 AM	4 File	9,768 KB

APPLICATION MESSAGES

In the event that the *SpectraView® Prism Client* crashes, an exception window will appear, as seen in **FIGURE 14-1**.

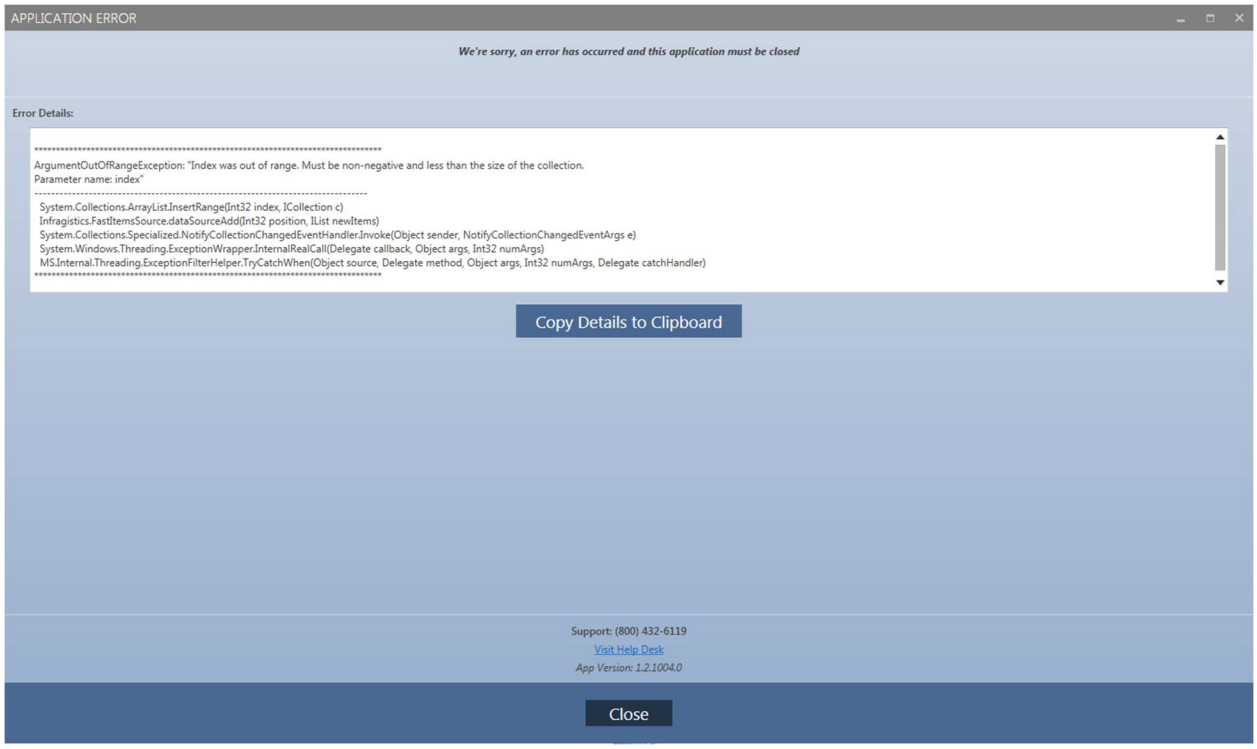


Figure 14-1 Application Message

Click on *Copy Details to Clipboard* to create a .txt file that can be saved and emailed to Spectrum Systems, Inc. for assistance in troubleshooting the system.