



LIQUIDYNAMICS™

OILCOP

System Administrators Manual, Managers Manual & Technicians Manual



This manual contains important warnings and information. READ AND KEEP FOR REFERENCE.

2311 S. Edwards • Wichita, KS 67213
TEL: 316-943-5477 • FAX: 316-943-4760
TOLL FREE: 800-894-3572
E-MAIL: productinfo@liquiddynamics.com

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LIQUIDYNAMICS™

OILCOP

System Administrators Manual

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Introduction

This user manual contains information for the OILCOP fluid management system designed and manufactured by Liquidynamics. The intent of this manual is to provide essential information to help users navigate and configure the OILCOP system allowing for efficient and trouble free operation.

See “*OILCOP Component Wiring Installation Manual*” for instructions on how to properly install the Oilcop hardware. The hardware must be installed correctly in order for the system to function as intended.

Connecting to the System

See the “*OILCOP Component Wiring Installation Manual*” to properly power on the OILCOP controller.

In order to gain access to the OILCOP system, the controller (P/N 100854) must be physically connected to a TCP/IP office network using a Cat. 5 network cable with RJ 45 connectors.

During initial setup the OILCOP controller will need to be configured to interface with a network. This is accomplished by connecting the controller directly to a computer with a network cable. See “*Network Setup*” instructions on how to access the OILCOP system.

After the controller has been configured to gain access to the Local Area Network (see “*Network Settings*”). You will need to know the correct IP address assigned to the controller to access the Oilcop system via the LAN.

Once the controller is connected to the Local Area Network (LAN), open a web browser on your LAN connected computer. In the browser address bar, enter the IP address (assigned by your network administrator) which will direct you to the Login page.

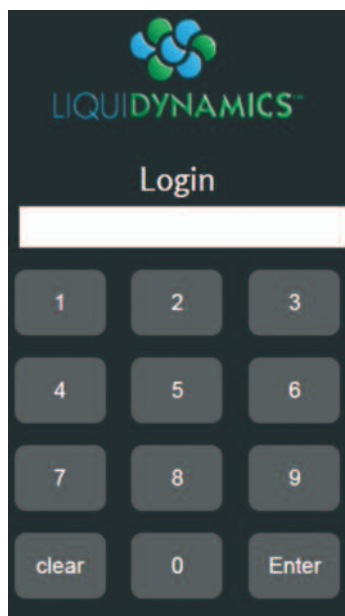
Note: *We recommend using Firefox, Chrome or Microsoft Windows Explorer Ver. 10 or newer for best viewing.*

In the browser address bar, enter the corresponding IP address depending on how you are connected to the controller. Once you have done this, it will take you to the Login Page.

Logging into the System

Enter the login PIN assigned to your controller to access the system. Simply type in the login PIN and press “**Enter**” to open the users’ dashboard page.

Note: *If you have lost or do not know your login pin see Network Settings page 24 and follow the instructions for recovering a pin number.*



Administrator/Manager/Technician/Installer Log In

There are three user security levels that can be used to log into the system.

Administrator – Has access to all system configuration options that defines how the system functions, backs up data, network settings, etc.

Manager – Depending how system is configured, typically manage day to day operation of the system i.e activate dispensing, maintain Work Orders, Inventory, etc. Manager PINs are assigned by the Administrator.

Technician – Provides access to dispensing dashboard, depending on what roles and capabilities are assigned to a particular Technician, this will dictate how products can be dispensed. Roles and capabilities are assigned by an Administrator or Manager.

Installer/Lost Password – A PIN with Administrator privileges that is used during OilCop installation/setup and in the event of a lost or forgotten Administrator PIN, see “*Installer Access*” on page 16.

1.0 Administrator Dashboard

System Administrators will be directed to the Administrator Dashboard after logging in. The dashboard provides a snapshot of the system information i.e. hardware, communication status, fluid dispensed, inventory, etc. (Fig. 1)

Upper right hand corner of the dashboard displays a welcome message with the user name currently logged into the system and their security level (**Administrator/Manager/Technician/Installer**).

There are three buttons in the top right corner just below the user name.

The “**Select User**” button allows the user to switch between the dashboards of the three types of users. **Administrators** can access all three user’s dashboards. **Managers** can access only the Manager and Technician’s dashboards. **Technicians** will only be able to access their own dispensing dashboard.

In the upper left hand corner, above the word **Dashboard**, you will see company name/logo, or a default OILCOP/logo. This is displayed on every page in the system and when clicked will direct the user back to their original dashboard. The name/logo can be modified from **Administrative Options**.

There are four windows located on the dashboard, **Tank Level, Stations, Device Status** and **Usage History**. These windows will be blank if a user has not set up the system yet.

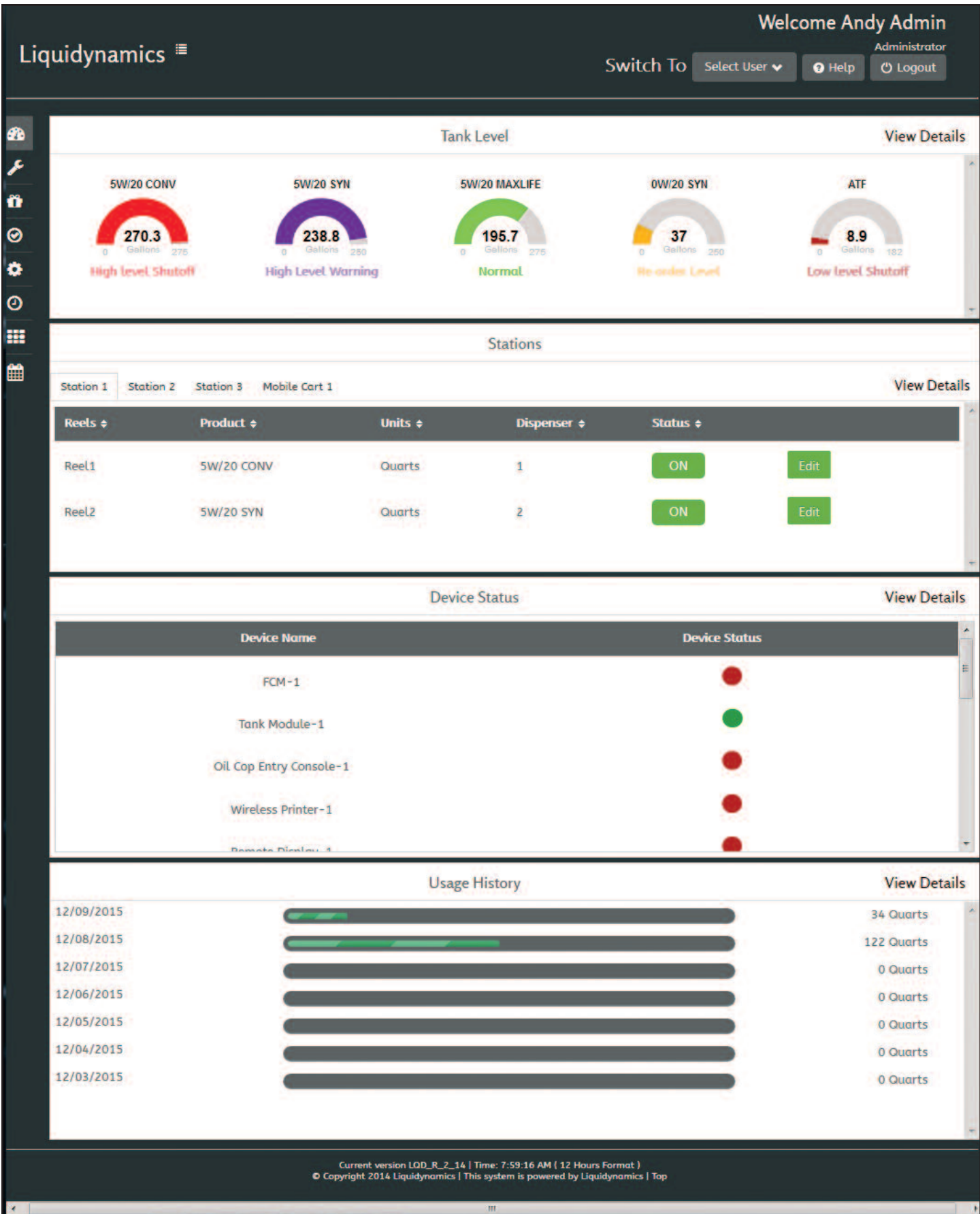


Figure 1 – Administrator Dashboard

1.1 Tank Level

TANK LEVEL window gives the user a snapshot of the current tank levels. Tanks in the illustration below depict four different tanks indicating their content volume. Placing your cursor over TANK LEVEL opens a blue box that displays current settings for; PRODUCT NAME, CAPACITY, CONTENTS, ULLAGE, HIGH LEVEL SHUTOFF, HIGH LEVEL WARNING, RE-ORDER LEVEL and LOW LEVEL SHUTOFF. (Fig. 2)

Color of tank level indicator indicates five different operational conditions.

NORMAL - “Green” Tank volume is at a normal level.

HIGH LEVEL SHUTOFF - “Red” Tank volume is at the High Level Shutoff setting.

HIGH LEVEL WARNING - “Purple” Tank volume is at the High Warning setting.

RE-ORDER LEVEL - “Yellow” Tank volume is at the Re-order alert setting.

LOW LEVEL SHUTOFF - “Red” Tank volume is at the Low Level alert setting.

Note: Volume levels are defined when setting up tanks in the *Product and Tank Configuration dashboard*. All five conditions can be configured from Admin to open or close one of four, 5 amp relays, integrated into the tank sensor module.

1.2 Stations

The user can easily see information for all reels in the system. This window (Fig. 3) is also a quick way to see if a reel has been turned off under “Status.” The user can also click the “Edit” button in this window that will take them to the “Add Reel” menu that is found on the “Station Configuration” page.

Clicking on “View Details” will take the user to the “Station Configuration” page.

The Stations window provides a snapshot of the current stations and reels. Tabs on the upper left side can be used to select a specific station. When the station tab is selected it will show the reels that are assigned to that station.

Whenever a station has an active dispense point, the tab for that station will turn Green. Selecting the Green station tab will show

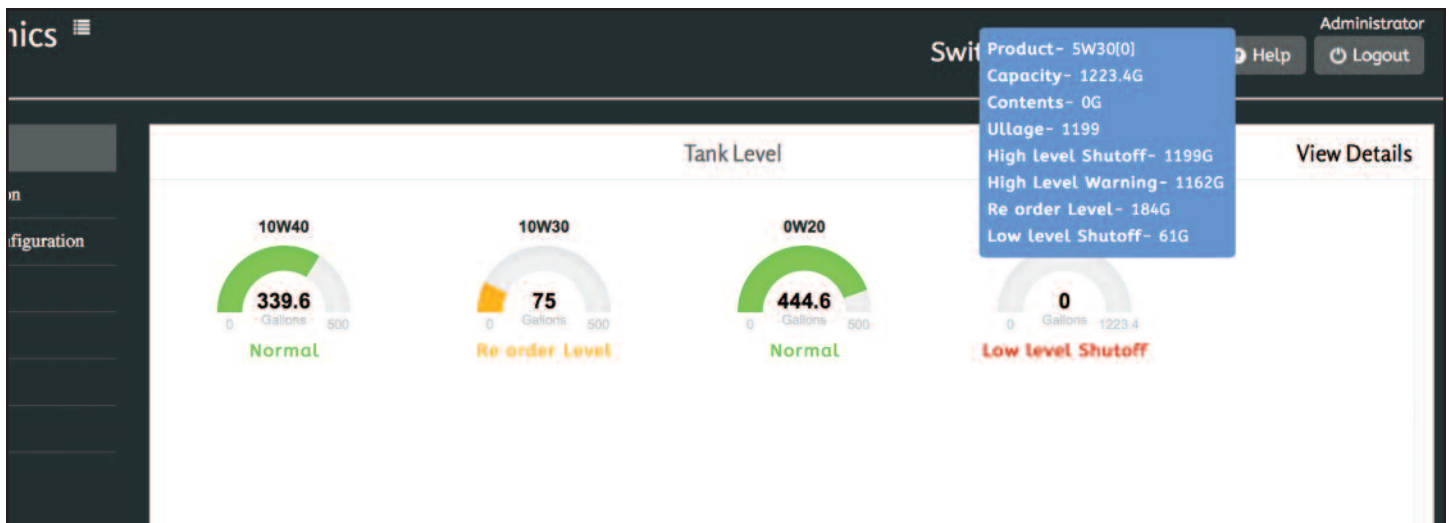


Figure 2 – Tank Level

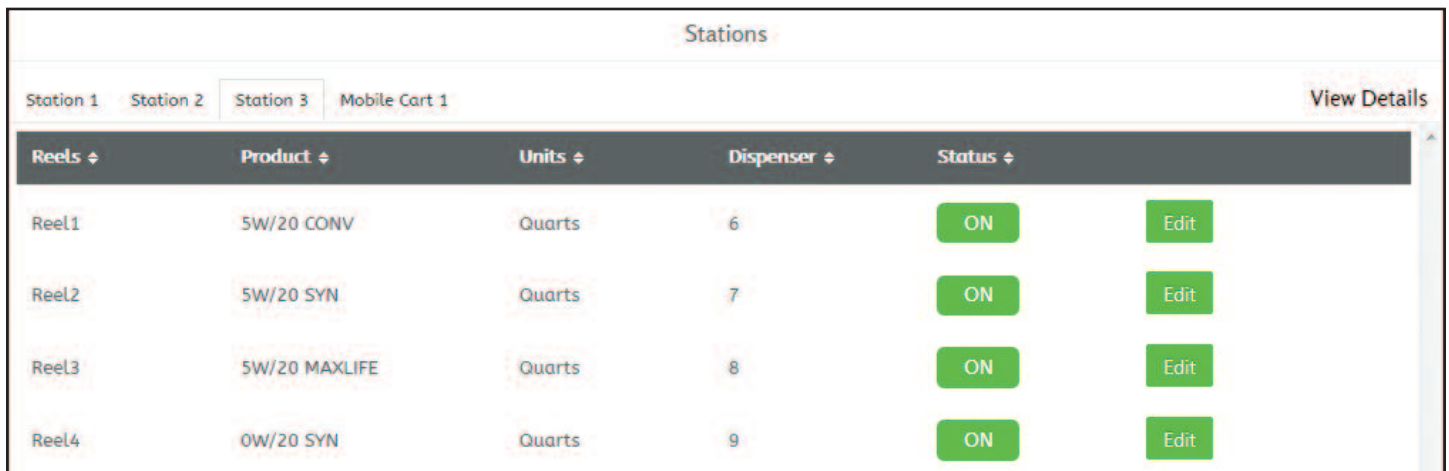


Figure 3 – Stations

all dispense points associated with the Station, highlighting the active dispense point.

1.3 Device Status

The Device Status window gives the user a snapshot of all the Hardware Devices currently recognized by the system and their communication status. (Fig. 4)

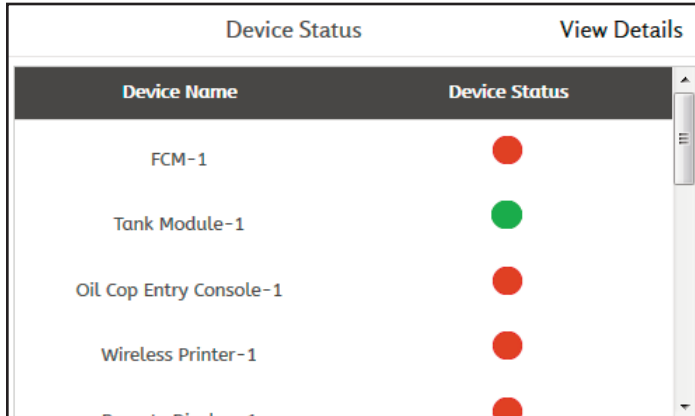


Figure 4 – Device Status

If a device in the system has lost communication with the controller there will be a red circle next to the devices name under device status.

A green circle means that the device is communicating with the system.

1.4 Usage History

The Usage History window displays total product volume dispensed by day. (Fig. 5)

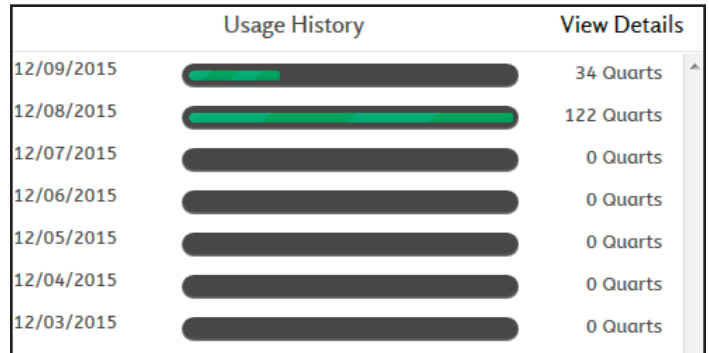


Figure 5 – Usage History

Clicking on the bar graphic for a particular day “12/08/2015” will expand the window listing all the different types of products and volume amount dispensed on that calendar day. (Fig. 6)

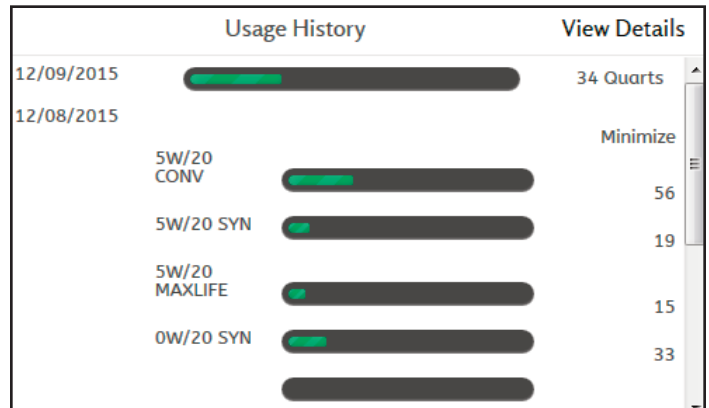


Figure 6 – Usage History Particular Day

Clicking on a bar graphic for a particular product “5W/20 CONV” within a particular day will expand the product window to include an hourly graphic depicting all dispense transactions for a particular product on the given day. (Fig. 7)

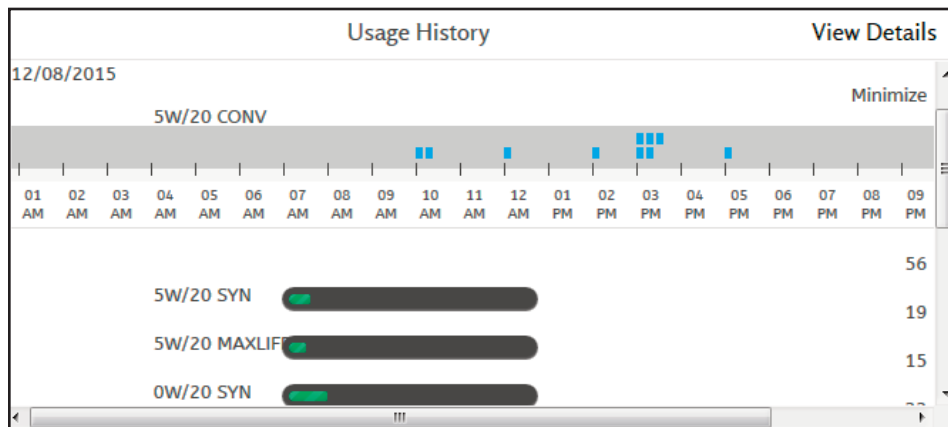


Figure 7 – Usage History Day and Product

Move the cursor over the blue marking and a blue pop-up will appear giving details of each dispense. (Fig. 8)

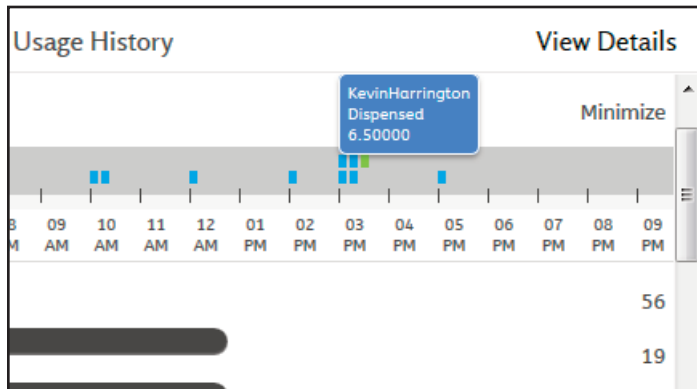


Figure 8 – Detail Pop-up

2.0 System Configuration

On the left side of the dashboard are seven buttons. These buttons will help set and customize how the system functions. The first button is **System Configuration** when the user clicks on that button it will open up a list of options to choose from - **Add/Modify Users**, **Hardware Configuration**, **Station Configuration**, **Relay Configuration**, **Sensor Configuration**, **Timeout Configuration**, **Administrative Options**, **Shift Setup**, **System Language and Time**. (Fig. 9)

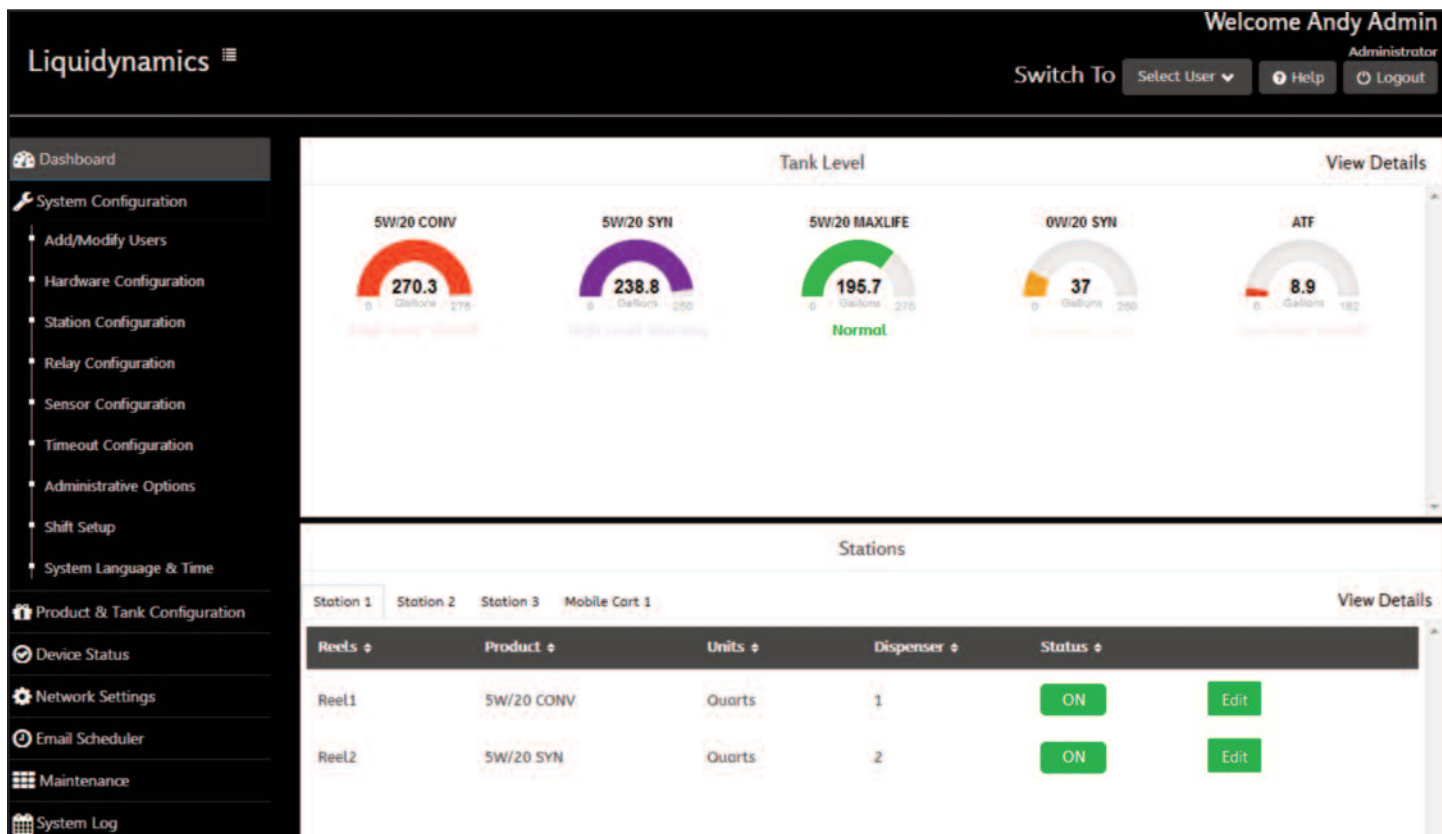


Figure 9 – System Configuration

2.1 Add/Modify Users

Add a new user to the system or change the settings of an existing user. (Fig. 10, next page)

The **Add/Modify Users** page will show a list of all the users that have been added to the system and their basic information.

2.1.1 Add New User

To add a new user to the system, click on the **Add New User** button located at the bottom of the window. A new window will pop up to input the information for the new user. (Fig. 11)

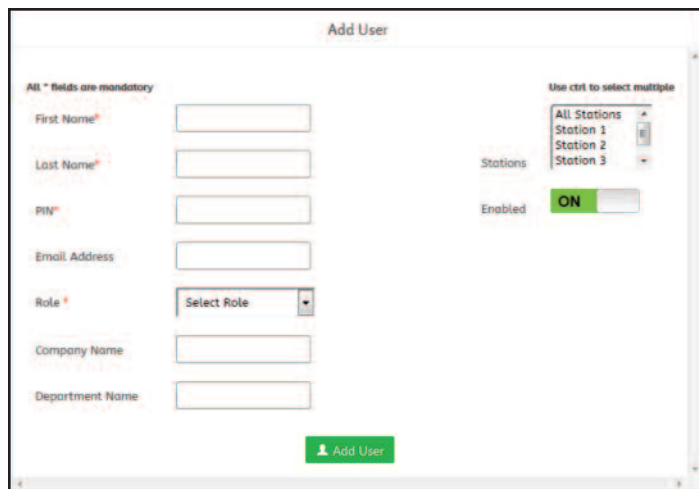


Figure 11 – Add User

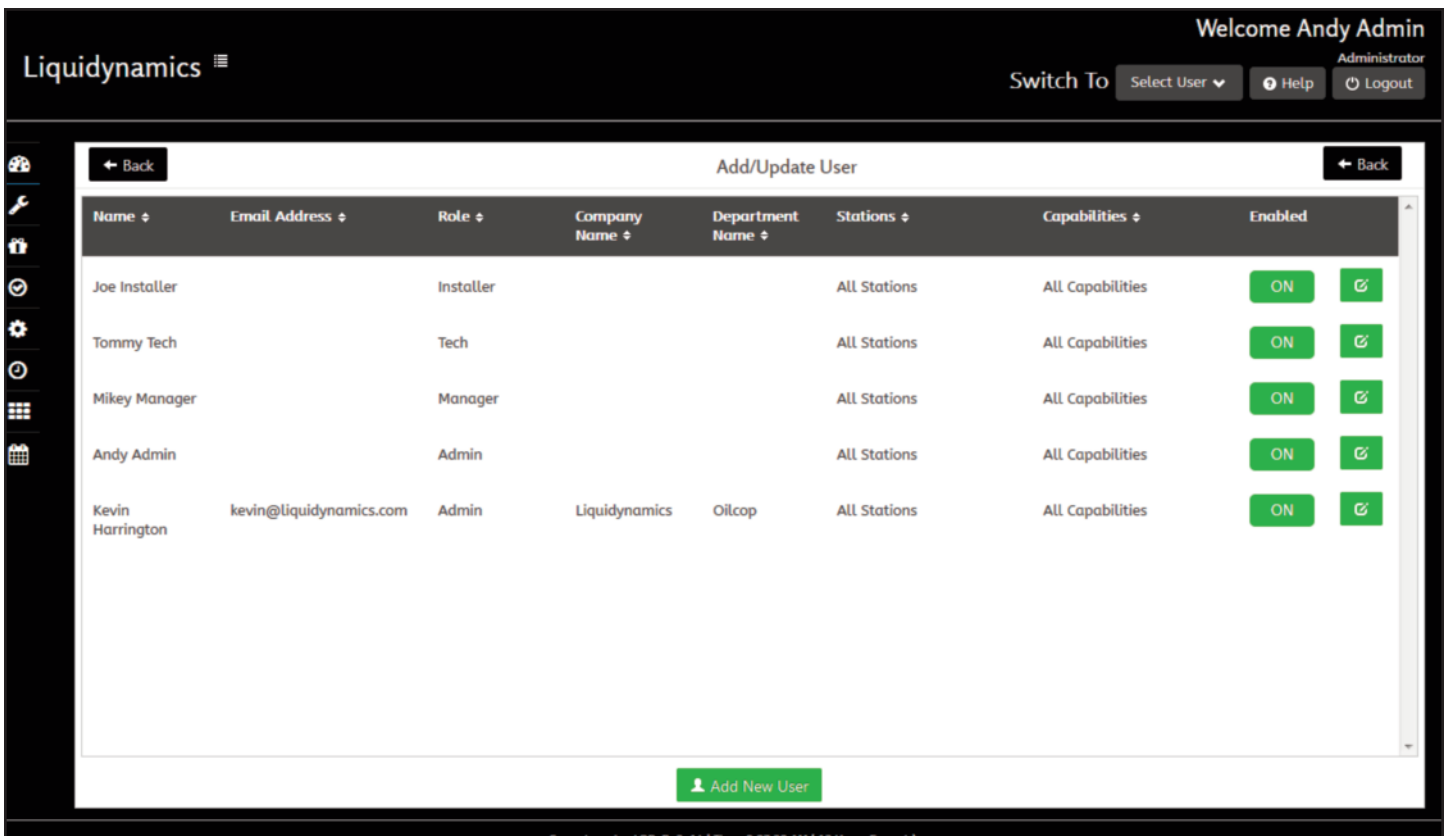


Figure 10 – Add/Modify Users

5 fields must have information entered to create a new user, these fields are marked with a red asterisk (*).

First Name* - Enter First name

Last Name* - Enter Family name

PIN* - Create custom pin number for user to log into the system. The pin number must be at least 4 digits but not greater than 10 digits. (Numbers only)

Email Address - Enter the user's email address to receive system reports.

Role* - Designate type of user Administrator, Manager, Technician, or Installer. This option affects the type of access the user will have in the system.

Company Name - Company user works for.

Department Name - Department user is in.

Stations - Determines which stations user has ability to dispense from. Highlight station names within the scroll down box in the upper right hand corner. Clicking on All Stations allows user to dispense from all stations, or click on the specific station to assign the user to dispense from.

Note: *If selecting more than one station but not "All stations" you must hold down the Ctrl button on the keyboard when selecting the stations.*

If there are no stations available to select, this means that no stations have been added to the system yet. Can continue to create users and then go back to update the user's settings after stations have been added to the system.

Capabilities* - Capabilities menu appears after a **Role** has been selected for the user. The type and number of capabilities available to a user will vary according to type of role they are assigned. A user can be assigned **All Capabilities**, or specify which capabilities the user shall have by highlighting them.

Note: *If selecting more than one capability but not All Capabilities, you must hold down the "Ctrl" button on the keyboard when selecting the capabilities.*

Preset, Open/Free Dispense, Select Work Order, Load Work Order, Manage Technician, Manage Dispense Units, Bar Code Scanning.

Enabled - ON/OFF user's access to the system.

When finished entering the user's information click on the **ADD USER** button at the bottom of the window.

The administrator can update the settings of a user or delete them by clicking on the **Update/Delete** button on the right side of the main Add/Modify Users window. The window that pops up is the same window as adding a new user, except this window has two buttons at the bottom of the window, **Update** and **Delete**.

2.2 Hardware Configuration

Make changes to and add new hardware to the system. Click on hardware configuration to view a basic overview of all the hardware connected to the system and current status. (Fig. 12)

There are 5 columns of information on the page, clicking on the column title will sort the information according to the column selected. Clicking the field alternates ascending/descending order.

Hardware ID - ID the system uses to recognize the hardware that has been added to the system. It designates a number for the component in the order it was added to the system. This cannot be edited.

User Defined Name - Users can assign specific names to components making it easier to be recognized. By default the system will make this the same name as the Hardware ID if the user does not input a specific name.

Device Address - Each component has a device address that is physically set by the user. See "OILCOP Component Wiring Installation Manual." The address currently set on the device will display here.

Communication - This shows how the component is communicating with the system either WIRED or Radio.

On/Off - This shows if the component is currently ON/green (communicating with the system) or OFF/red (lost communication or turned off by the user).

If this is the first time setting up the system, you will have to add the hardware. There are two ways to add hardware to the system.

2.2.1 Add Hardware Manually

Click the green **Add** button at the bottom of the screen to manually enter the hardware and its characteristics. - *This is the only way to add hardware to the system if the CDM is not connected and running on the system.* (Fig. 13)

1. Select the type of hardware to add then click on the **Select Hardware** scroll down menu on the left and then select a component from the list.
2. "Optional" The user may then give the selected component a specific name.
3. Manually enter the device address of the component to be added. See "OILCOP Component Wiring Installation Manual"

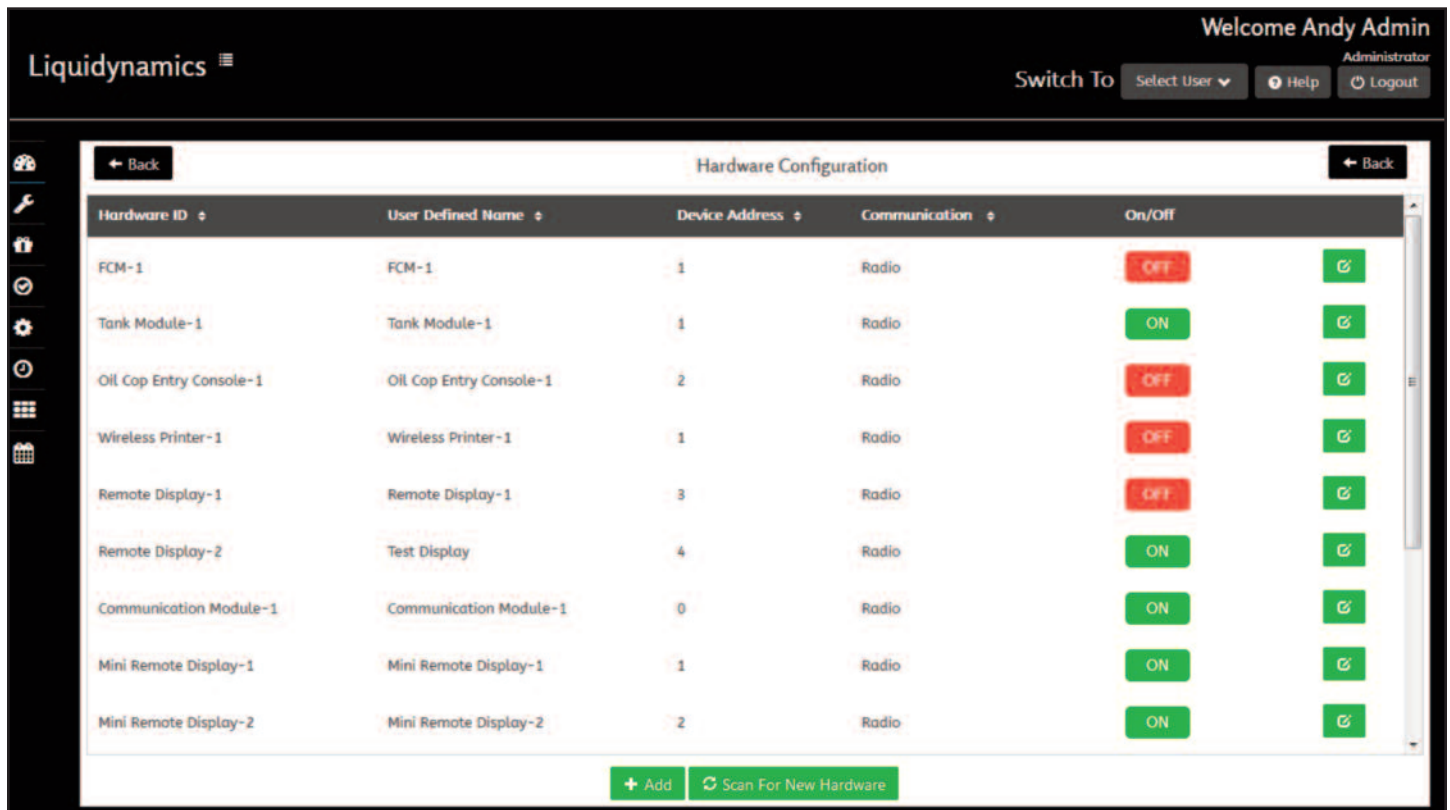


Figure 12 – Hardware Configuration

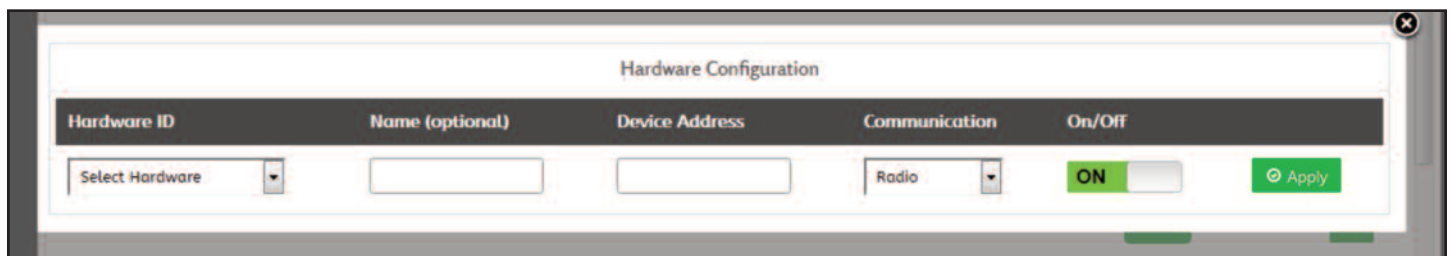


Figure 13 – Hardware Configuration

to understand where and how to set the device address of a component.

4. Select how the component will communicate, **WIRED** or **RADIO**.
5. Turn ON the component and click Apply.

The component has now been added to the system and should be viewable on the main Hardware Configuration window.

2.2.2 Scan for New Hardware

Click on the green “Scan for New Hardware” button at the bottom of the screen, the system will automatically start searching for components. This is the fastest and easiest way to add components to the system. A window will pop up saying “Scanning in progress,” make sure **NOT** to turn system power off until it is done scanning. (Fig. 14)

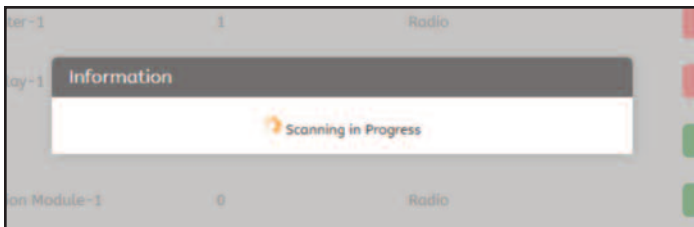


Figure 14 – Scan for New Hardware

Once the scan is finished the user will see the components found during the scan. The system automatically recognizes the component’s device address then assigns a Hardware ID and default User Defined Name. The user can then edit the default name. User may also change the device address, doing this without physically changing the components device address **will result in loss of communication**. If the user is going to scan for new hardware with a completely wired system you must first make

sure that all the devices are wired correctly. See “OILCOP Component Wiring Installation Manual.”

2.3 Station Configuration

Used to setup, edit stations and assign reels. (Fig. 15)

The user can switch views by clicking on the station buttons in the top left corner of the window. The first button, **All Stations**, allows the user to see all of the reels in one window. The user can select a reel from this window by clicking the **Update/Delete** button to the right of the corresponding reel.

There are 6 columns in the **All Stations** window.

Reel # - Is automatically created when a reel is added to the system in the order it was added to the station. This cannot be edited by the user, to assign a different reel # it will first have to be deleted and then added back in the sequential order necessary to achieve the desired reel #.

Product - Displays product type assigned to the reel.

Unit - Unit of measure used to dispense product.

FCM# - Displays which FCM (Hardware ID) reel is connected to.

FCM Port - Shows which port number is assigned to reel.

Status - Turns ON/OFF reel for use.

Station Name - Name of station reel is assigned to.

When a user clicks on a specific station button in the upper left hand corner, a window will pop up with the same information as the All Stations window except the Station Name column is removed.

Clicking on a specific station will also bring up a green “Edit Station” button in the upper right hand corner of the window. The edit station button allows the user to edit the name of the station or delete that station from the system.

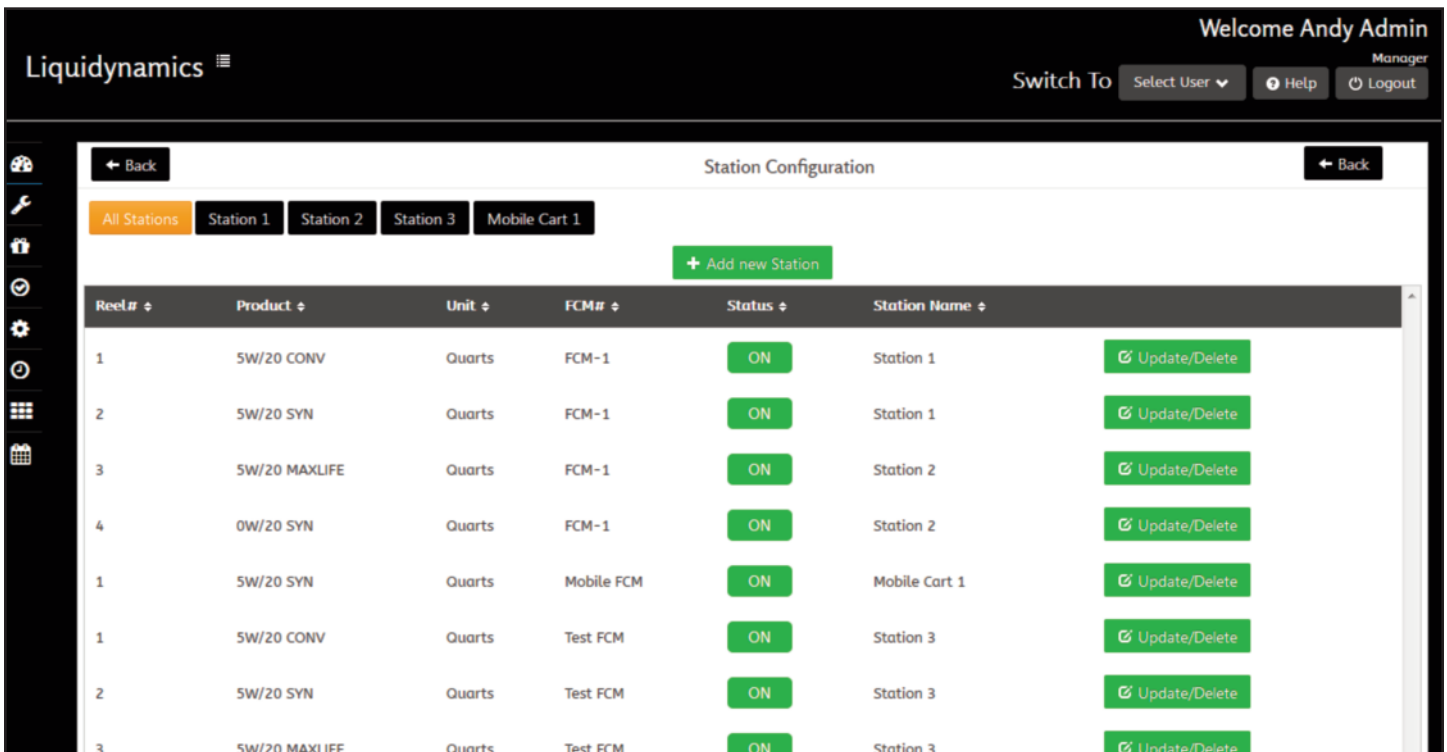


Figure 15 – Station Configuration

2.3.1 Adding a Station and Reel

The user can add a station by clicking the **ADD NEW STATION BUTTON**. A window will pop up asking for a station name, then click “submit.” (Fig. 16)

Adding a Reel - Once a station is added, or if a station already exist, the user must click on the station they want to add a reel to on the main station configuration page. Then they must click on **ADD REEL TO STATION** at the bottom of the window. This will bring up the Reel Configuration window. (Fig. 17)

In this window there are 10 fields of information that can be entered. 5 fields must be entered in order to add the reel.

Note: User must already have configured hardware and added product before configuring a reel.

Dispenser ID* - When a reel is created, it is automatically designated a dispenser ID by the system. This ID is not the reel number and cannot be edited by the user.

Hardware FCM ID* - The reel must be assigned to an FCM. The

user can select which FCM they want the reel to connect to by clicking the drop down menu and selecting the corresponding FCM.

User Defined Name - The user can give the reel a specific name.

Units* - This is where the user can select the unit of measure they would like the product to be dispensed in. Click on the drop down menu and select **Quarts, Liters, Pints, or Gallons**.

Products* - Select the product from the drop down menu that the user wants to have dispensed from this reel.

Printer - Select a printer from the drop down menu to attach to this reel if the user would like a ticket to be printed after dispensing.

Remote Display - Select a remote display from the drop down menu that will be attached to this reel. Large LED Fixed displays amount of product dispensed from the handle.

Mini Remote Display - Select a mini remote display from the drop down menu to be attached to this reel. Displays the amount of product dispensed from the control handle.

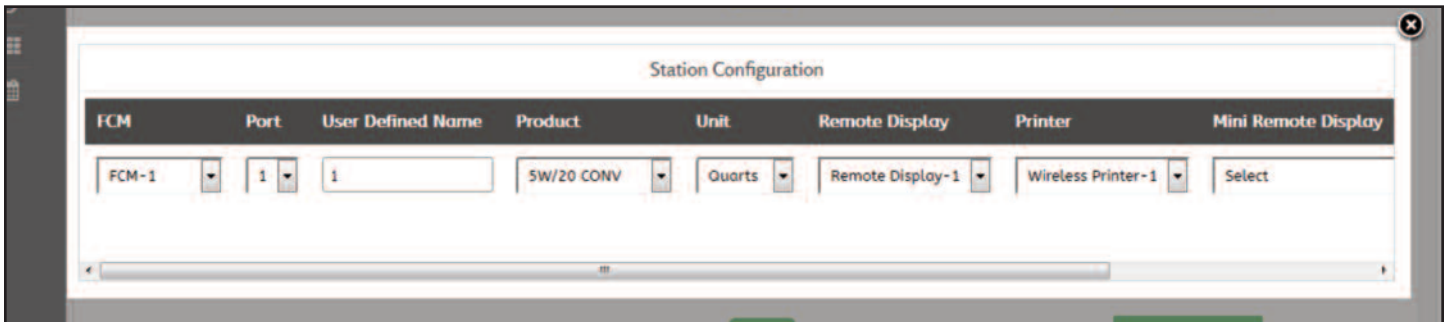


Figure 16 – Station Configuration Settings

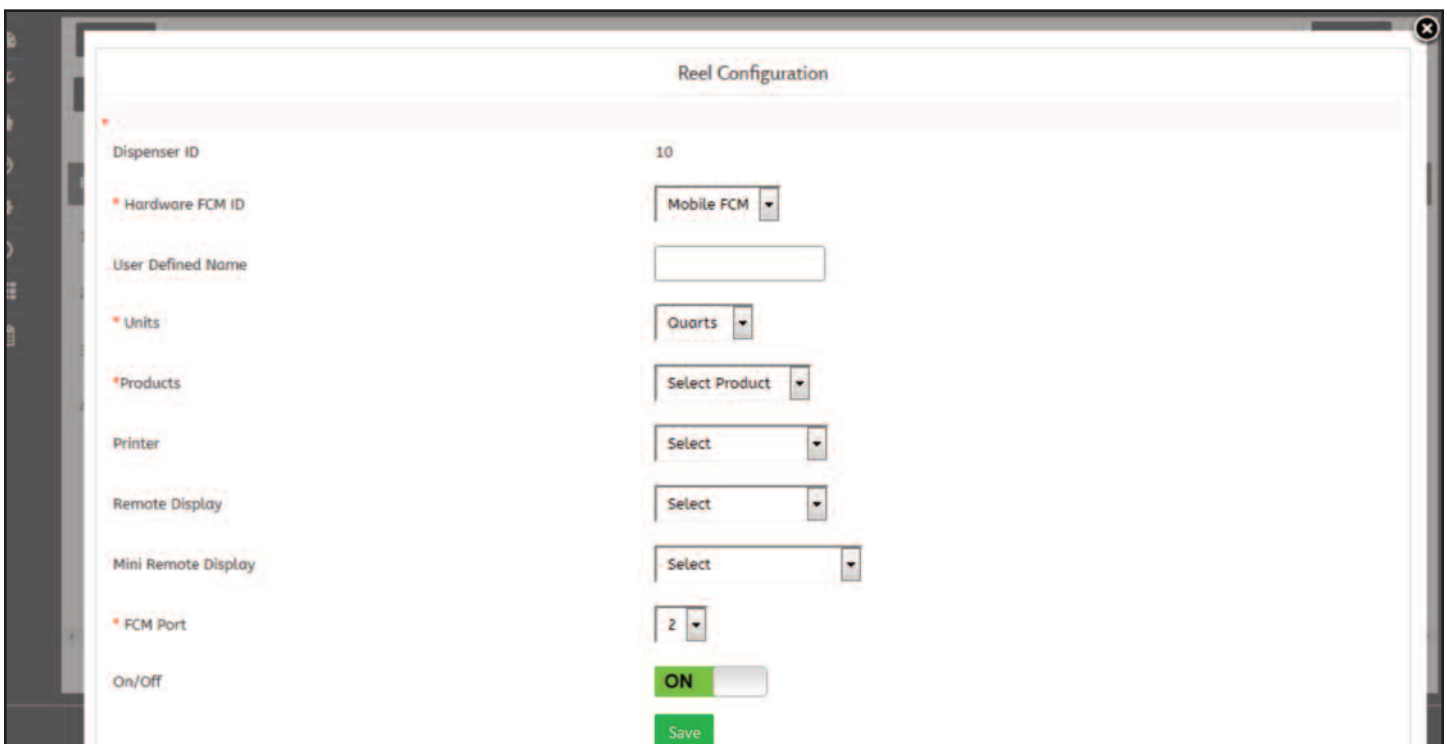


Figure 17 – Adding a Reel

FCM Port* - The user must select an FCM port for this reel. Each FCM has 4 ports. The ports are labeled in the drop down menu as 1, 2, 3, and 4. If a port on an FCM has already been assigned to a reel it will not show up in the drop down menu.

Note: *If all ports on an FCM are in use then the FCM will not show up in the Hardware FCM ID drop down menu.*

ON/OFF - Turns ON/OFF reel for use.

After all the settings have been adjusted, click on the green **SAVE** button at the bottom of the window.

2.4 Relay Configuration

Relay configuration is used to setup system relays reaction to alert and alarm conditions in the system. (Fig. 18)

Hardware Relay ID - Which Tank Sensor Module has the relay to be configured. Each Tank Sensor Module has 4ea. 24VDC, 5 amp relay connections.

User Defined Name - User assigned name for the relay.

Relay Port - Select one of four physical relays to configure.

Default State - Is the operational state a relay will function in its normal state. State of the relay must be either Powered or Not Powered.

Trigger Type - Select what system function or event will trigger a relay.

On/Off - Turns ON/OFF relay to function.

Update/Delete - Either update or delete the relay.

2.4.1 Add Relay

To add a new relay the user must click the green **ADD RELAY** button at the bottom of the screen. A window will appear for the user to set up the relay. (Fig. 19)

When setting up a new relay the user will need to input information into the Relay Configuration window.

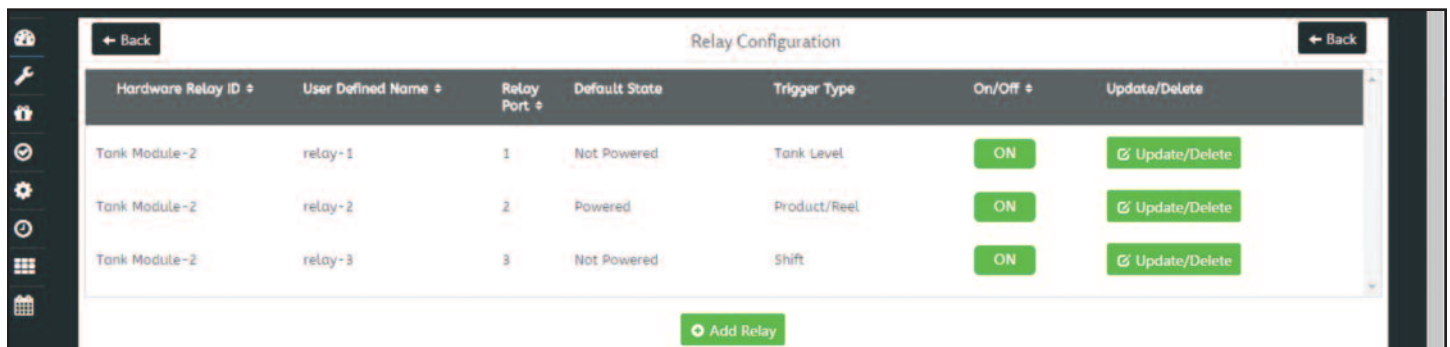


Figure 18 – Relay Configuration

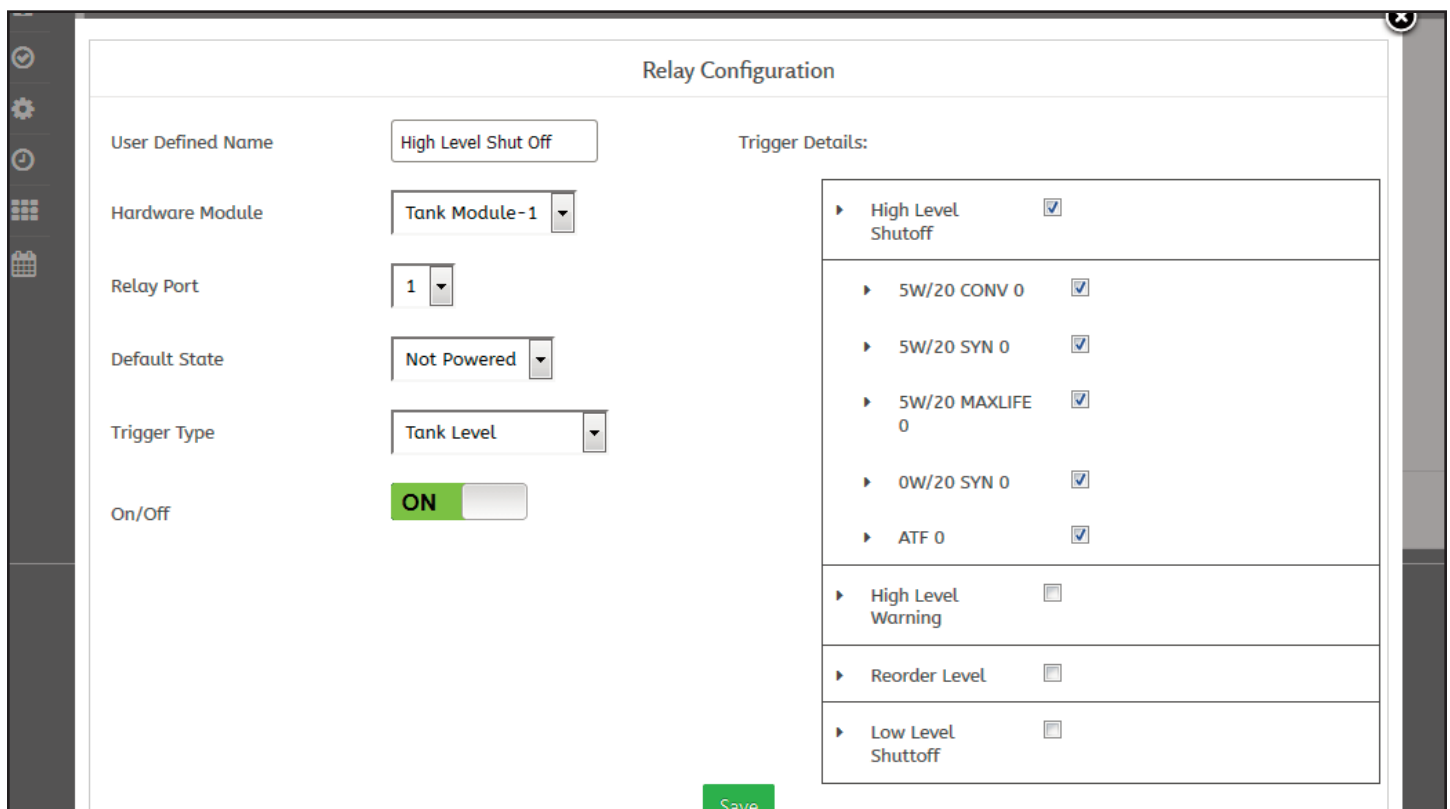


Figure 19 – Add Relay Configuration

User Defined Name - Customize the name of the relay.

Hardware Module - Select Tank Module that has the relay to be configured.

Relay Port - Select one of four physical relays to configure on the Tank Sensor Module.

Default State - Select between two default states, **Powered** or **Not Powered**. This function will depend on the hardware function relay is used to control. i.e. if setting up an alarm that will sound when the tank reaches "High Level Alarm" the default state would be "Not Powered." Therefore when the system sends a "High Level Alarm" the relay will close becoming energized with 24 VDC.

Trigger Type - There are three different trigger types the user can select from.

Product/Reel - Sets a relay to be triggered when a specific product is turned on. After selecting "Trigger Type" **Product/Reel**, a list of products that can be selected in "Trigger Details" window. Must click box next to the product that will operate relay. When the box is checked FCM(s) that controls a particular reel will appear. Select a specific FCM or all of them.

Tank Level - Sets a relay to be triggered by tank level alerts/alarms. Selecting "Trigger Type" **Tank Level** then a "Trigger Details" list appears. Select check box for the corresponding level that will be the trigger **High Level Shut Off, High Level Warning, Reorder Level, Low Level Shutoff**. When the box is checked a list of products will appear. Select a specific product or all of them.

Shift - Sets a relay to be triggered by the shift start and stop times that were set in the Administrator/System Configuration/Shift Setup. Selecting "Trigger Type" **Shift** then a "Trigger Details" list of the shift will appear. Select which shift will trigger the relay. If the user selects **Day** they cannot select any other shift. If the **Day** is not selected the user may select one, two, or all three of the remaining shifts to trigger the relay.

When finished setting up details click the green **Save** button at the bottom of the window and relay configuration will be saved.

2.5 Sensor Configuration

View, add and configure Tank Monitor Sensor to a specific tank and product.

Before sensors can be added you must:

1. Configure products and tanks from the Administrator desktop under Product & Tank Configuration page.
2. Add Tank Sensor Module from Administrator desktop under Hardware Configuration page.

On the main window for sensor configuration there are 5 columns of information corresponding to each tank that has been added to the system. (Fig. 20)

Tank Name - This will display the name of the tank the sensor has been configured for.

Hardware Tank Module ID - Tank Module ID that the sensor is connected to.

Tank Module Port - Each Tank Module has 4 sensor ports to connect a tank sensor. Shows which corresponding port is to be configured on that Tank Module.

Sensor ID - This number is assigned by the system when it's created. Cannot be edited by the user.

ON/OFF - Turns ON/OFF Sensor for use.

2.5.1 Add New Sensor

Click on green **Add Sensor** button at bottom of window to add a new sensor. (Fig. 21)

Tanks - Select tank sensor that will be configured from the drop down menu.

Hardware Tank Module ID - Displays the Tank Sensor Module ID and which sensor it is connected to.

Tank Module Port - Select a port on the Tank Sensor Module the sensor will be wired into.

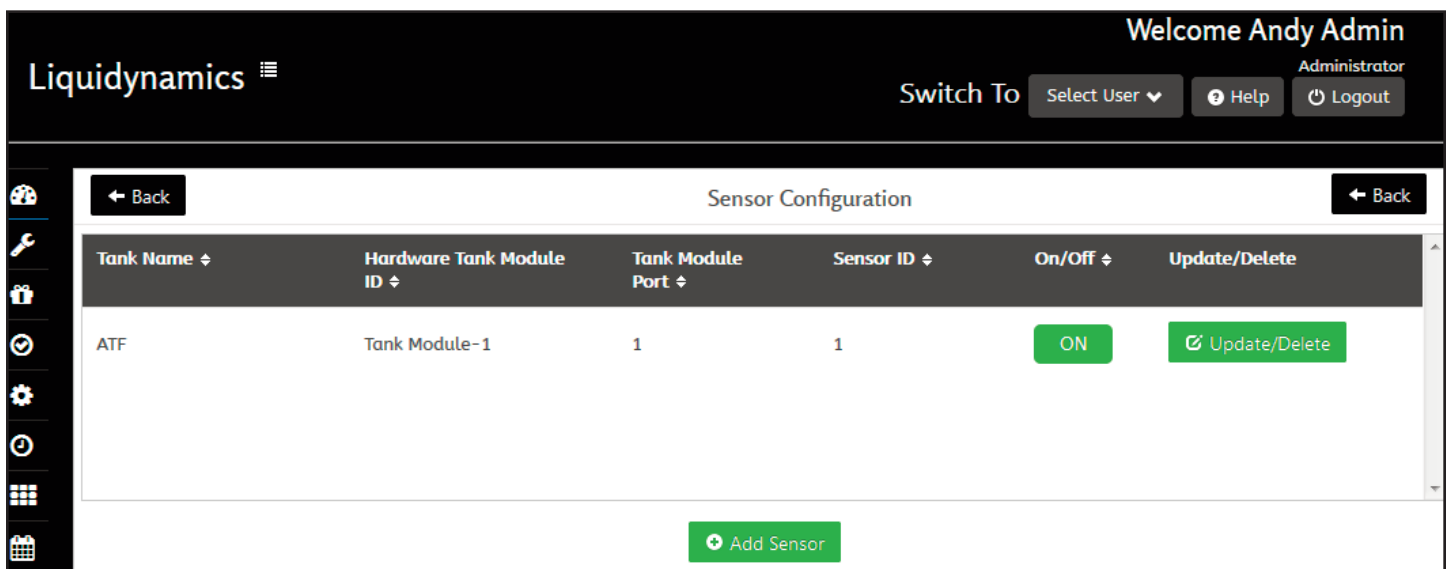


Figure 20 – Sensor Configuration

ON/OFF - Turns ON/OFF Sensor for use.

Click the green "Save" button at the bottom of the window when finished.

The user can Update or Delete the sensor on the main sensor configuration page by clicking on the green **Update/Delete** button to the right of the corresponding sensor. The user can change anything except the Sensor ID.

2.6 Timeout Configuration

Timeout settings used with dispensing products allows the system to follow a defined dispensing process to ensure the dispense transactions are properly terminated. (Fig. 22)

Condition - This column displays the step in the dispense process that the user can specify a timeout setting .

Time - Displays the time a corresponding step is currently set at.

Compulsory - Turns ON/OFF using the timeout setting for the corresponding event.

There are 5 different event conditions that can be edited to modify the timeout configuration to the user's preference. Each timeout condition ends when either the next condition in the dispense process begins or the time limit for that condition is reached.

Dispense Page - Timeout begins after a user loads/selects a work order and the dispense page is opened.

Pre Dispense - Timeout begins when the user clicks the **START** button on the dispense page, the PSM activates. Once activated the system monitors for pulses from a pulse meter, if no pulses are observed within the Pre Dispense time out setting the system will terminate the transaction. (Typically set for as short of duration as practical.)

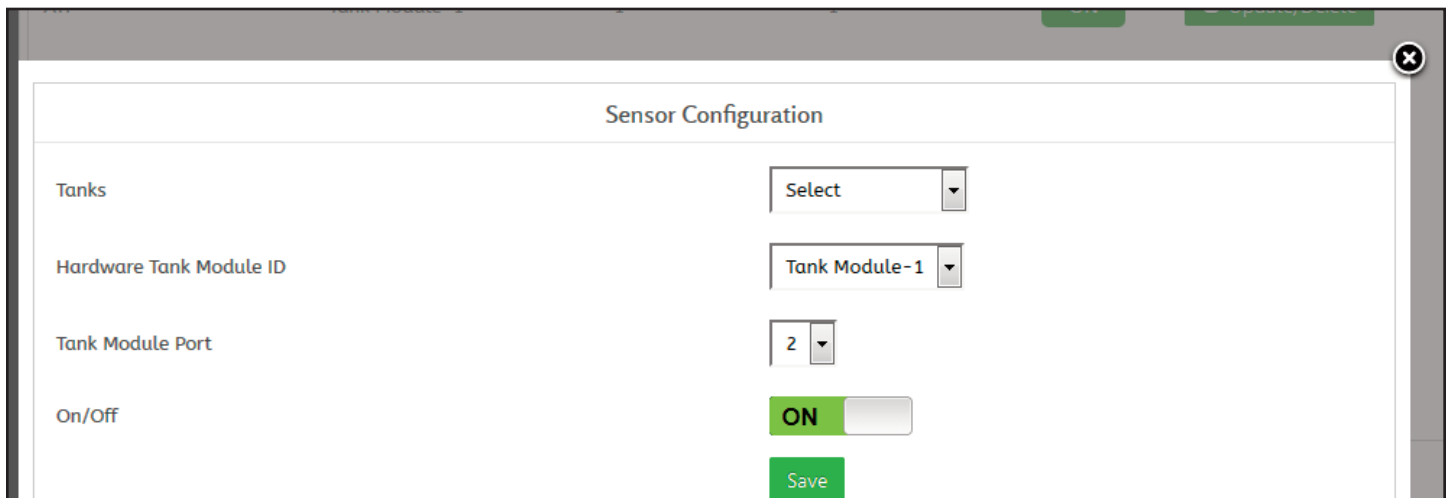


Figure 21 – Add Sensor

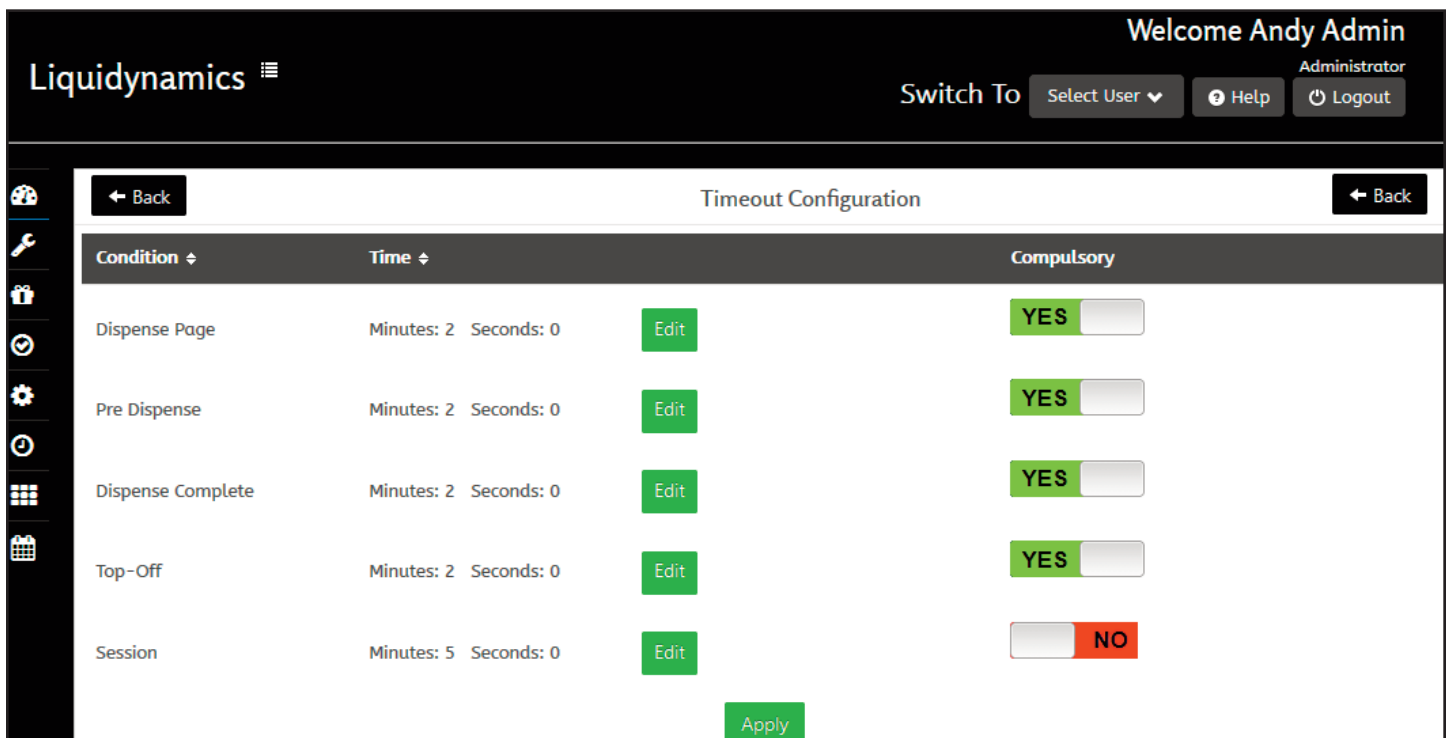


Figure 22 – Timeout Configuration

This timeout could also be referred to as a missing pulse detection time out. In the event the pulser meter failed, the dispensing operation would be terminated at the same time as the Pre Dispense timeout setting.

Dispense Complete - Timeout is ready once system observes pulses during a transaction and the time out countdown begins when the system discontinues observing pulses. If no pulses are observed before timeout has elapsed system will complete the dispense transaction. The user will have to wait for the DISPENSE COMPLETE timeout to elapse before performing another dispense operation. Once PRESET or MAX DISPENSE amount limit is reached, the system will complete dispense automatically.

Note: *The user can expedite the Dispense Complete process by clicking the DISPENSE COMPLETE button on the dispense page.*

Top-Off - Timeout begins after the system recognizes DISPENSE COMPLETE. Before Top-Off time out has elapsed the User has the option to click the **Top-Off** button allowing a small amount, Defined in Administration Options, of additional product to be dispensed.

Session - Timeout begins upon Login, this time stamp is used to set a maximum session time limit.

If the user does not complete the dispensing process, the Session timeout will begin when the last condition the user was on times out. When a session timeout limit is reached the system will automatically take the user out of the dispense process but leave the work order open.

2.7 Administrative Options

Change Image/Change Name - Select either change image or change name. This will modify the main dashboard Graphic/button on every system page upper left corner above the Dashboard. Upload an image for the button or type in a word to be displayed. (Fig. 23)

Top-Off - A button on the dispense page that if pressed allows a user to dispense a small predetermined maximum amount of product. Turn ON/OFF top-off feature.

Top-Off Limit - Maximum amount of product allowed to be dispensed from the top off feature. Select PERCENTAGE or VOLUME. Choosing PERCENTAGE will set a top off amount according to a percentage of the amount that was dispensed during a transaction. Choosing VOLUME will set a maximum top off amount according to the volume amount entered.

Auto Close Work Order - ON/OFF auto close work order feature. If turned "ON," a work order will automatically close after the user presses the back button on the dispense page or presses, DISPENSE COMPLETE button.

Note: *If MULTIPLE PRODUCTS PER WORK ORDER is turned on and a work order is configured with multiple products to dispense it will not close until all products assigned are dispensed. If there are products in a Work Order that will not be dispensed, the User will have to select the product and press DISPENSE COMPLETE button to terminate the unused product from the Work Order before allowing the Work Order to close.*

If set to "Off," user will be taken to a new window with option to close the work order or leave it open. If work order is left open, another product can be added to the work order.

Multiple Products per Work Order - ON/OFF allows multiple products to be assigned to a Work Order. Turning this feature OFF allows a user to dispense only one product per work order.

System Calibration - ON/OFF Calibration allows a manager to calibrate, reels /PSM/ meters, to dispense the correct volumetric amount of product. Default K Factor 1.0 = 99 pulses per quart/104 pulses per liter.

Typically an administrator will turn on the calibration feature for limited amount of time, allowing the Manager to perform calibrations and when completed turn off / lock down the calibration. Date, time, user and K-Factor are recorded in system logs and can be viewed on the Reel Calibration page.

Product Inventory System - ON/OFF the product inventory system. Using the product inventory system will allow a user to add/subtract the amount of product in the tanks. With the product inventory system turned off, the user will not be able to accurately keep track of the amount of product in the tanks. Must be turned on for tank monitor operation.

Installer Access - ON/OFF This feature should be turned on if the system installer can have their own access to the system. If turned on, user is allowed to enter 111222333 to generate a code. User will need to call Liquidynamics and provide this code, Liquidynamics will generate a pass key to access the system.

Odometer Number - ON/OFF The odometer number feature will require users to enter an odometer number before dispensing any product.

Pin Number - Requires PIN to access system, 4-10 digits, numbers only.

Maximum Allowed Preset - Maximum amount of product a user may preset for dispense.

Maximum Open Dispense - Maximum amount of product allowed to open dispense.

Maximum Allowed Dispense - Maximum amount of product that can be dispensed per work order, includes the sum of preset/open dispense plus the Top-Off amount.

System Type - Choose American or European.

Units for Report - There are 4 options to select from - Quarts, Liters, Pints, or Gallons from a drop down menu. This option is not affected by the unit measure selected when setting up the reels.

Enable Work Order Config - ON/OFF. OFF= Any combination of numbers, alpha characters, and hyphens when loading a work order number can be used. ON = Define specific Work Order format that must be followed when loading a work order number. When switched ON, format options are displayed:

Define Work Order Length - Specify how long (total combination of numbers/alpha/hyphens/keyboard characters) the work order will be. Then click the green Add button, a number of drop down menus will appear defining the Work Order format.

Define Work Order - Select one of four options from the drop down menu.

Alpha- = A , Number- = 1 ,
Hyphen- = - , Alpha or Number- = X

Example: If the user would like work order numbers to be a total of 5 characters long, first two characters in the work order to be

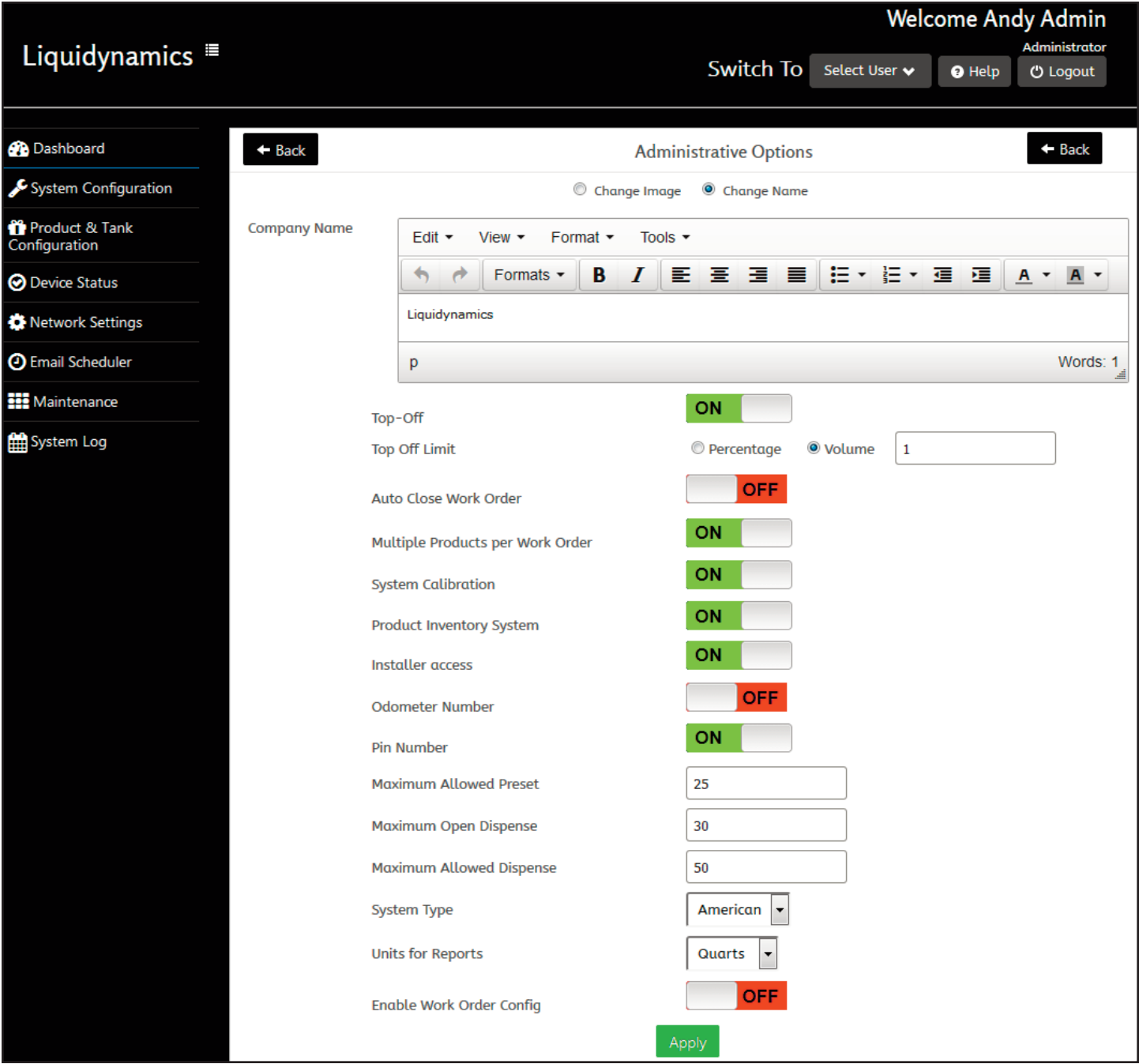


Figure 23 – Administrative Options

letters (Alpha), then a Hyphen as the third character, number as the fourth character, and either a letter(Alpha) or number as the fifth character.

- The user would input the number 5 in Define Work Order length.
- 1st and 2nd drop down menu set to **ALPHA**.
- 3rd drop down menu set to **HYPHEN**.
- 4th drop down menu set to **NUMBER**.
- 5th drop down menu set to **ALPHA** or **NUMBER**.
- Work Order format = **“AA-1X”**

Click the green **APPLY** button at the bottom of the page to save administrative options. (Fig. 23.1)

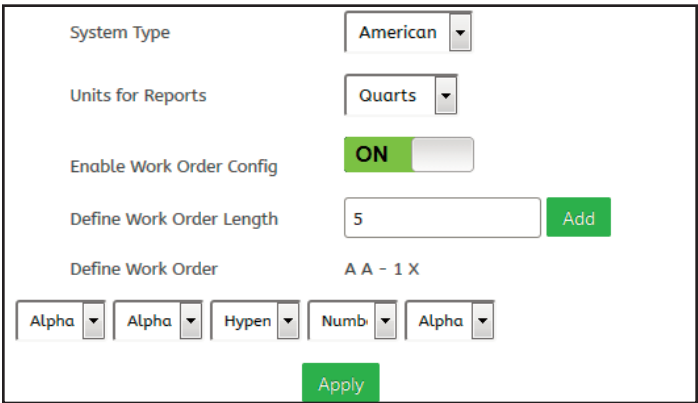


Figure 23.1 – Define Work Order Popup Screen

2.8 Shift Setup

Shift Setup is used to define when the system can dispense. There are two options, **DAY** or **1st/2nd/3rd**. (Fig. 24)

2.8.1 Day Setup

Establish a time window when the system will permit dispensing operations. Set Start and Stop time.

Only the administrator is able to override by turning off Shift Setup if product were needed to be dispensed outside of the defined time. There is no option for adding specific technicians to this shift setup.

2.8.2 1st/2nd/3rd Shift Setup

Define up to three specific Shift Start/Stop times. (Fig. 25)

ON/OFF button next to the shift must be switched ON for the system to recognize the specific shift times. **START** column select a Start time the shift will begin, then **STOP** column select a Stop time the shift will end.

Click the green **APPLY** button to establish shift setup times into the system. (Fig. 25)

Once shift setup times have been applied, *Specific technicians can be allowed to only dispense during an assigned shift.*

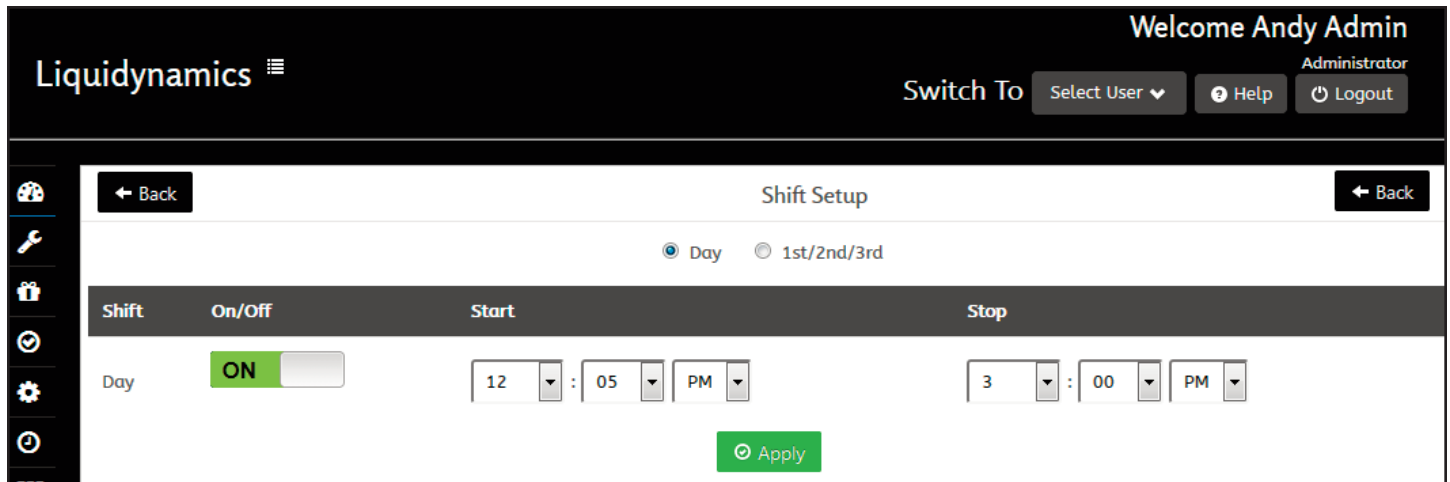


Figure 24 – Shift Setup

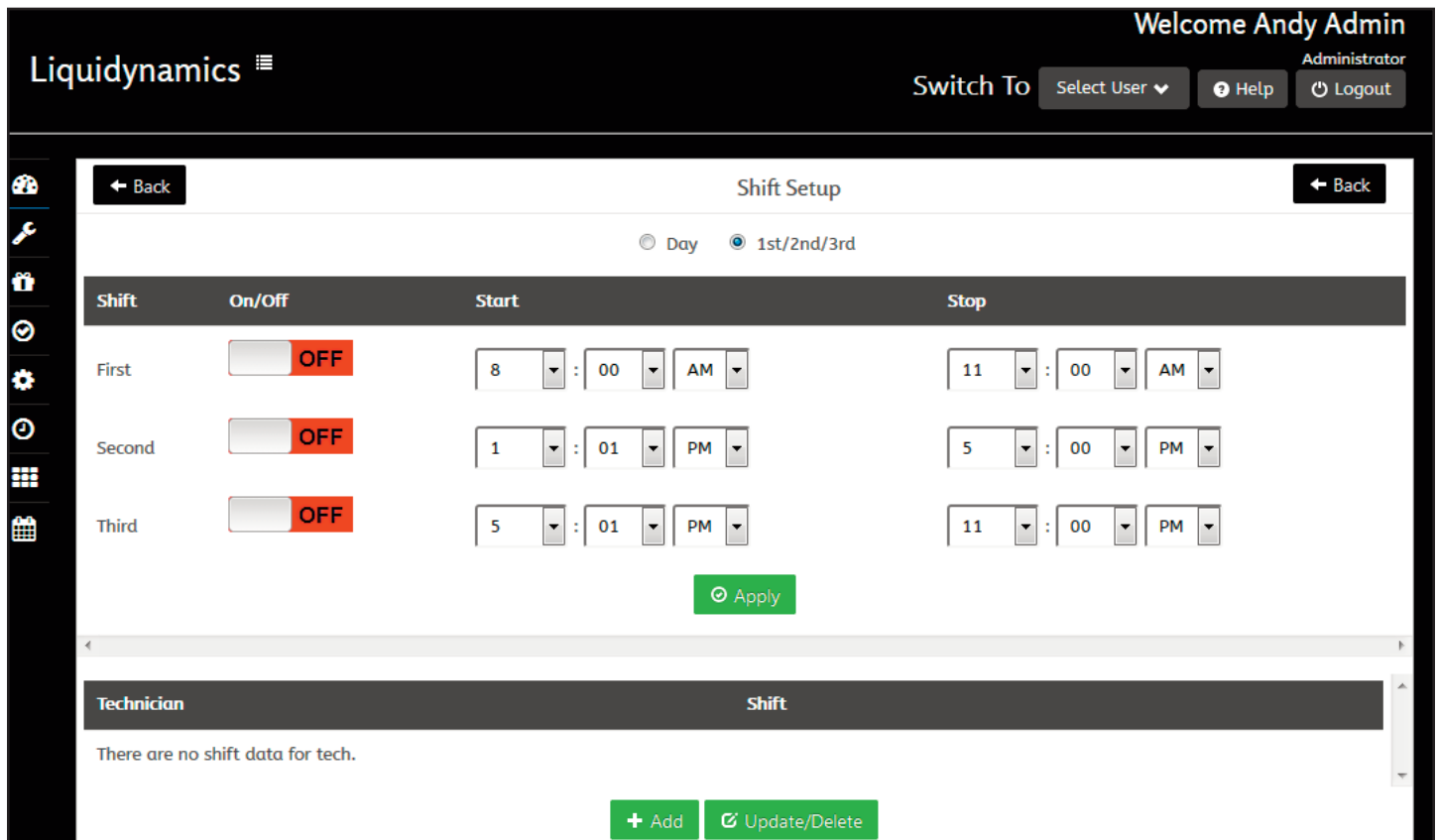


Figure 25 – 1st/2nd/3rd Shift Setup

2.8.2.1 Technician Shift Setup – Click the green **ADD** button, a new window opens to select the Technician and select the specific shift. (Fig. 26)

Select the technician by clicking on the drop down menu, then click on the technician’s name.

Select the shift for that technician from the drop down menu, then click on specific shift to be assigned. Click the green **APPLY** button when finished.

Technicians can be assigned to multiple shifts, you will need to reopen the **ADD** window and assign them to another shift. If a

technician moves to another shift, click the Update/Delete button and assign new shift then “**Apply.**”

Technician will not be able to dispense any product outside of their designated shift time.

2.9 System Language & Time

Setup system time and language. (Fig. 27)

Time Zone - Select the system time zone.

Daylight Saving - ON/OFF, Automatically change the system time during daylight savings times.

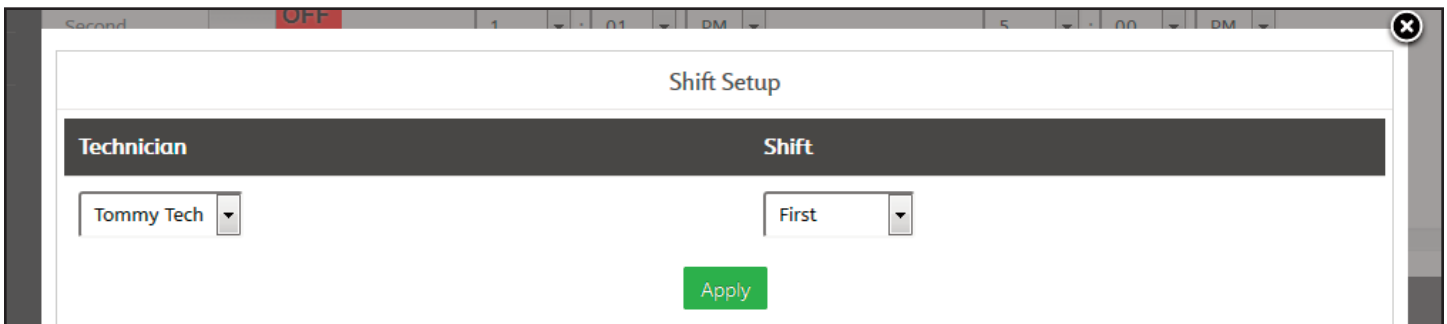


Figure 26 – Technician Shift Setup

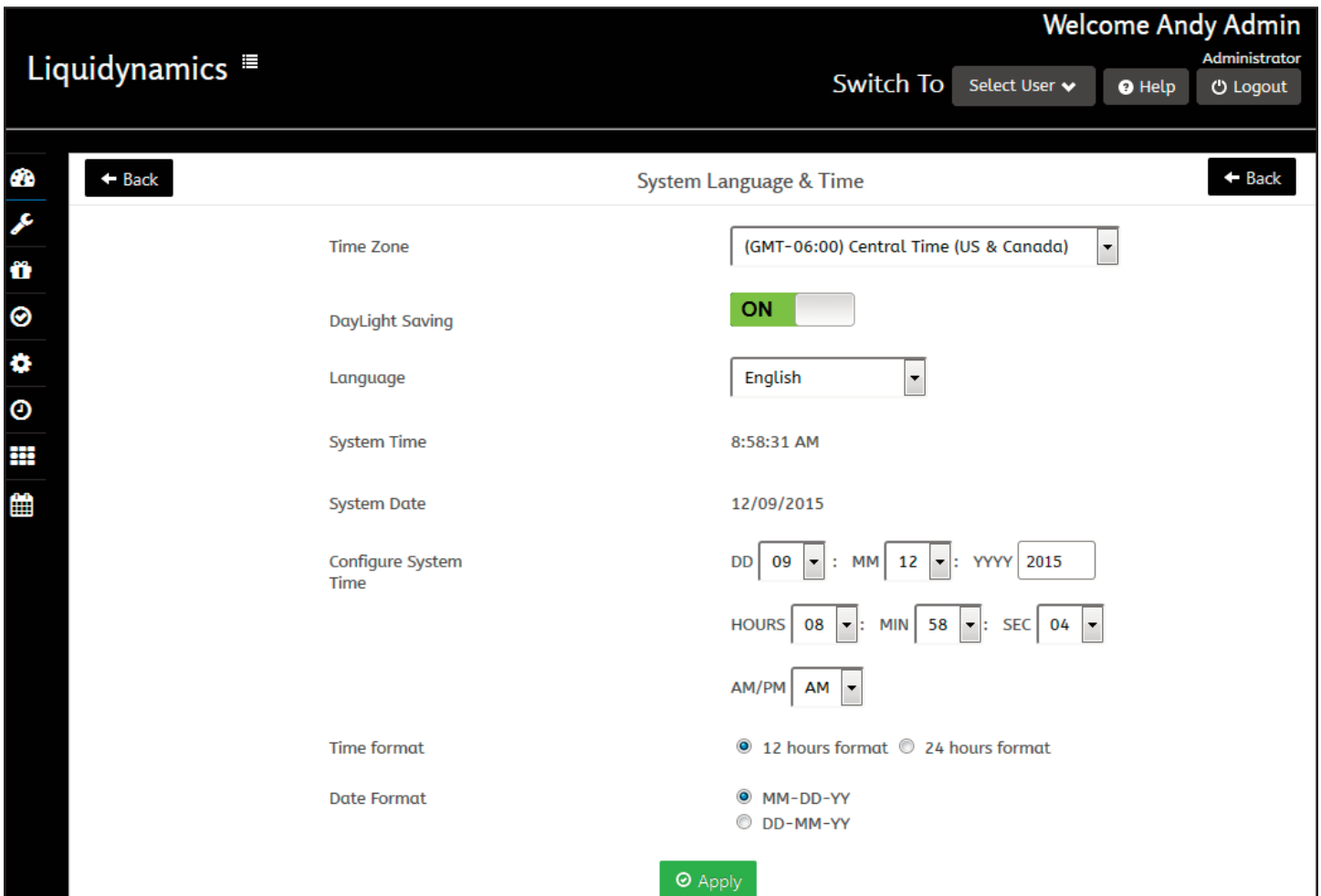


Figure 27 – System Language & Time

Language - Select a specific language they want the system to use.

System Time - Current time.

System Date - Displays current date.

Configure System Time - Change system time and date.

Time Format - Select 12 hour or 24 hour time format.

Date Format - Select MM-DD-YY -or - DD-MM-YY

Click the green **APPLY** button at bottom to save changes.

3.0 Product & Tank Configuration

Product and tank configuration button is located on the main admin dashboard under System Configuration. (Fig. 28)

3.1 Add Product

Clicking on the green **ADD PRODUCT** button at top of the page opens a pop up window to allow adding product. (Fig. 29)

In this window, enter the product name and value for the products' specific gravity. Consult the Materials Safety Data Sheet (MSDS) to find the specific gravity for the product. If MSDS

The screenshot displays the 'Product & Tank Configuration' page in the Liquidynamics system. At the top, there is a navigation bar with the user's name 'Welcome Andy Admin' and role 'Administrator'. Below this, there are buttons for 'Switch To', 'Select User', 'Help', and 'Logout'. The main content area features a 'Product & Tank Configuration' header with a 'Back' button. Below the header, there are several filter buttons: '5W/20 CONV', '5W/20 SYN', '5W/20 MAXLIFE', '0W/20 SYN', 'ATF', and '5W/30 SYN'. A prominent green '+ Add Product' button is centered below the filters. The main part of the page is a table with the following data:

Number	Tank	Product	Storage Units	Capacity	Contents	High Level Shutoff	High Level Warning	Re order Level	Low Level Shutoff	
1	5W/20 CONV	5W/20 CONV	Gallons	275.0	270.3	270G	261G	41G	14G	
2	5W/20 SYN	5W/20 SYN	Gallons	250.0	238.8	245G	238G	38G	13G	
3	5W/20 MAXLIFE	5W/20 MAXLIFE	Gallons	275.0	195.7	270G	261G	41G	14G	
4	0W/20 SYN	0W/20 SYN	Gallons	250.0	37.0	245G	238G	38G	13G	
5	ATF	ATF	Gallons	182.0	0.0	178G	173G	27G	9G	

At the bottom of the table area, there is a green '+ Add New Tank' button.

Figure 28 – Product & Tank Configuration

The screenshot shows the 'Add Product' pop-up window. It has a title bar with a close button. The form contains the following elements:

- Product Name:**
- Specific gravity:**
- Specific gravity =** $\frac{\text{Density of Oil(kg/m}^3\text{)}}{\text{Density of Water(kg/m}^3\text{)}}$
- Submit** button

Figure 29 – Product & Tank Configuration – Add Product

is unavailable, but density of the product is known, use the specific gravity equation provided in the window. If no value is entered in the specific gravity field, the system uses default specific gravity of 0.88.

Click the green **SUBMIT** button to save.

After a product has been submitted it will appear as a button at the top of the Product & Tank Configuration page. All the products that have been added will appear in a row, in the order products were created in the system.

Products can be updated or deleted by clicking on the button with the product name along the top of the screen. This will recall the same pop up window used to setup the product, then click the green **UPDATE** button after making any changes to the product name and/or specific gravity.

3.2 Add New Tank

Click the green **ADD NEW TANK** button at the bottom of the Product and Tank Configuration page. A new pop window will appear after clicking the **ADD NEW TANK** button. (Fig. 30)

There are 10 fields of data in this window, two of the fields are required to add the tank and are marked with a red asterisk (*).

Tank Name - Enter any name for the tank to be referred to, if nothing is entered the system displays the product assigned to the tank.

Product* - Select a product from the drop down menu. The drop down menu will display a list of products configured in the system.

Storage Units* - Select unit of measure from the drop down menu. **Quarts, Liters, Pints, or Gallons.** This does not affect the unit of measure used when setting up the dispense reel.

Contents - Enter the starting inventory amount for the product in the tank. If this field is left empty the tank will show the product level at 0.0. If installing a tank monitor leave this field blank. Once a tank has been created, the contents of the tank cannot be changed from this menu. Any inventory adjustments can only be made from the **Managers dashboard/Adjust Tank Inventory** menu.

Capacity - Enter total tank capacity, if field is left blank the system will automatically input 0.0. Leave this field blank if installing a tank monitor it will automatically be configured when setting up the tanks dimensions.

High Level Shutoff - This is a "NOT TO EXCEED" inventory setting that indicates when a tank inventory exceeded the tank high level over fill amount setting. **High Level shutoff setting should be less than 95% of tank capacity.** See **Relay Configuration menu** to configure relays that can be activated by tank inventory conditions



Liquidynamics, Inc. will not assume any responsibilities for spills, cleanup, shortages or any other damages resulting from malfunction or incorrect settings of this product.

High Level Warning - High level alert notification setting indicates tank inventory exceeded amount specified in setup. **High Level Warning setting should be less than the tank High Level Shutoff value.** See **Relay Configuration menu** how to configure relays activated by tank inventory conditions

Re Order Level - Alert notification setting indicates tank inventory is less than amount specified in setup. When setting, consider typical time required to receive a delivery after Re Order level is activated. See **Email Scheduler** for how to configure Email alerts that can be activated by tank inventory conditions.

Figure 30 – Add New Tank

Lock out NO



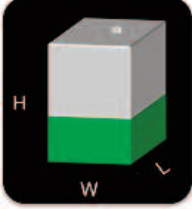

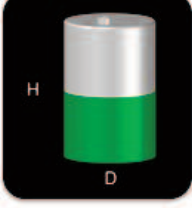
Do you want to install Tank Monitor? **YES**

* Measure Inches
 Centimeters

* Tank Shape Default Shape Tank
 Custom Shape Tank

Submit

Figure 31 – Do you want to install a tank monitor?

Name	Shape	* Select	* Dimension
Oval-Horizontal		<input type="radio"/>	Height <input type="text"/> Width <input type="text"/> Length <input type="text"/>
Oval-Vertical		<input type="radio"/>	Height <input type="text"/> Width <input type="text"/> Length <input type="text"/>
Rectangle		<input type="radio"/>	Height <input type="text"/> Width <input type="text"/> Length <input type="text"/>
Round-horizontal		<input type="radio"/>	Length <input type="text"/> Diameter <input type="text"/>
Round-vertical		<input type="radio"/>	Height <input type="text"/> Diameter <input type="text"/>

Submit

Figure 32 – Default Shape Tank

Low Level Shutoff - Alarm setting will not allow product to be dispensed if tank inventory is less than this setting.

This can be entered manually or if left blank the system will automatically assign it a value depending on the volume entered for the tank Capacity. This feature will shut off the tank and not allow the product to be dispensed without a Manager or Administrator's approval.

Note: *This shutoff prevents air from entering system which will cause inaccurate dispense amounts.*

Alert Conditions - Select from drop down menu how tank alarms are to be set. Percentage of tank volume, or indicate volume in the tank. Updating this setting may require updating values entered in other fields.

Lock Out - When set to "YES" will not allow any product to be dispensed from the tank.

Do you want to install a tank monitor? - To install a tank monitor on tank, click the YES/NO button to YES. When switched to yes, additional settings appear at the bottom of the window. (Fig. 31)

Measure (*) - Select INCHES or CENTIMETERS units of measure used when entering tank dimensions.

Tank Shape (*) - Select DEFAULT TANK SHAPE or CUSTOM TANK SHAPE.

Choosing a **DEFAULT TANK SHAPE** will bring up a list, with diagrams, of 5 tank shapes recognized by the system. (Fig. 32)

Select one of the 5 default tank shapes and enter the dimensions of the tank and values for **HEIGHT, WIDTH, and LENGTH.**

System will calculate **CAPACITY, HIGH LEVEL SHUTOFF, HIGH LEVEL WARNING, RE ORDER LEVEL,** and **LOW LEVEL SHUTOFF** fields.

Choosing **CUSTOM TANK SHAPE** opens a measurement-to-volume strapping table. Number of cells populating the table is the same entered in **Height Of Tank** field. Enter tank height and volume at each increment of the unit of measure. (Fig. 33)

Must setup a **TANK SENSOR** in the **SENSOR CONFIGURATION** menu before tank **CONTENTS** will be displayed.

Enter value for the **HEIGHT OF TANK** field.

Enter a value for each volume level and click the green **UPDATE** button.

After a tank has been created it will be displayed on the main **PRODUCT** and **TANK CONFIGURATION** page.

Click green **UPDATE/DELETE** button next to the tank to change any tank settings or delete a tank.

Note: *The tank must be at empty before changes and deletion of a tank can occur.*

* Tank Shape

Default Shape Tank

Custom Shape Tank

* Height Of Tank: 10

Volume up to level 1 :	0.00
Volume up to level 2 :	0.00
Volume up to level 3 :	0.00
Volume up to level 4 :	0.00
Volume up to level 5 :	0.00
Volume up to level 6 :	0.00
Volume up to level 7 :	0.00
Volume up to level 8 :	0.00
Volume up to level 9 :	0.00
Volume up to level 10 :	0.00

Update Delete

Note: "Volume up to level 1" begins at the bottom of the tank and moves up.

Figure 33 – Custom Shape Tank

4.0 Device Status

Displays all devices currently connected to the system, operational status and device settings. (Fig. 34)

HARDWARE ID - ID assigned to the hardware device when it was created.

USER DEFINED NAME - Name defined by Administrator when it was created.

DEVICE ADDRESS - Device address currently assigned to the device.

STATUS - Displays if a device is turned on and communicating with the system. If the device has been shut off or is having a communication issue, the **STATUS** will display Red **OFF** symbol. If connected and communicating properly the Status will display Green **ON** symbol.

Click on the column title to sort the devices by column information.

5.0 Network Settings

Interfacing OILCOP with a Local Area Network/LAN, the controller must have proper network settings, typically supplied by the Local Area Network Administrator. (Fig. 35)

! WARNING

CHANGES TO THE NETWORK SETTINGS CAN RESULT IN LOSS OF ACCESS TO THE SYSTEM
THE USER NEEDS TO HAVE A BASIC UNDERSTANDING OF INFORMATION TECHNOLOGY BEFORE MAKING CHANGES TO THE NETWORK SETTINGS
WRITE DOWN ANY CHANGES MADE IN THE NETWORK SETTINGS MENU

Controller "A"

At the top of the window there are two check boxes **SUPPORT PORT** and **LAN PORT**. These ports are referring to the two Ethernet ports located on the side of the controller "A" (CTR). (Image 1)

Support Port is the Ethernet port located *nearest* to the front LEDs on the controller. Lan Port is the Ethernet port located *farthest* from the front LEDs on the controller.



Image 1 – Controller "A" LAN Port

Controller "B"

The "B" controller has only one Ethernet port and is used to connect the controller to a local area network (LAN). (Image 2)

Select **LAN Port** to set network settings, the **Support Port** is not applicable when using the "B" controller.



Image 2 – Controller "B" LAN Port

Liquidynamics
Welcome Andy Admin

Administrator

Switch To

Select User

Help

Logout

← Back
Device Status
← Back

Hardware ID	User Defined Name	Device Address	Status
FCM	FCM-1	1	OFF
Tank Module	Tank Module-1	1	ON
Oil Cop Entry Console	Oil Cop Entry Console-1	2	OFF
Wireless Printer	Wireless Printer-1	1	OFF
Remote Display	Remote Display-1	3	OFF
Remote Display	Test Display	4	ON
Communication Module	Communication Module-1	0	ON
Mini Remote Display	Mini Remote Display-1	1	ON

Figure 34 – Device Status



Figure 35 – Network Settings

Support Port - This port can be used by the user to gain access to the system through a direct link using an Ethernet cable. The user must plug one end of the Ethernet cable into the controller's support port and the other end of the cable must be connected to the Ethernet port on the user's CPU (See Network Setup for configuring computer settings to use the Ethernet connection). It is suggested that the settings for the support port never change. This allows for the user to always have a way to access the system for troubleshooting.

LAN Port - This port can be used by the user to connect the system to the user's local area network (LAN) or to a wireless network via the network's router.

The user must first know the network settings of the network they would like to connect the system to.

IP Address - Some networks have increased security settings that will require the company's IT manager to designate a specific IP address for the system. The user can customize the IP address of the LAN port as long as it meets the requirements of the user's network settings.

Netmask - Must match the Netmask settings of the network the system is connected to.

Default Gateway - Default gateway must match the default gateway of the network the system is connected to.

DNS - DNS must match the DNS settings of the network the system is connected to.

DHCP - This button will turn ON/OFF the DHCP setting.

DOUBLE CHECK settings before clicking the green APPLY button at the bottom of the window. (Fig. 36)

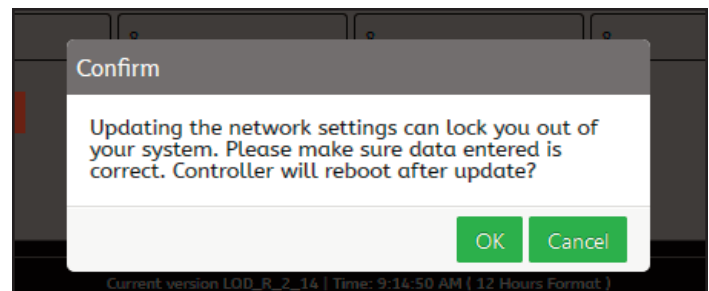


Figure 36 – Network Settings Confirmation

A pop window appears after clicking the APPLY button ***“Incorrect changes to network settings may not allow you to access the system.”*** Confirm data entered into the network settings is correct.

The system will reboot after settings are updated, click **OK**. Click **CANCEL** if any doubts about settings.

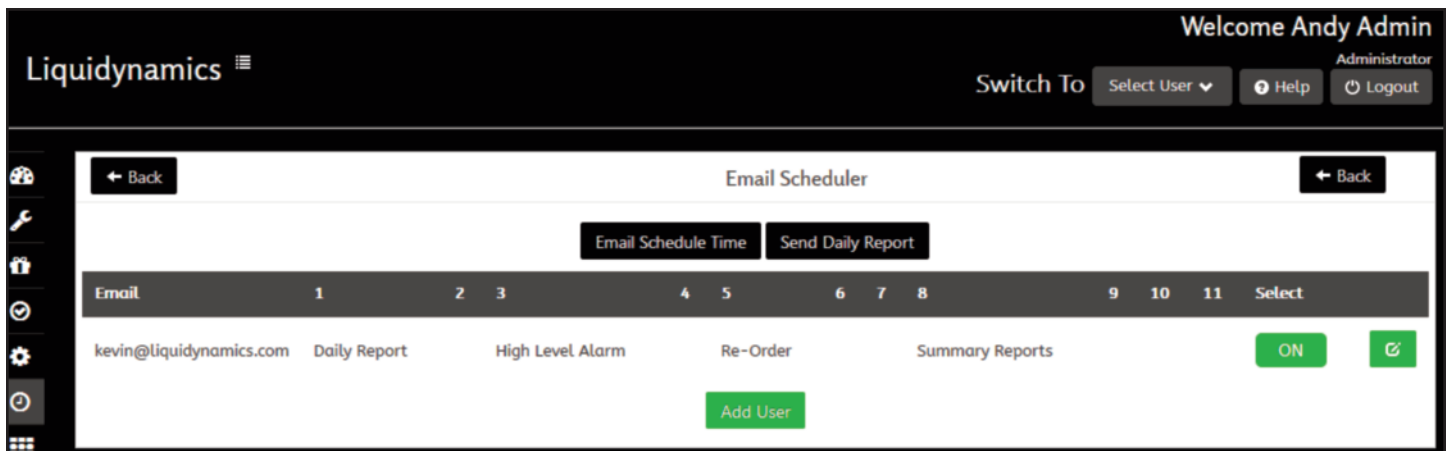


Figure 37 – Email Scheduler

6.0 Email Scheduler

Configure system to send automated email notifications and reports. Triggered by event or scheduled time. (Fig. 37)

6.1 Add User

To schedule a user to receive emails from the system. Click the green **ADD USER** button at the bottom of the window. The Email Scheduler menu will appear. (Fig. 38)

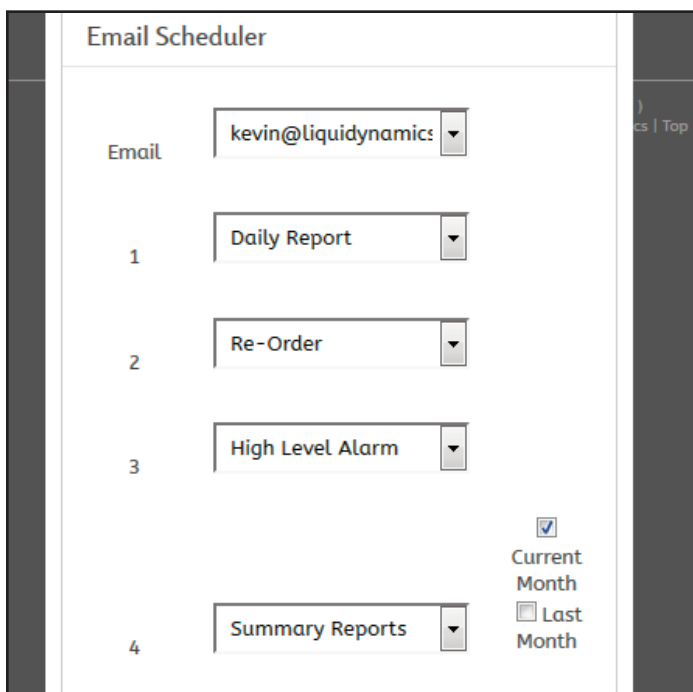


Figure 38 – Email Scheduler Add User

Email - Top drop down menu box in the Email Scheduler is where to select a user email address. All users added from **ADD/MODIFY USER** in the Administrators desktop, or **Add Technician** in the Managers desktop can be selected, or can “Add a new user” from the Email Scheduler.

Note: *New users added from the Email Scheduler will only be allowed to receive automatic emails only. They will not have any access to the OILCOP system.*

Users can receive up to 11 different types of emails.

Daily Report - Daily report usage, inventory, technicians, and work orders processed for the day.

Inventory - Tank inventory.

Note: *“If tank monitor is not installed Manager must add inventory when bulk deliveries are made for inventory to be correct.”*

High Level Alarm - Tank activated high level shutoff alarm.

High Level - Tank activated high level warning alarm.

Re-Order - Tank activated re-order alarm.

Shutoff - Tank activated low level shutoff alarm.

Note: *Tank Monitor must be installed for real time alarm triggered email notifications.*

System Information - Send details about the system information.

Summary Reports - Send system summary reports.

Work Order Status - Send details about work orders.

Transaction Journal - Send the transaction journal.

Action Journal - Send the action journal.

(See **SYSTEM LOG** for details about the Summary Reports, Work Order Status, Transaction Journal, and Action Journal)

Select - Turn **ON/OFF** user’s ability to receive automatic emails.

When finished, click the green **APPLY** button to save the settings.

After settings are saved, then you must set the time reports, information, status and Journals will be sent to users.

All users’ emails will be sent at the same time, tank inventory alarms are sent upon alarm condition being activated.

6.2 Email Schedule Time

This is done from the main Email Scheduler page, clicking the green **EMAIL SCHEDULE TIME** button will open the “Email Schedule Time” menu. (Fig. 39)

Events - This column displays the 11 different types of emails that can be sent by the system.

Days of the Week - Select from the drop down menu days of the week to send emails for a particular event. Check mark next to each day to send the report.

Hour - Designates the hour to send emails. Select from drop down menu the hour in a 24 hour format.

Minute - Designates the minute to send emails. Select from 4 options in 15 minute intervals.

When complete, click the green **APPLY** button to save the settings.

6.3 Send Daily Report

Administrator can send out a daily report at any time to all of the added users by clicking the green **SEND DAILY REPORT** button on the main Email Scheduler page.

Events	Days Of Week	Hour	Minute
Daily Report	(Choose Days) <input type="text"/>	Hour <input type="text"/>	0 <input type="text"/>
Inventory	(Choose Days) <input type="text"/>	Hour <input type="text"/>	0 <input type="text"/>
High Level Alarm	(Conditional)	---	---
High Level	(Conditional)	---	---
Re-Order	(Conditional)	---	---
Shutoff	(Conditional)	---	---
System Information	(Choose Days) <input type="text"/>	Hour <input type="text"/>	0 <input type="text"/>
Summary Report	(Choose Days) <input type="text"/>	Hour <input type="text"/>	0 <input type="text"/>
Work Order Status	(Choose Days) <input type="text"/>	Hour <input type="text"/>	0 <input type="text"/>
Transaction Journal	(Choose Days) <input type="text"/>	Hour <input type="text"/>	0 <input type="text"/>
Action Journal	(Choose Days) <input type="text"/>	Hour <input type="text"/>	0 <input type="text"/>

Figure 39 – Email Schedule Time

Welcome Andy Admin
Administrator

Switch To

← Back Maintenance → Back

Mac Address -

This option will take the backup for complete database. Please click on the below button to continue.

Figure 40 – Maintenance

file can be found in the **VIEW BACKUPS** window. Back up files can be stored on the controller or computer on customers LAN?

7.2 Selected Backup

This option allows the user to create a specific backup file pertaining to certain information in the system. There are three types of selected backups. (Fig. 41)

7.2.1 Initial Setup

Saves the products, tanks, sensors, reels, and hardware that was setup by the user.

7.2.2 Work Order History

Saves the work order history.

7.2.3 System Log

Saves all system log files. (See system log for details)

7.3 Restore Database

Select from list of backup files to restore the database. (Fig. 42)

Files are listed on the left side with a box to the left of the file name. To restore the system with one of these files click the box

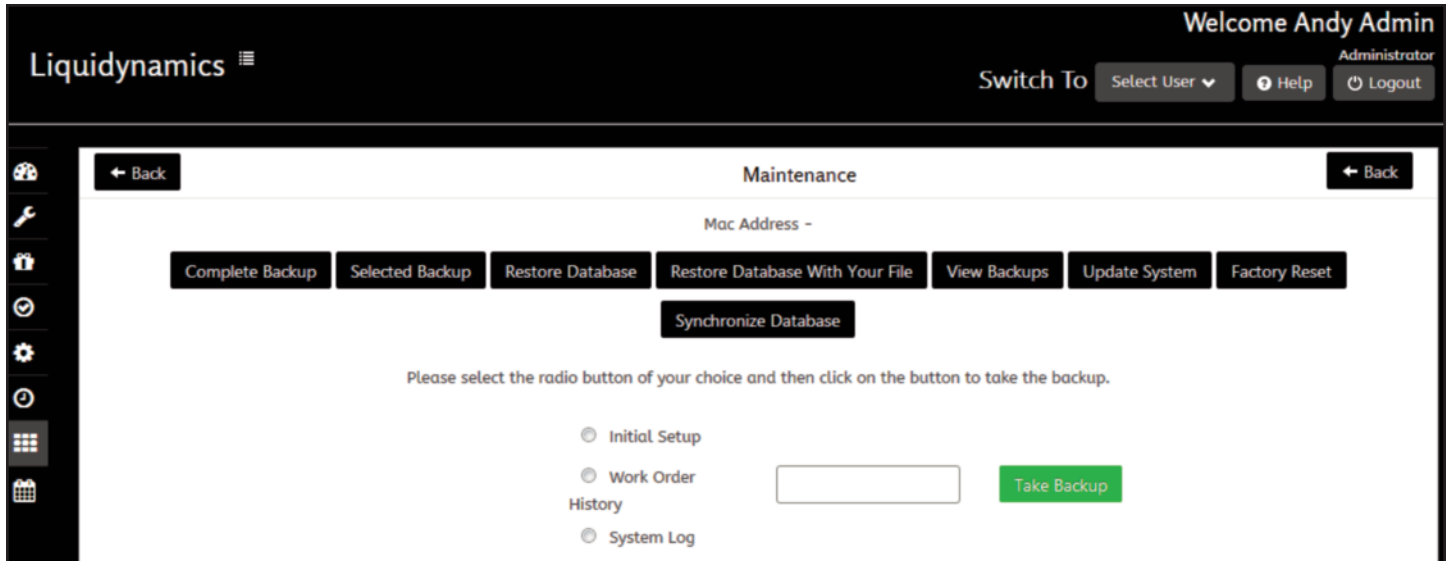


Figure 41 – Selected Backup

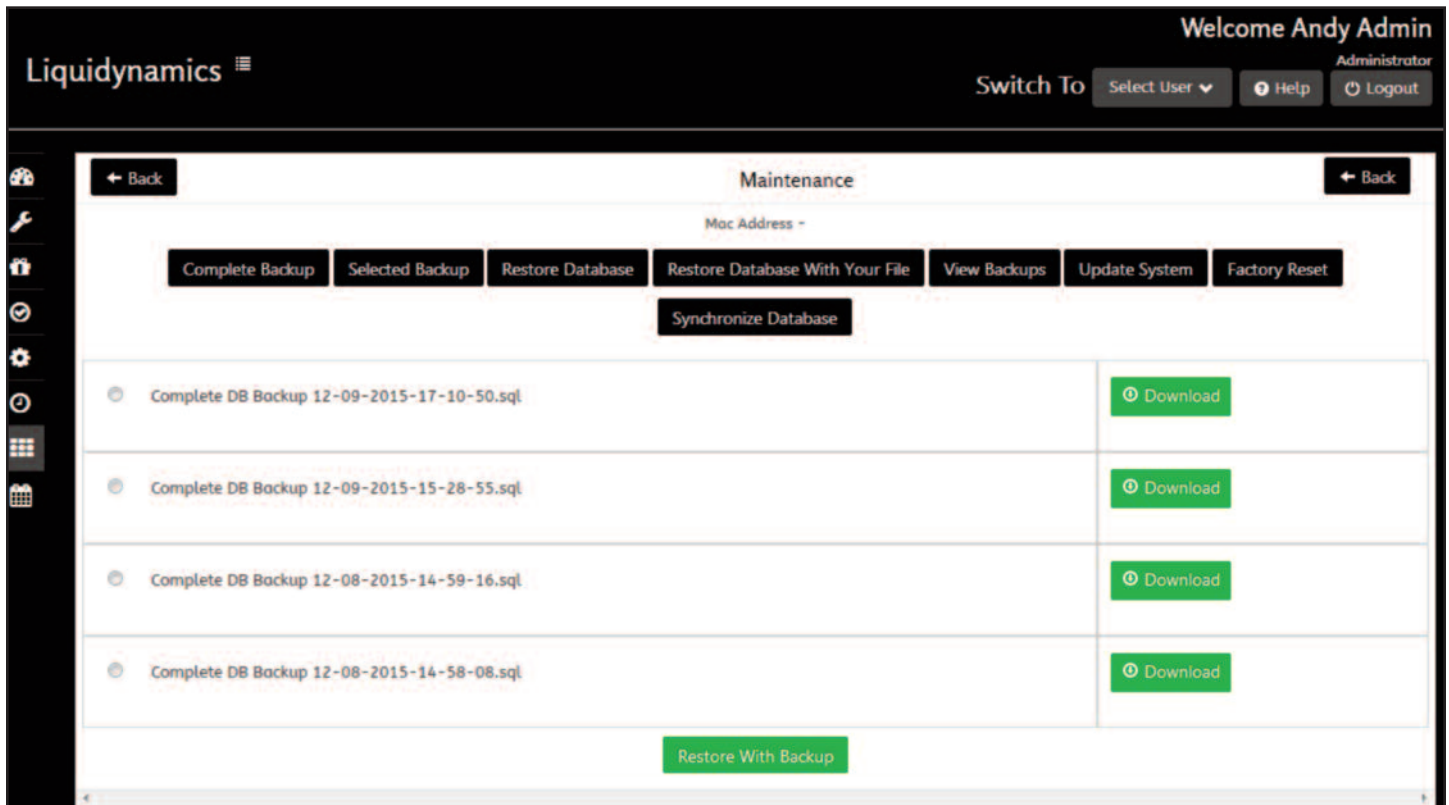


Figure 42 – Restore Database

left of the file then scroll to the bottom of the window and click the green **RESTORE WITH BACKUP** button. A pop window will appear with the message, “Restoring will erase all existing data. Do you want to continue?” Click **OK** to restore the database with this file.

The green **DOWNLOAD** buttons on the right side of the backup file saves the backup to an external source. Clicking **Download** allows the user to browse in order to find a location to store backup file.

7.4 Restore Database with Your File

Restore the system database with a backup file that was saved to an external source. (Fig. 43)

Click **CHOOSE FILE** and select a backup file from the external source location then click on green **RESTORE WITH BACKUP** button. *The system does NOT prompt with a pop up window asking to continue, once the RESTORE WITH BACKUP button is pushed, the file is uploaded and the database is restored.*

7.5 View Backups

Download specific backup files from the OILCOP controller to an external source. i.e. Computer on customer LAN. (Fig. 44)

Green **DOWNLOAD** buttons on the right side correspond with backup file in the same row. Clicking on the download button for a backup file will allow the user to save the backup to an external source. *The files are downloaded in the same manner as downloading files off the internet and may be automatically saved in your CPU's downloads folder.*

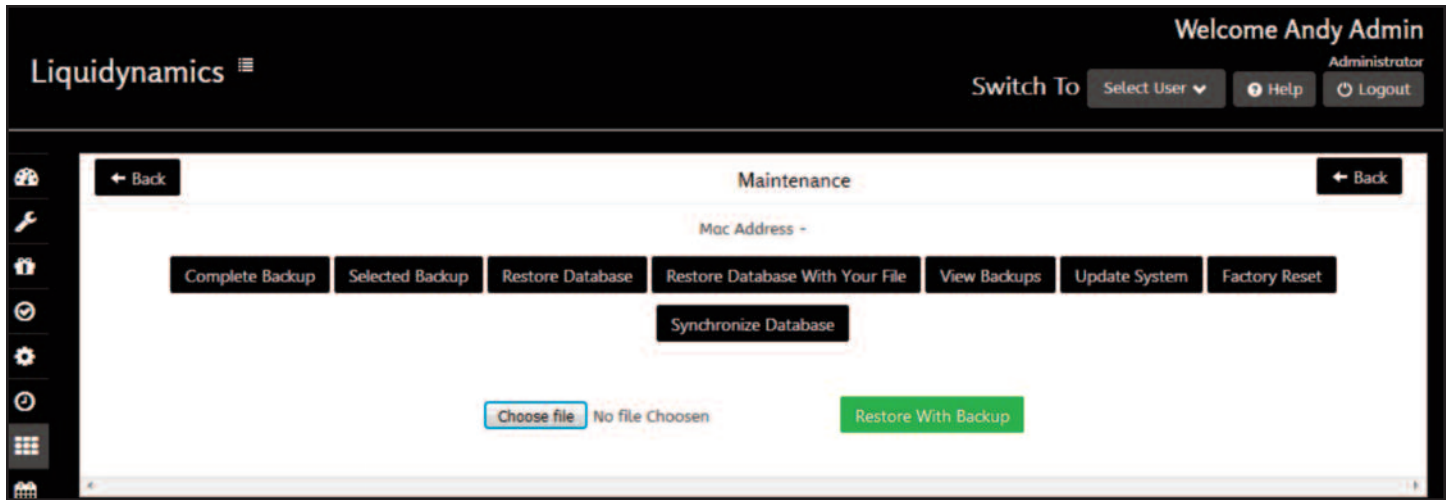


Figure 43 – Restore Database with Your File

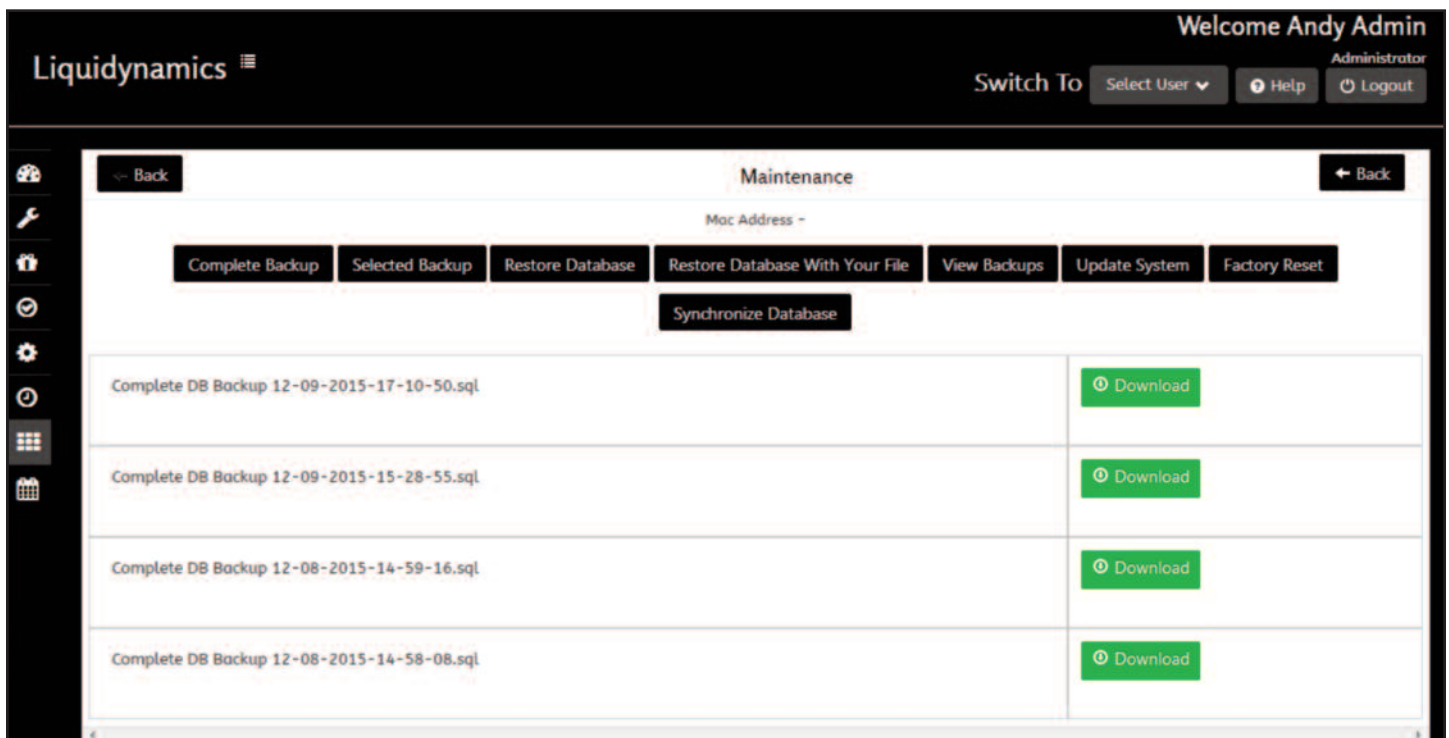


Figure 44 – View Backups

7.6 Update System

Click the **UPDATE SYSTEM** button, a row of 3 more buttons will appear in the window. These buttons represent 3 different ways to update the system software. (Fig. 45)

System must be connected to a network with access to the internet in order to find the latest software files for upload.

7.6.1 Check for Latest Version

Opens the OILCOP Update System page. If a new version of software is available an "Install" button will be displayed underneath the file name. Click on the install button to download the software, when complete close the OILCOP Update System page. The controller will reset itself after installation and may need to log into the system again. If system is running the latest software, "install" button will not be displayed on the OILCOP Update System page.

If system is not connected to a network with internet capabilities then the OILCOP Update System page will either display an error message, or say "No files found."

7.6.2 Check for Customized Version

If using OILCOP system with customized software click **CHECK FOR CUSTOMIZED VERSION** button, then enter customized customer ID number and click **SUBMIT**. If new version of software is available an "Install" button will be displayed underneath the file name. (Fig. 46)

7.6.3 Check for Specific Version

Allows downloading a specific version of the software available. Opens the OILCOP Update System page listing available software versions. Click the Install button under the desired file name to download and install the software. When complete, close the OILCOP Update System page. The controller will reset itself after installation. May need to log into the system again. If system is running the latest software, "install" button will not be displayed on the OILCOP Update System page.

If system is not connected to a network with internet capabilities then the OILCOP Update System page will either display an error message or say "No files found."

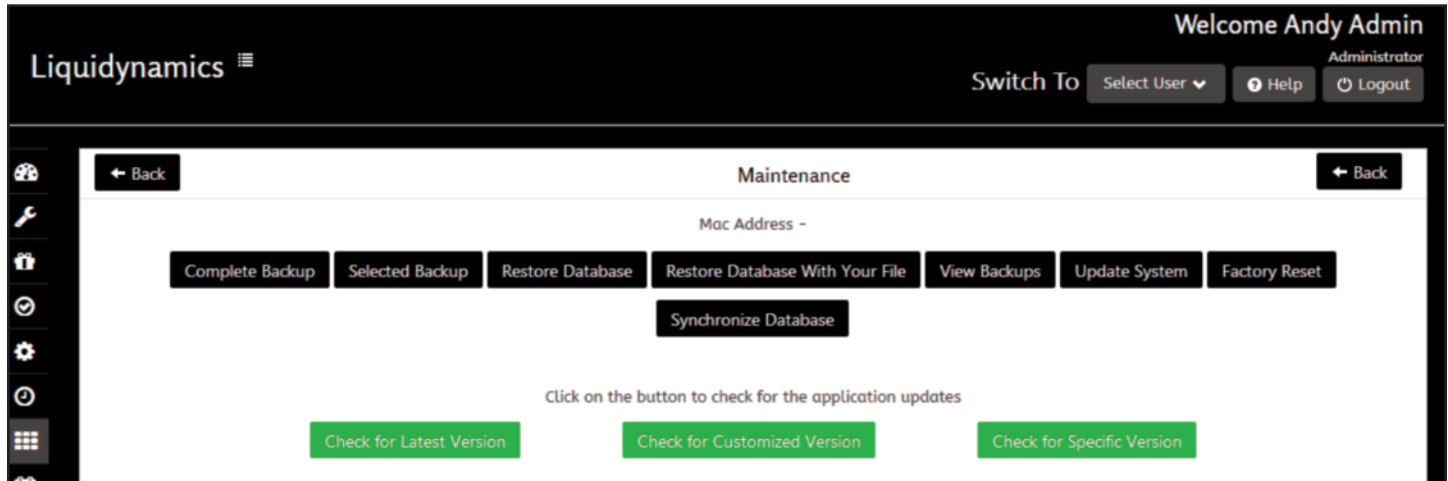


Figure 45 – Update System

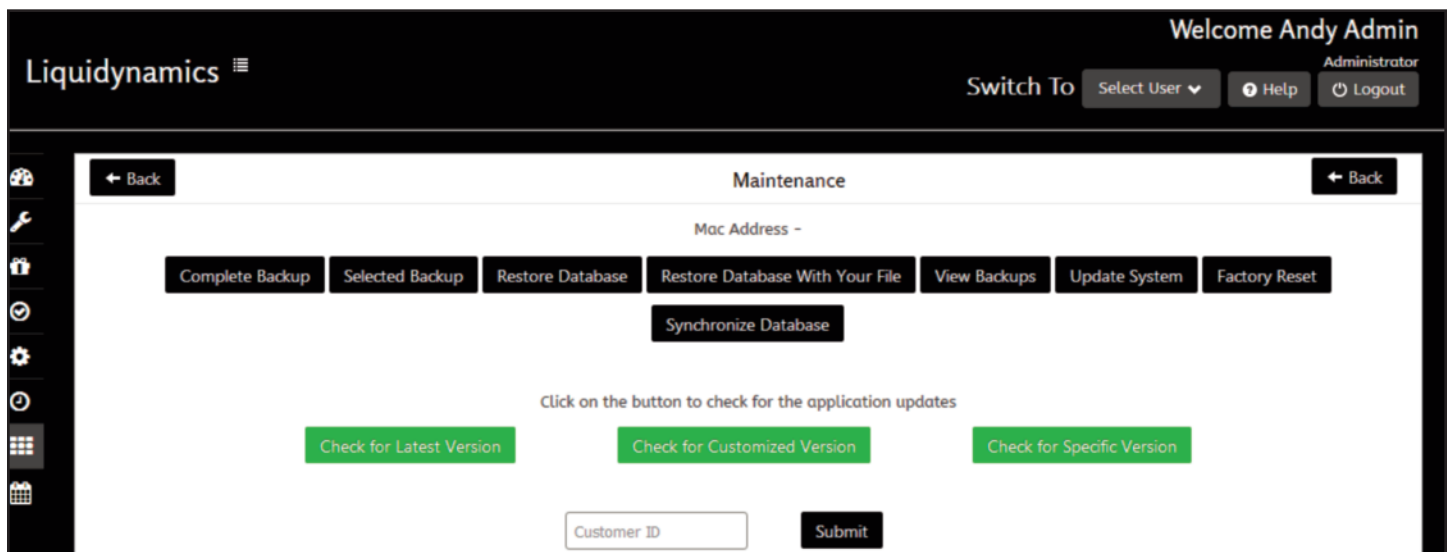


Figure 46 – Check for Customized Version

7.7 Factory Reset

Opens a window asking for the factory reset pin number. Once the pin number is entered and have clicked on the **SUBMIT** button, another pop up appears asking to confirm with the warning message

Note: *Are you sure you want to update? This will delete all Users, Tanks, Products, Reel and Transaction data and is not recoverable?*

Clicking the **OK** button will reset system to factory default settings.

All data on the system will be deleted and system will need to be configured.

7.8 Synchronize Database

SYNCHRONIZE DATABASE enables customer to view OilCop data offsite using the internet by logging into [www.oilcop.com support](http://www.oilcop.com/support)

Note: *When system is installed, you must contact Liquidynamics to establish a secure encrypted account.*

8.0 System Log

System log records all activity on the OILCOP system by user, information can be viewed, printed, emailed, downloaded, and import or export various types of system data.

Clicking on **SYSTEM LOG** button displays two sub-menus, **VIEW LOGS** and **IMPORT/EXPORT REPORTS**. (Fig. 47)

8.1 View Logs

Six different logs can be view by clicking the corresponding button at top of the desktop.

8.1.1 Action Journal

View actions users make while adding, deleting, or changing devices on the system.

8.1.2 Transaction Journal

View all dispenses recorded by the system.

8.1.3 Word Order Status

View status of work orders in the system. Displays all closed and open work orders.

The screenshot shows the Liquidynamics web application interface. At the top right, it says "Welcome Andy Admin" and "Administrator". There are buttons for "Switch To", "Select User", "Help", and "Logout". The main content area is titled "Action Journal" and has a navigation bar with buttons for "Action Journal", "Transaction Journal", "Work Order Status", "Tank Adjustments", "Summary Report", and "Daily Reports". Below the navigation bar, there are input fields for "From:", "To:", and "Name:" with a "Submit" button. The main part of the interface is a table with the following data:

Date	Time	Role	Name	Action
12/09/2015	09:25 AM	Administrator	Andy Admin	User added to the email scheduler
12/09/2015	09:09 AM	Administrator	Andy Admin	New tank configured
12/09/2015	08:43 AM	Administrator	Andy Admin	Administrative options are updated
12/09/2015	08:29 AM	Administrator	Andy Admin	Sensor details updated
12/09/2015	08:17 AM	Administrator	Andy Admin	Station deleted
12/09/2015	08:16 AM	Administrator	Andy Admin	New Station added
12/09/2015	07:36 AM	Administrator	Andy Admin	System time updated
12/14/2015	03:09 PM	Administrator	Andy Admin	Inventory subtracted for 0W/20 SYN. Inventory value 10
12/14/2015	03:08 PM	Administrator	Andy Admin	System time updated
09/11/2015	02:07 PM	Administrator	Andy Admin	System time updated
12/14/2015	02:50 PM	Administrator	Andy Admin	System time updated
10/01/2015	01:49 PM	Administrator	Andy Admin	System time updated

At the bottom of the table, there are buttons for "Print", "Send by Email", and "Download".

Figure 47 – System Log

8.1.4 Tank Adjustments

View any adjustments made to tank inventory, dimensions, or settings with the ID of the user making the changes.

8.1.5 Summary Report

Overview of all the product usage. Two pie charts, one showing usage for each product applied to open work orders, other amount of usage for each product applied to closed work orders. Below the pie charts is a displays of current inventory by product.

8.1.6 Daily Reports

Provides an overview for the amount of each product dispensed during the day along with current inventory of each tank, days of remaining inventory based on historical usage and a work order summary of open and closed work orders for the day.

8.2 Import/Export Reports

Import or export system reports found in the **System Logs**. There are 2 radial buttons at the top of the window to select between Export and Imports.

8.2.1 Export

Export reports to an external source. Choose from 3 different file types, CSV, TXT, and PDF selected in the **FILE TYPE** drop down menu. (Fig. 48)

The **COLUMN 1** drop down menu Select type of report to export, **ACTIONS, WORK ORDERS, TRANSACTIONS, TANK ADJUSTMENTS, or INVENTORY**. After type of report is selected set of drop down menus appears with different information options to be included in the report.

To export more than 1 report at a time click the green **ADD COLUMN** button. This opens a new drop down menu to select another type of report.

8.2.2 Import

Import previously saved report located on an external source. Click the **CHOOSE FILE** button and select report to import. The **SELECT OPTION** drop down menu selects type of report to import. After file and type of report has been selected click the green **IMPORT** button. (Fig. 49)

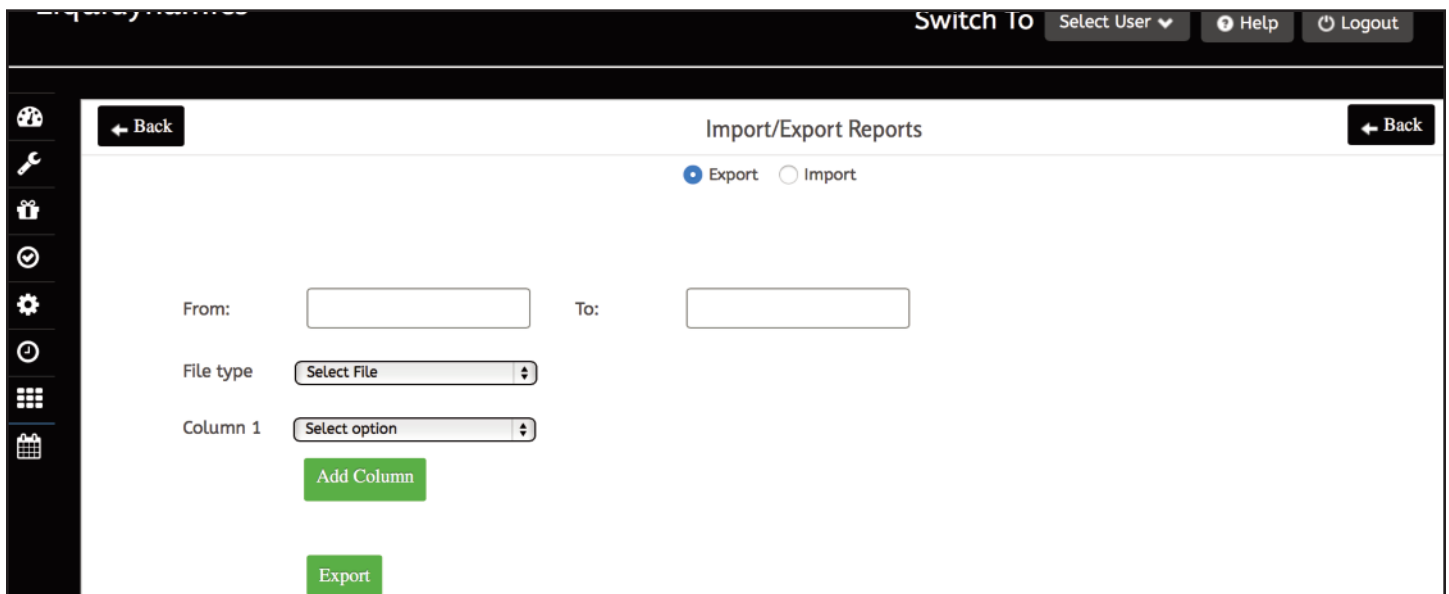


Figure 48 – Check for Customized Version

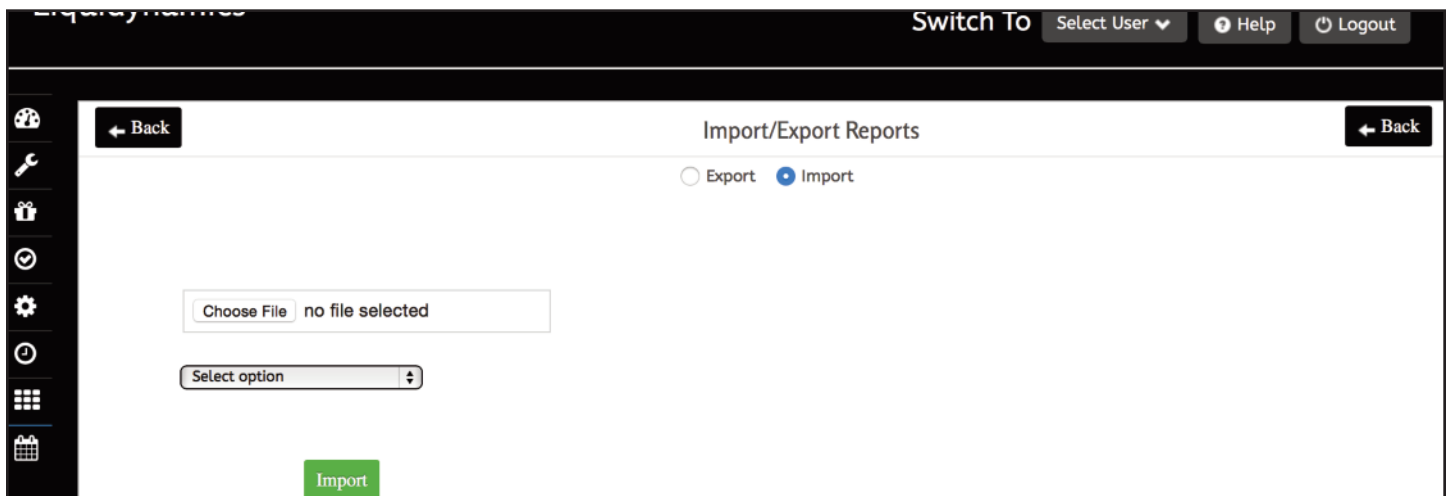


Figure 49 – Check for Customized Version



LIQUIDYNAMICS™

OILCOP

Managers Manual

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9.0 Manager Dashboard

Can be accessed with Manager or Administrator privileges, displays convenient overview of system components, usage, inventory, work order and station dispense point status. (Fig. 50)

In upper right hand corner of the dashboard is a welcome message with the **User Name** that is currently logged into the system and the type of user (**Administrator/Manager/Technician**).

“**Select User**” button allows to switch between the dashboards of the three types of users:

- Administrators* - Access all three user's dashboards.
- Managers* - Access **Manager** and **Technician's** dashboards.
- Technicians* - Access Technician's dashboard.

In the upper left hand corner, above the word “Dashboard” displays company name/logo, or default name/logo. This space is also a mouseover button, available on every page, when clicked will take the user back to their home dashboard.

There are five windows located on the Manager dashboard; **Recent Work Order, Tank Level, Stations, Device Status** and **Usage History**.

If fields are blank, system has not completed the configuration process.

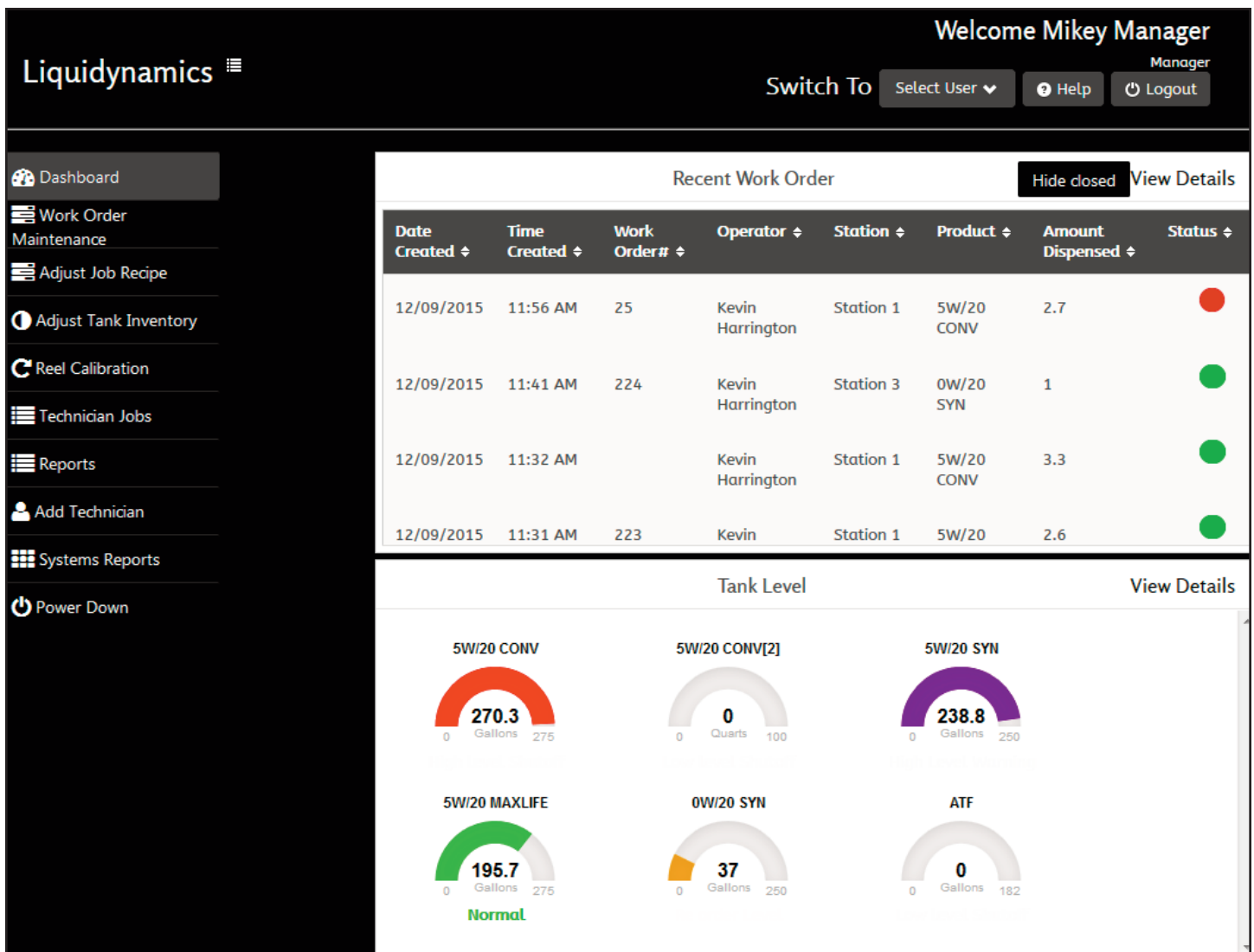


Figure 50 (1 of 2) – Manager Dashboard

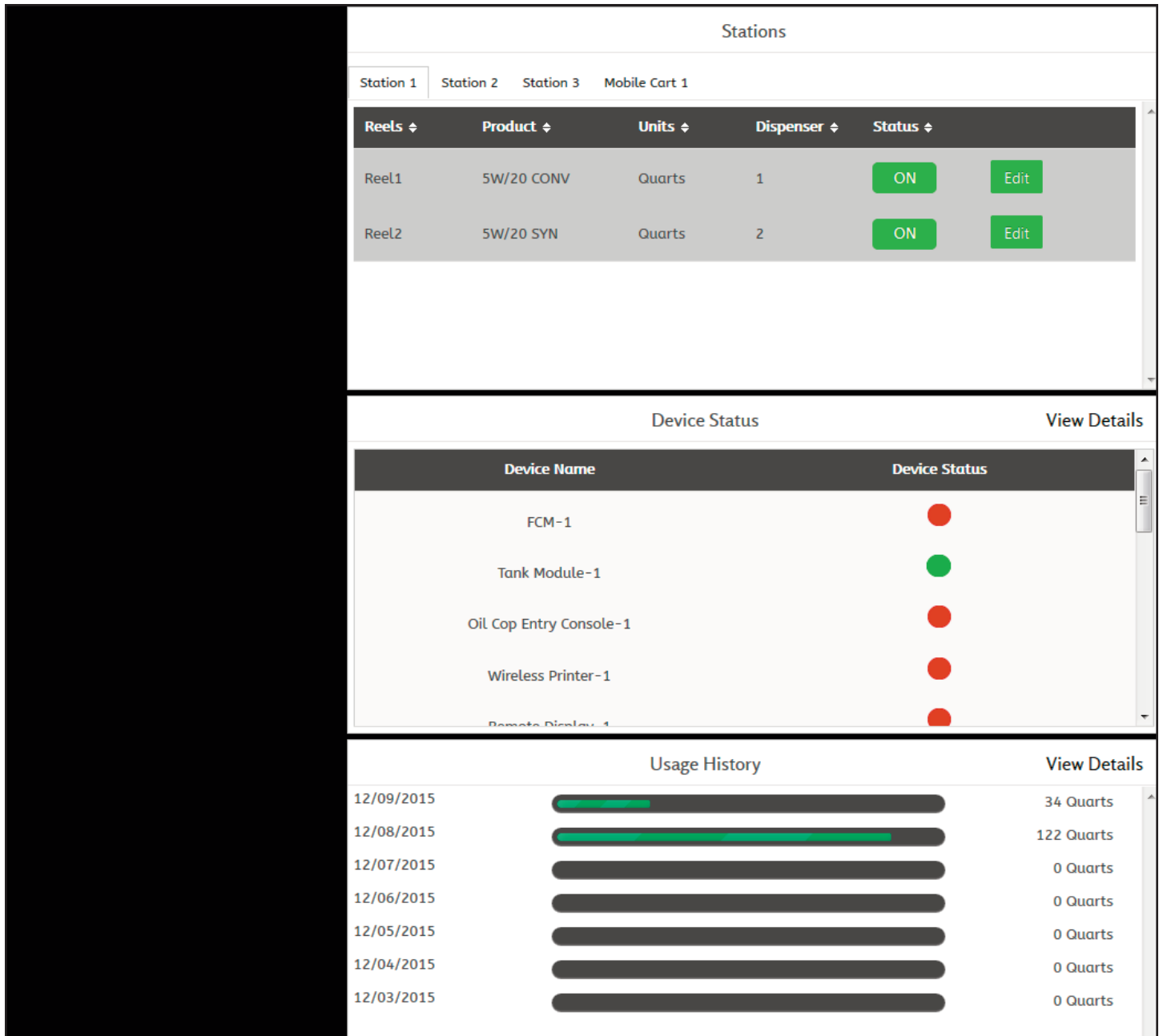


Figure 50 (2 of 2) – Manager Dashboard

9.1 Recent Work Order

Recent Work Order window - Managers have a quick view of work orders in the system with 7 fields of information regarding each work order. (Fig. 51)

Date - Month/day/year the work order was created.

Time - Time of day the work order was created.

Work Order# - Work order number.

Operator - Which operator work order was assigned to.

Station - Station work order assigned to.

Product - Type of Product applied to work order.

Amount Dispensed - Amount of product applied to work order.

9.2 Tank Level

Managers have a quick view of tank inventory levels. Tanks in the illustration depict five different tanks indicating their contents in volume. (Fig. 52)

Color of tank level indicator indicates five different operational conditions.

NORMAL - “Green” Tank volume is at a normal level.

HIGH LEVEL SHUTOFF - “Red” Tank volume is at the High Level Shutoff setting.

HIGH LEVEL WARNING - “Purple” Tank volume is at the High Warning setting.

RE-ORDER LEVEL - “Yellow” Tank volume is at the Re-order alert setting.

LOW LEVEL SHUTOFF - “Red” Tank volume is at the Low Level alert setting.

Note: *Volume levels are defined when setting up tanks in the Product and Tank Configuration dashboard. All five conditions can be configured from Admin to open or close one of four 5 amp relays integrated into the tank sensor module.*

Recent Work Order							Hide closed	View Details
Date Created	Time Created	Work Order#	Operator	Station	Product	Amount Dispensed	Status	
12/09/2015	11:56 AM	25	Kevin Harrington	Station 1	5W/20 CONV	2.7	●	
12/09/2015	11:41 AM	224	Kevin Harrington	Station 3	0W/20 SYN	1	●	
12/09/2015	11:32 AM		Kevin Harrington	Station 1	5W/20 CONV	3.3	●	
12/09/2015	11:31 AM	223	Kevin	Station 1	5W/20 CONV	2.6	●	

Figure 51 – Recent Work Order

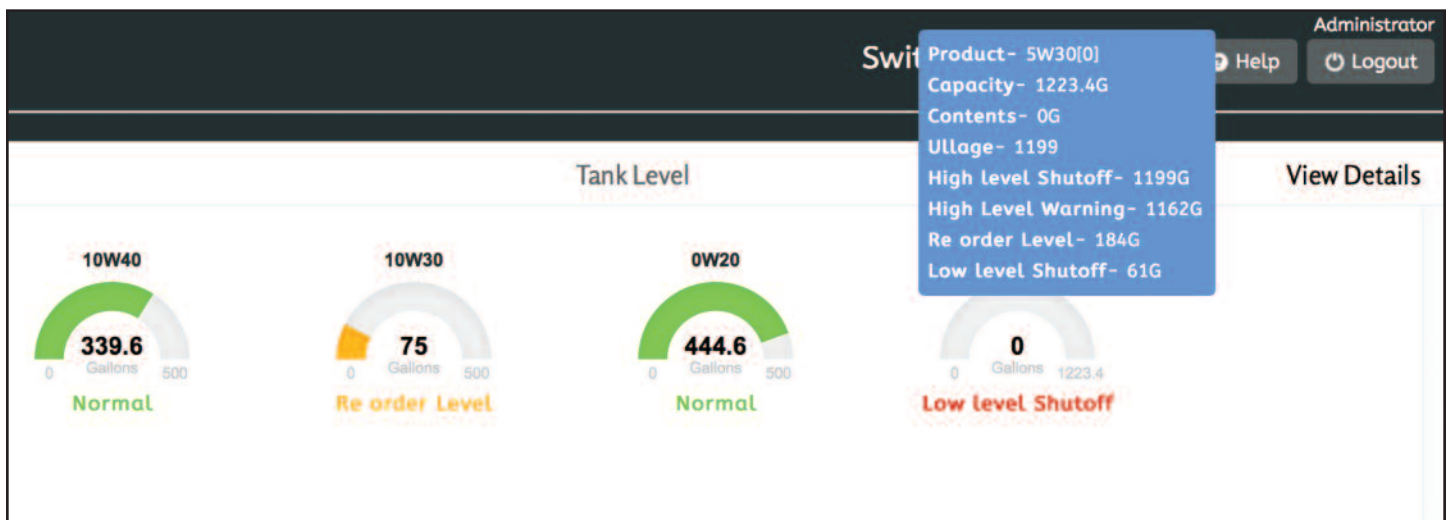


Figure 52 – Tank Level

Stations					
Station 1	Station 2	Station 3	Mobile Cart 1	View Details	
Reels	Product	Units	Dispenser	Status	
Reel1	5W/20 CONV	Quarts	6	ON	Edit
Reel2	5W/20 SYN	Quarts	7	ON	Edit
Reel3	5W/20 MAXLIFE	Quarts	8	ON	Edit
Reel4	0W/20 SYN	Quarts	9	ON	Edit

Figure 53 – Stations

9.3 Stations

Displays snapshot of all reels set up in the system and is also a quick way to see if a reel has been turned off under “Status.” Can also click the “Edit” button in this window that will display the “Add Reel” menu found on the “Station Configuration” page. Clicking on “View Details” opens the “Station Configuration” page.

Left side list station tab’s used to view a specific station. When the station tab is selected reel/product, dispense points assigned to the station are displayed. (Fig. 53)

The Stations window provides a snapshot of the current stations and reels.

Whenever a station has an active dispense point, tab for that station will turn Green. Selecting the Green station tab will show all dispense points associated with the Station, highlighting the active dispense point.

9.4 Device Status

Device Status window gives a snapshot of all Hardware Devices currently recognized by the system and their communication status. (Fig. 54)

Device Status	
Device Name	Device Status
FCM-1	●
Tank Module-1	●
Oil Cop Entry Console-1	●
Wireless Printer-1	●
Remote Display-1	●

Figure 54 – Device Status

Green circle indicates device is communicating with the system. If a device lost communication then device status will turn RED.

9.5 Usage History

Usage History window displays total product volume dispensed by day. (Fig. 55)

Usage History		View Details
12/09/2015		34 Quarts
12/08/2015		122 Quarts
12/07/2015		0 Quarts
12/06/2015		0 Quarts
12/05/2015		0 Quarts
12/04/2015		0 Quarts
12/03/2015		0 Quarts

Figure 55 – Usage History

Clicking on the bar graphic for a particular day “12/08/2015’ will expand the window, listing all the different types of products and volume amount dispensed on that calendar day. (Fig. 56)

Usage History		View Details
12/09/2015		34 Quarts
12/08/2015		Minimize
5W/20 CONV		56
5W/20 SYN		19
5W/20 MAXLIFE		15
0W/20 SYN		33

Figure 56 – Usage History – Particular Day

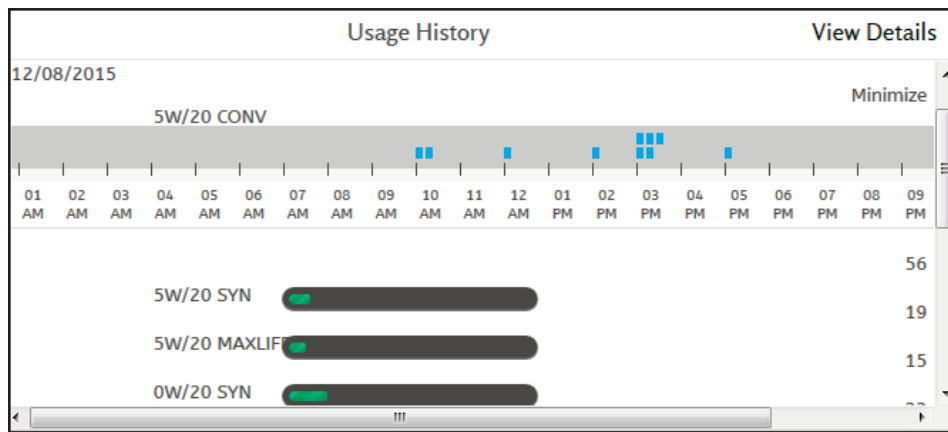


Figure 57 – Usage History Day and Product

Clicking on a bar graphic for a particular **Product** “5W/20 CONV” within a particular day will expand the product window to include an hourly graphic depicting all dispense transactions for a particular product on the given day. (Fig. 57)

Move the cursor over the blue marking and a blue pop-up will appear giving details of the each dispense. (Fig. 58)

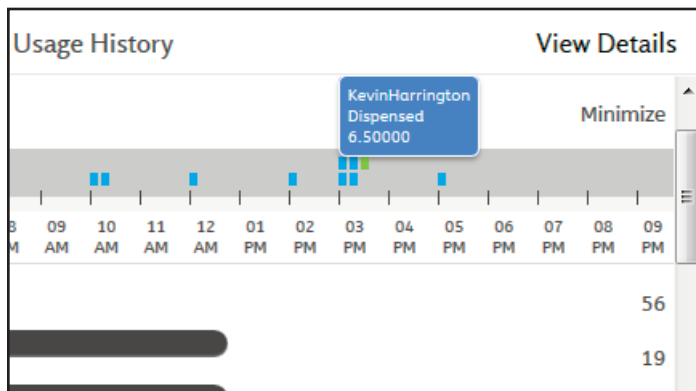


Figure 58 – Detail Pop-up

10.1 Work Order Maintenance

On the left side of the manager dashboard page, there are 7 green buttons. (Fig. 50 – Pg. 34)

The first one **Work Order Maintenance** is where to view, create, and edit work orders. (Fig. 59)

Date - Month/day/year the work order was created.

Time - This shows the user the time of day the work order was created.

Work Order# - This displays the work order number that was assigned.

Operator - This shows what operator the corresponding work order was assigned to.

Station - This shows the station that was used for the work order.

Product - This shows the product that was used for the work order.

Amount Dispensed - Amount of product that was dispensed on that work order.

Completed - If the work order has been completed or open.

To edit or delete a work order click on the green **UPDATE/DELETE** button. Adjust Work Orders window will open. (Fig. 60)

Here information pertaining to the work order can be adjusted. Once information is correct click the green **UPDATE** button to save the changes. To delete the work order click the green **DELETE** button.

In order to add a new Work Order click the green **ADD** button at the bottom of the work order maintenance page, the Adjust Work Orders window will open. Enter information in all fields except for Preset Amount to create a work order. If Preset Amount is left blank the amount of product to be dispensed will be at the discretion of the Technician “Open Dispense.” Once information is correct then click the green **UPDATE** button to save the new work order.

11. Adjust Job Recipe

Job Recipe allows a manager to create a specific job that can be accessed by Technicians without having to input a work order number. A job recipe can have multiple products attached to it and can be used more than once without having to recreate the job. This is ideal if the user has a frequent job where the product(s) and amount(s) are the same. (Fig. 61)

Job# - Job# assigned to the job.

Products - Product(s) assigned to the job.

Preset Amount - Amount of product to be dispensed.

Units - Unit of measure dispensed.

To delete or make changes to a job recipe click the green **UPDATE/DELETE** button on the right.

Welcome Mikey Manager

Liquidynamics

Switch To Select User Help Logout

← Back Adjust Work Orders Back →

Date	Time	Work Order#	Operator	Station	Product	Amount Dispensed	Completed	
12/09/2015	11:56 AM	25	Kevin Harrington	Station 1	5W/20 CONV	2.7	Open	Update/Delete
12/09/2015	11:41 AM	224	Kevin Harrington	Station 3	0W/20 SYN	1	Closed	Update/Delete
12/09/2015	11:32 AM		Kevin Harrington	Station 1	5W/20 CONV	3.3	Closed	Update/Delete
12/09/2015	11:31 AM	223	Kevin Harrington	Station 1	5W/20 CONV	2.6	Closed	Update/Delete
12/09/2015	11:22 AM	963	Kevin Harrington	Station 2	0W/20 SYN	6.7	Closed	Update/Delete
12/09/2015	08:56 AM	23	Tommy Tech	Station 1	5W/20 CONV	0	Open	Update/Delete
12/09/2015	08:56 AM	22	Kevin Harrington	Station 2	0W/20 SYN	0	Open	Update/Delete

Add

Figure 59 – Work Order Maintenance

Adjust Work Orders

Work Order#	Operator	Station	Product	Preset Amount	Unit
<input type="text" value="224"/>	<input type="text" value="Kevin Harrington"/>	<input type="text" value="Station 3"/>	<input type="text" value="0W/20 SYN"/>	<input type="text"/>	<input type="text" value="Quarts"/>

Lock Dispense Amount OFF

Completed YES

Update Delete

Figure 60 – Update Work Order

Welcome Mikey Manager

Liquidynamics

Switch To Select User Help Logout

← Back Adjust Job Recipe Back →

Job #	Products	Preset Amount	Unit	
1	0W/20 SYN	7.00	Quarts	Update/Delete
	5W/20 CONV	6.50	Quarts	Update/Delete

Add

Figure 61 – Adjust Job Recipe

To create a new job recipe click on the green **Add** button at the bottom of the window. Adjust Job Recipe window will open. (Fig. 62)

To create a new job recipe enter a **Job#**, select **Product**, **Preset Amount**, and select a **Unit** of measure to be dispensed. To add more products to the job, click on the green **Add** button on the right. This will open another product input window.

12.0 Adjust Tank Inventory

To manually adjust tank inventory select either. **Add Inventory**, **Subtract Inventory** or **Lock Out Tank**. (Fig. 63)

If not using a Tank Sensor this is where you ADD product to tanks, when bulk deliveries are made.

Adjust Tank Inventory window displays current information for each tank on the system.

PRODUCT, STORAGE UNITS, CONTENTS, CAPACITY, ULLAGE, HIGH LEVEL SHUTOFF, HIGH LEVEL WARNING, RE ORDER LEVEL, SHUTOFF, ALERT CONDITIONS, and LOCK OUT.

To adjust a tank inventory select the corresponding check box in the **SELECT** column. Three buttons will appear at the bottom of the window when a tank is selected.

Add Inventory - Input numeric value and click apply.

Subtract Inventory - Input numeric value and click apply.

Lock Out Tank - Prevent any dispense operation from a tank.

13.0 Reel Meter Calibration

Calibrate dispense pulser to ensure the correct volumetric amount is dispensed. (Fig. 64)

Figure 62 – Adjust Job Recipe

Product	Storage Units	Contents	Capacity	Ullage	High level Shutoff	High Level Warning	Re order Level	Shutoff	Alert Conditions	Lock out	Select
5W/20 CONV	Gallons	270.3	275.0	0	270	261	41	14	Volume	OFF	<input type="radio"/>
5W/20 SYN	Gallons	238.8	250.0	6.225	245	238	38	13	Volume	OFF	<input type="radio"/>
5W/20 MAXLIFE	Gallons	195.7	275.0	74.325	270	261	41	14	Volume	OFF	<input type="radio"/>
0W/20 SYN	Gallons	37	250.0	208	245	238	38	13	Volume	OFF	<input type="radio"/>
5W/20 CONV	Quarts	0	0.0	0	0	0	0	0	Volume	OFF	<input type="radio"/>

Figure 63 – Adjust Tank Inventory

The reel calibration page displays all reels configured in the system, there are seven columns of information.

Dispenser ID - identification number system assigned the dispenser when it was setup.

Reel - Reel number in the system. It may differ from the Dispenser ID.

Product - Type of product assigned to the corresponding reel.

Dispense Units - Unit of measure dispensed.

Last Calibration Date - Last date and time reel was calibrated.

Pulses - Number of pulses that were counted the last time the reel was calibrated. A value of 0 indicates the reel has not been calibrated.

K-Factor - Current K-Factor used with the corresponding reel. Default K-Factor of 1.000 equals 99 pulses per quart/104 pulses per liter. (70°F, SAE 30)

To calibrate a reel click the green **UPDATE/DELETE** button for the corresponding reel to calibrate. A calibration window will pop up when the button is clicked. (Fig. 65)

Choose between **Manual Calibration Update** or **Automatic Calibration Update**.

Manual Calibration Update - If the user already knows the desired k-factor for a particular reel, click on this button and enter the k-factor and the reel will be calibrated.

Automatic Calibration Update - Calibrate reel by dispensing a volume of product into a test measure/calibration container so that the precise volume dispensed is known. Upon selecting **Automatic Calibration Update** two more buttons appear, a green **Start Dispense** and a red **Stop Dispense** button. Clicking on **Start Dispense** will open the Pulser Solenoid Module – PSM, the system is ready for an open dispense into a test measure/calibration container. When the calibration container is filled to the exact known volume, stop the flow using the control handle trigger, then click on the **Stop Dispense** button. A

Dispenser ID	Reel	Product	Dispense Units	Last Calibration Date	Pulses	K-Factor	
1	1	5W/20 CONV	Quarts		0	1.000	Update/Delete
4	4	0W/20 SYN	Quarts		0	1.000	Update/Delete
3	3	5W/20 MAXLIFE	Quarts		0	1.000	Update/Delete
5	1	5W/20 SYN	Quarts		0	1.000	Update/Delete
7	2	5W/20 SYN	Quarts		0	1.000	Update/Delete
6	1	5W/20 CONV	Quarts		0	1.000	Update/Delete
9	4	0W/20 SYN	Quarts	09-12-15 11:44:49	1962	0.991	Update/Delete
8	3	5W/20 MAXLIFE	Quarts		0	1.000	Update/Delete

Figure 64 – Reel Meter Calibration

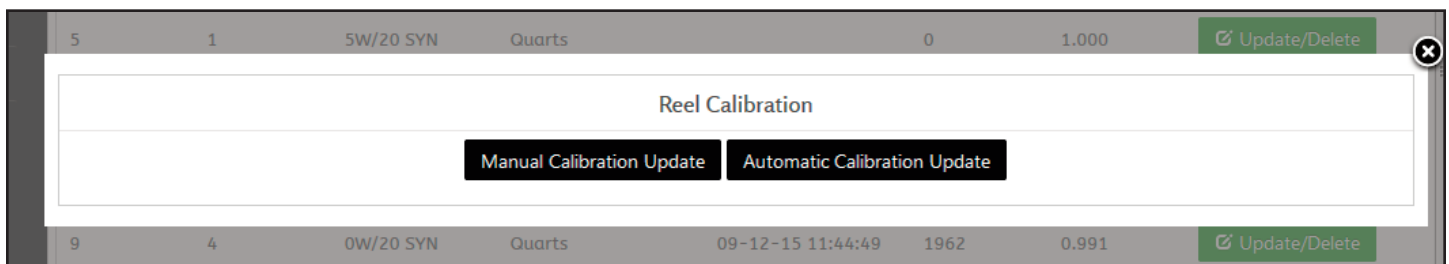


Figure 65 – Calibration Select

window will open prompting to input the actual volume of fluid in the test measure /calibration container. After entering the value, press **SUBMIT** button, system locks in calibrated pulses/volume and displays k-factor for the reel. The reel calibration is complete. (Fig. 66, 67)

14.0 Technician Jobs

Allows Manager to assign **JOB RECIPES** to a Technician by pressing the **ADD** button (Fig. 61, p. 39) then select a Technician from the drop down menu. Choose **JOB NUMBER** and then press **APPLY**.

Note: *If a Job Number has more than one product assigned to it, the Job Number will appear in the drop down list twice. Selecting one of the duplicated job numbers allows the Technician to select the product to be dispensed.*

15.0 Reports

This allows the manager to sort/sub-sort all dispense transactions by Station and/or Technician and/or Product. You may define sorting by selecting criteria from the three drop down sorting menus. After making the selections, press **SUBMIT** button. Add a new technician or edit an existing Technician information. (Fig. 68 & 69)

16.0 Add Technician

Click on **ADD NEW USER** button at bottom of the window. (Fig. 70) A new window will open to input user information. (Fig. 71)

Enter user information in "fields." Four fields that must have information entered in order to create a new user, these are marked with a red asterisk (*). (Fig. 71)

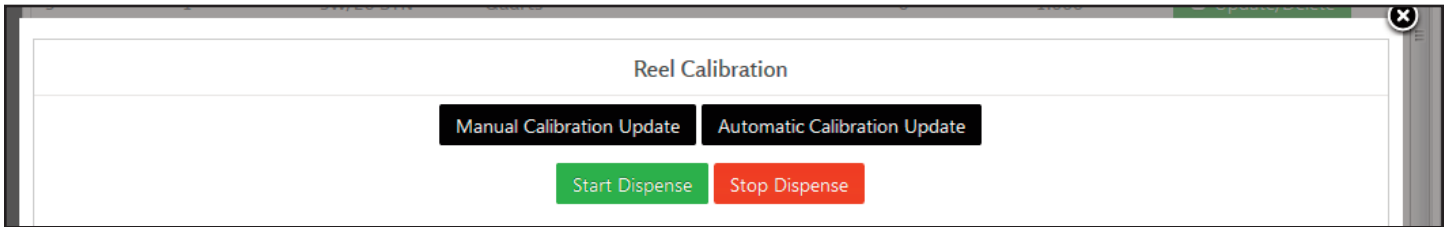


Figure 66 – Reel Calibration

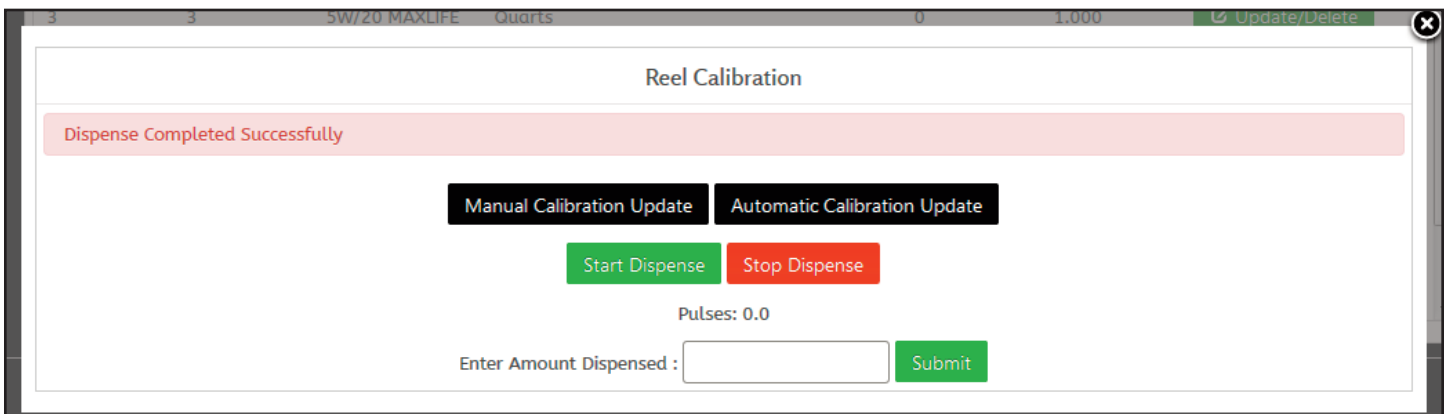


Figure 67 – Reel Calibration Completed

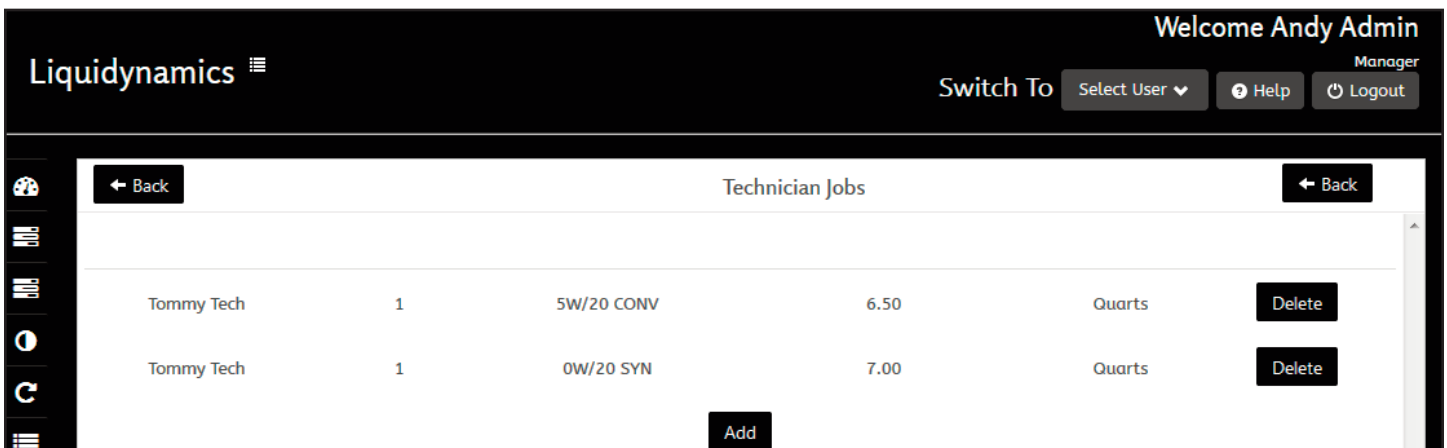


Figure 68 – Technician Jobs

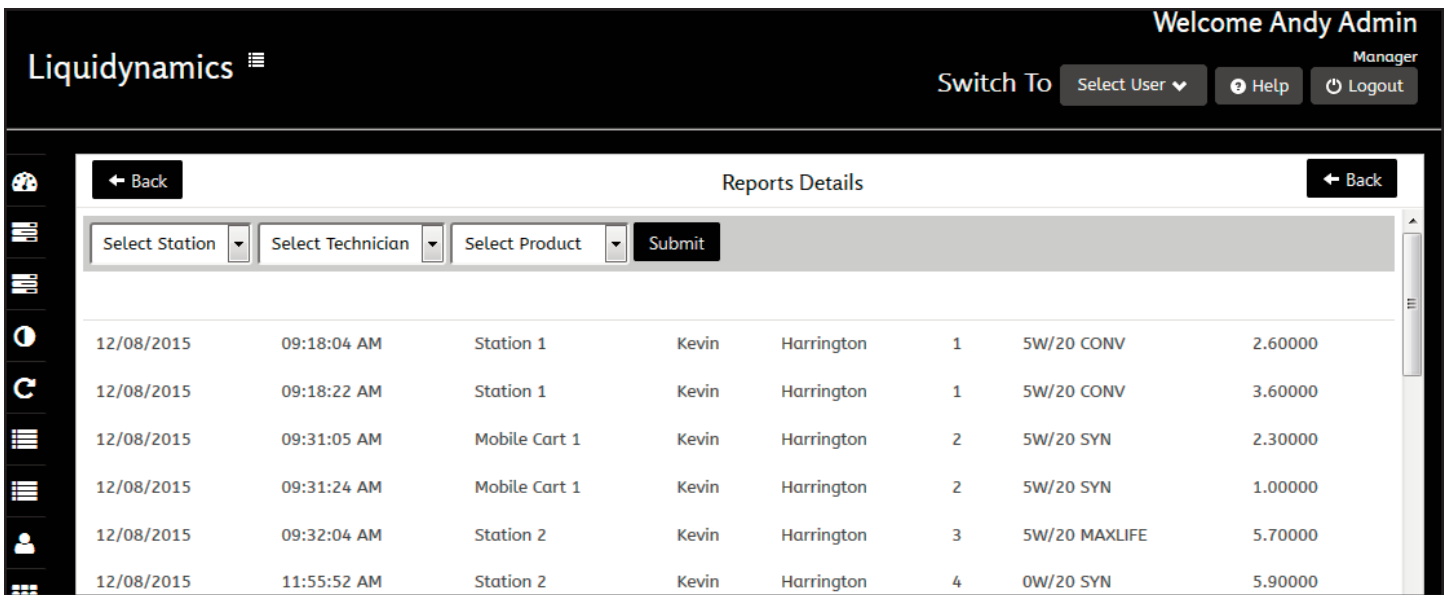


Figure 69 – Reports Details

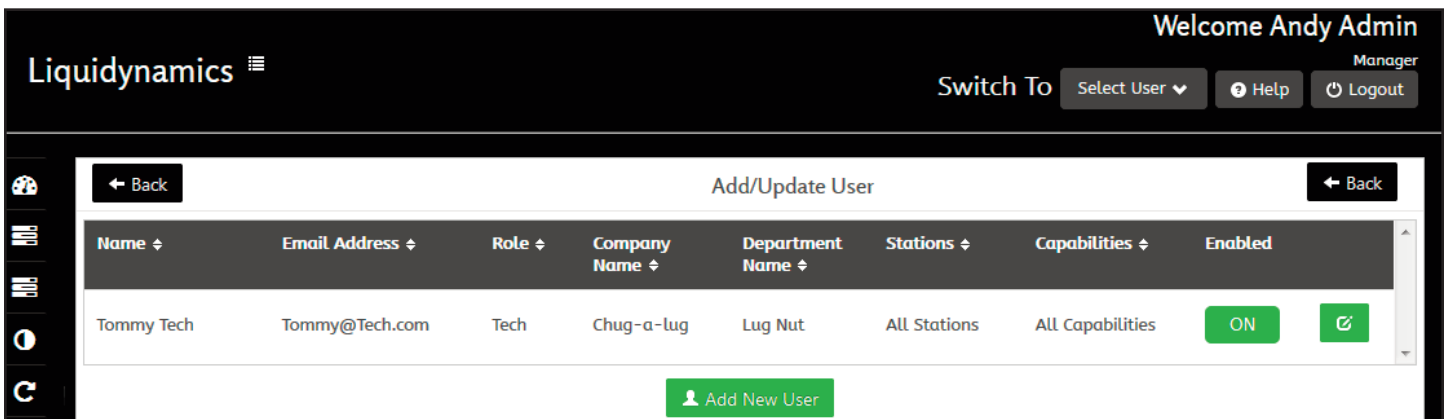


Figure 70 – Add/Update User

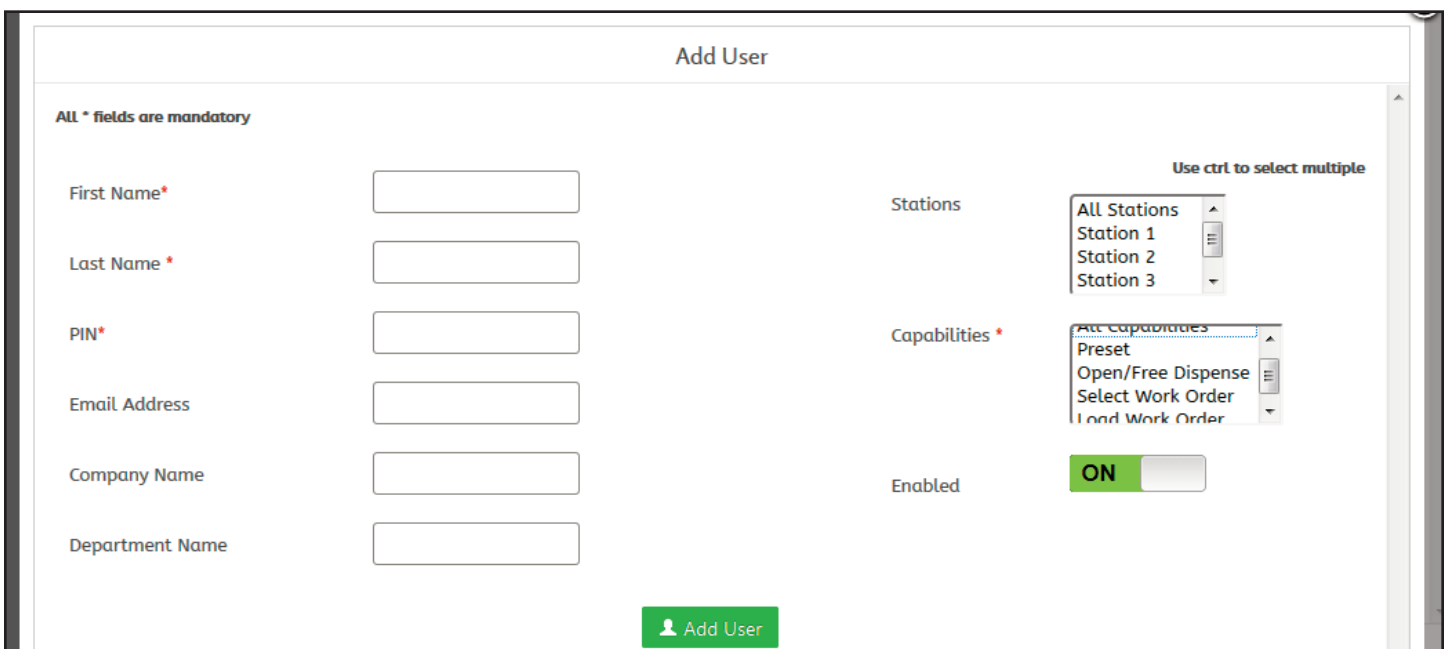


Figure 71 – Add User

First Name* - Technician's first name

Last Name* - Technician's family name

PIN* - Create Technician's PIN number to log into the system. PIN number must be at least 4 numbers no more than 12. Numbers only.

Email Address - Technician's email address if user is to receive system reports.

Company Name - Company name.

Department Name - Technicians department.

Stations - Determines which stations Technician has ability to dispense from. Highlight station names within the scroll down box in the upper right hand corner. Clicking on **All Stations** allows user to dispense from all stations, or click on the specific station to assign the user to dispense from.

Note: *If selecting more than one station but not "All stations" you must hold down the Ctrl button on the keyboard when selecting the stations.*

If there are no stations available to select, this means that no stations have been added to the system yet. Can continue to create users and then go back to update the user's settings after stations have been added to the system.

Capabilities* - Capabilities menu appears after a **Role** has been selected for the user. The type and number of capabilities available to a user will vary according to type of role they are assigned. A user can be assigned **All Capabilities**, or specify which capabilities the user shall have by highlighting them.

Preset, Open/Free Dispense, Select Work Order, Load Work Order, Manage Technician, Manage Dispense Units, Bar Code Scanning.

Liquiddynamics ☰ Welcome Mikey Manager Manager

Switch To Select User ▾ Help Logout

← Back **Action Journal** ← Back

Action Journal Transaction Journal Work Order Status Tank Adjustments Summary Report Daily Reports

From: To: Name: Submit

Date ↕	Time ↕	Role ↕	Name ↕	Action ↕
12/09/2015	09:25 AM	Administrator	Andy Admin	User added to the email scheduler
12/09/2015	09:09 AM	Administrator	Andy Admin	New tank configured
12/09/2015	08:43 AM	Administrator	Andy Admin	Administrative options are updated
12/09/2015	08:29 AM	Administrator	Andy Admin	Sensor details updated
12/09/2015	08:17 AM	Administrator	Andy Admin	Station deleted
12/09/2015	08:16 AM	Administrator	Andy Admin	New Station added
12/09/2015	07:36 AM	Administrator	Andy Admin	System time updated
12/14/2015	03:09 PM	Administrator	Andy Admin	Inventory subtracted for 0W/20 SYN. Inventory value 10
12/14/2015	03:08 PM	Administrator	Andy Admin	System time updated
09/11/2015	02:07 PM	Administrator	Andy Admin	System time updated
12/14/2015	02:50 PM	Administrator	Andy Admin	System time updated
10/01/2015	01:49 PM	Administrator	Andy Admin	System time updated

Print Send by Email Download

Figure 72 – Action Journal

Note: *If selecting more than one capability but not All Capabilities, you must hold down the “Ctrl” button on the keyboard when selecting the capabilities.*

Enabled - ON/OFF user’s access to the system.

When finished inputting the user’s information click on the **Add User** button at the bottom of the window.

The user can update the settings of a particular user or delete users by clicking on the **UPDATE/DELETE** button on the right side of the main Add/Modify Users window. The window that pops up is the same window as adding a new user, except this window has two buttons at the bottom of the window, **UPDATE** and **DELETE**.

17.0 System Reports

View, print, email, download, import or export various types of system data. By clicking on the **SYSTEM REPORTS** button on the main manager dashboard.

Clicking on **SYSTEM LOG** button displays two sub-menus, **VIEW LOGS** and **IMPORT/EXPORT REPORTS**.

17.1 View Logs

Five different logs can be viewed by clicking the corresponding button at top of the desktop.

17.1.1 Action Journal

View actions users make while adding, deleting, or changing devices on the system. (Fig. 72)

17.1.2 Transaction Journal

View all dispenses recorded by the system. (Fig. 73)

The screenshot shows the Liquiddynamics Manager interface. At the top right, it says "Welcome Mikey Manager" and "Manager". Below that is a "Switch To" dropdown menu currently set to "Tech", with "Select User" and "Help" buttons. A "Logout" button is also present. The main content area has a "Transaction Journal" title and a "Back" button. Below the title are several report category buttons: "Action Journal", "Transaction Journal", "Work Order Status", "Tank Adjustments", "Summary Report", and "Daily Reports". There are filter fields for "From:", "To:", "Name:", and "Work Order:", followed by a "Submit" button. The main part of the interface is a table with the following data:

Date	Time	Role	Name	Work Order	Station	Dispense Amount	Product
12/09/2015	11:57 AM	Technician	Kevin Harrington	25	Station 1	2.7 Q	5W/20 CONV
12/09/2015	11:41 AM	Technician	Kevin Harrington	224	Test Bench	1 Q	0W/20 SYN
12/09/2015	11:33 AM	Technician	Kevin Harrington		Station 1	3.3 Q	5W/20 CONV
12/09/2015	11:32 AM	Technician	Kevin Harrington	223	Station 1	2.6 Q	5W/20 CONV
12/09/2015	11:30 AM	Technician	Kevin Harrington	963	Station 2	1 Q	0W/20 SYN
12/09/2015	11:28 AM	Technician	Kevin Harrington	963	Station 2	5.7 Q	0W/20 SYN
12/09/2015	08:55 AM	Technician	Kevin Harrington	20	Mobile Cart 1	1 Q	5W/20 SYN
12/09/2015	08:55 AM	Technician	Kevin Harrington	20	Mobile Cart 1	2.3 Q	5W/20 SYN
12/09/2015	08:49 AM	Technician	Kevin Harrington	19	Test Bench	1 Q	0W/20 SYN
12/09/2015	08:48 AM	Technician	Kevin Harrington	19	Test Bench	1 Q	5W/20 MAXLIFE
12/09/2015	08:47 AM	Technician	Kevin Harrington	19	Test Bench	1 Q	5W/20 SYN

At the bottom of the table, there are three action buttons: "Print", "Send by Email", and "Download".

Figure 73 – Transaction Journal

← Back

Work Order Status

← Back

Action Journal

Transaction Journal

Work Order Status

Tank Adjustments

Summary Report

Daily Reports

From: To: Name: Product Name: Work Order :

Completed Work Orders: 27

Work Order#	Name	Amount Dispensed	Date Opened	Time Opened	Date Closed	Time Closed
224	Kevin Harrington	1 Q	12/09/2015	11:41 AM	12/09/2015	11:41 AM
	Kevin Harrington	3.3 Q	12/09/2015	11:32 AM	12/09/2015	11:33 AM
223	Kevin Harrington	2.6 Q	12/09/2015	11:31 AM	12/09/2015	11:32 AM
963	Kevin Harrington	6.7 Q	12/09/2015	11:22 AM	12/09/2015	11:31 AM
20	Kevin Harrington	3.3 Q	12/09/2015	08:54 AM	12/09/2015	08:55 AM
19	Kevin Harrington	4 Q	12/09/2015	08:45 AM	12/09/2015	08:49 AM
18	Kevin Harrington	3.9 Q	12/09/2015	08:37 AM	12/09/2015	08:38 AM

Open Work Orders: 4

Work Order#	Name	Amount Dispensed	Date	Time
25	Kevin Harrington	2.7 Q	12/09/2015	11:56 AM
21		0 Q	12/09/2015	08:56 AM
22	Kevin Harrington	0 Q	12/09/2015	08:56 AM
23	Tommy Tech	0 Q	12/09/2015	08:56 AM

Total Amount Dispensed:

Product Name	Total Amount
5W/20 CONV	70.9 Q
5W/20 SYN	24.9 Q
5W/20 MAXLIFE	17.3 Q
0W/20 SYN	43.2 Q
ATF	0 Q

Figure 74 – Work Order Status

17.1.3 Work Order Status

View status of work orders in the system. Displays all closed and open work orders. (Fig. 74)

17.1.4 Tank Adjustments

View any adjustments made to tank inventory, dimensions, or settings with the ID of the user making the changes. (Fig. 75)

Liquidynamics ☰ Welcome Mikey Manager Manager
Switch To Select User Help Logout

← Back **Tank Adjustments** ← Back

Action Journal Transaction Journal Work Order Status **Tank Adjustments** Summary Report Daily Reports

From: To: Product Name: Submit

Tank Adjustments:

Date	Time	Name	Product	Manual/Automatic	Increase/Decrease	Amount
12/14/2015	03:09 PM	Andy Admin	0W/20 SYN	Manual	Decrease	10 G
12/14/2015	02:09 PM	Kevin Harrington	ATF	Manual	Increase	8.9 G
12/14/2015	02:09 PM	Kevin Harrington	0W/20 SYN	Manual	Increase	.9 G
12/14/2015	02:08 PM	Kevin Harrington	0W/20 SYN	Manual	Increase	8.9 G
12/14/2015	02:08 PM	Kevin Harrington	ATF	Manual	Increase	8.9 G
12/14/2015	02:01 PM	Andy Admin	ATF	Manual	Increase	8.9 G
12/14/2015	01:59 PM	Andy Admin	ATF	Manual	Increase	8.9 G
12/14/2015	01:58 PM	Andy Admin	ATF	Manual	Increase	8.9 G
12/14/2015	01:55 PM	Andy Admin	0W/20 SYN	Manual	Decrease	127 G
12/14/2015	01:54 PM	Andy Admin	5W/20 SYN	Manual	Increase	105 G
12/14/2015	01:53 PM	Andy Admin	5W/20 CONV	Manual	Increase	48 G
12/09/2015	08:05 AM	Kevin Harrington	5W/30 SYN	Manual	Decrease	29.77878 G

Print Send by Email Download

Figure 75 – Tank Adjustments

17.1.5 Summary Report

Overview of all product usage. Two pie charts, one showing usage for each product applied to open work orders, other

amount of usage for each product applied to closed work orders. Below the pie charts are bar grid displays current inventory by product. (Fig. 76)

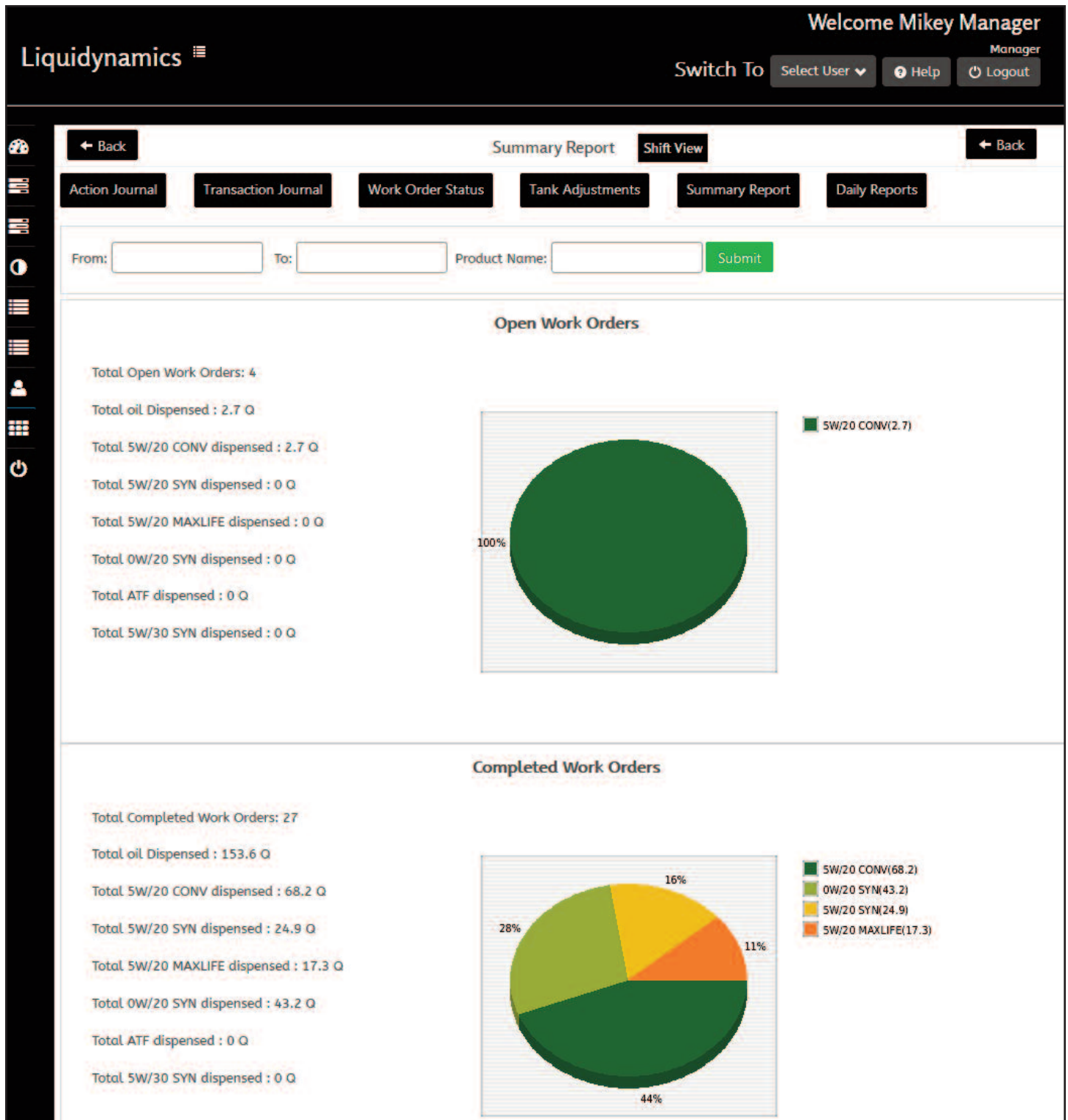


Figure 76 – Summary Report (1 of 2)

Current Inventory as of 09/12/2015 12:26 PM



[Print](#) [Send by Email](#) [Download](#)

Figure 76 – Summary Report (2 of 2)

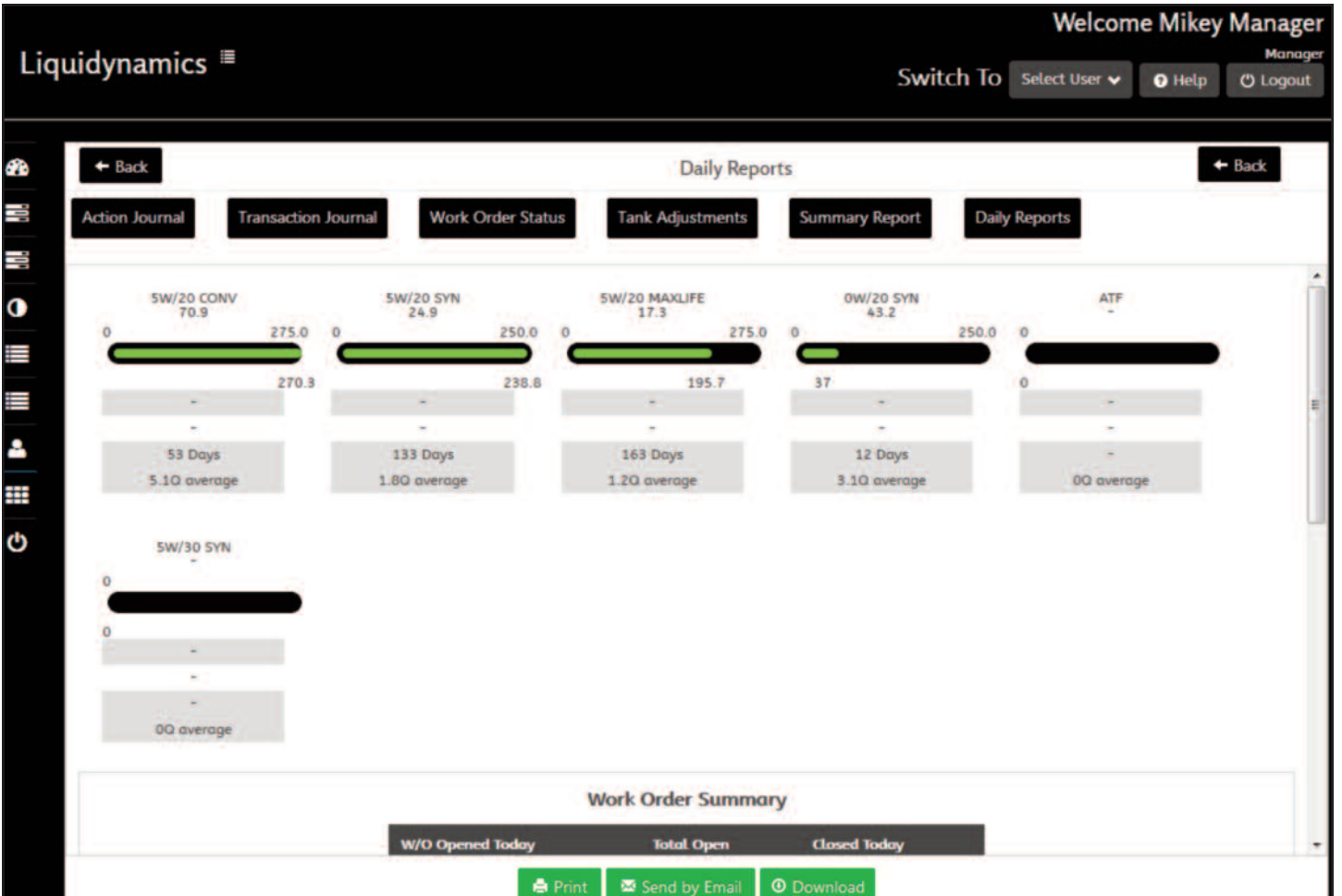


Figure 78 – Daily Report (Bottom – Work Order Summary)

Work Order Summary						
		W/O Opened Today	Total Open	Closed Today		
		4	4	8		
Date Opened	Time Opened	Work Order#	Name	Amount Dispensed	Date Closed	Time Closed
16	12/08/2015	04:25 PM	Kevin Harrington	7.50	12/09/2015	08:53 AM
17	12/09/2015	08:36 AM	Kevin Harrington	5.10	12/09/2015	08:37 AM
18	12/09/2015	08:37 AM	Kevin Harrington	3.90	12/09/2015	08:38 AM
19	12/09/2015	08:45 AM	Kevin Harrington	4.00	12/09/2015	08:49 AM
20	12/09/2015	08:54 AM	Kevin Harrington	3.30	12/09/2015	08:55 AM
21	12/09/2015	08:56 AM	ALL Technicians	0.00	12/31/1969	06:00 PM
22	12/09/2015	08:56 AM	Kevin Harrington	0.00	12/31/1969	06:00 PM
23	12/09/2015	08:56 AM	Tommy Tech	0.00	12/31/1969	06:00 PM
963	12/09/2015	11:22 AM	Kevin Harrington	6.70	12/09/2015	11:31 AM

17.1.6 Daily Reports

Provides an overview for the amount of each product dispensed during the day along with current inventory of each tank, days of remaining inventory based on historical usage and a work order summary of open and closed work orders for the day. (Fig. 77 & 78)

17.2 Import/Export Reports

Import or export system reports found in the **System Logs**. There are 2 check boxes at the top of the window to select between Export and Imports. (Fig. 79)

17.2.1 Export

Export reports to an external source. Choose from 3 different file types, **CSV**, **TXT**, and **PDF** selected in the **FILE TYPE** drop down menu.

The **COLUMN 1** drop down menu Select type of report to export, **ACTIONS**, **WORK ORDERS**, **TRANSACTIONS**, **TANK ADJUSTMENTS**, or **INVENTORY**. After type of report is selected set of drop down menus appears with different information options to be included in the report.

To export more than 1 report at a time click the green **ADD COLUMN** button. This opens a new drop down menu to select another type of report.

17.2.2 Import

Import previously saved report located on an external source. Click the **CHOOSE FILE** button and select report to import. The **SELECT OPTION** drop down menu selects type of report to import. After file and type of report has been selected click the green **IMPORT** button.

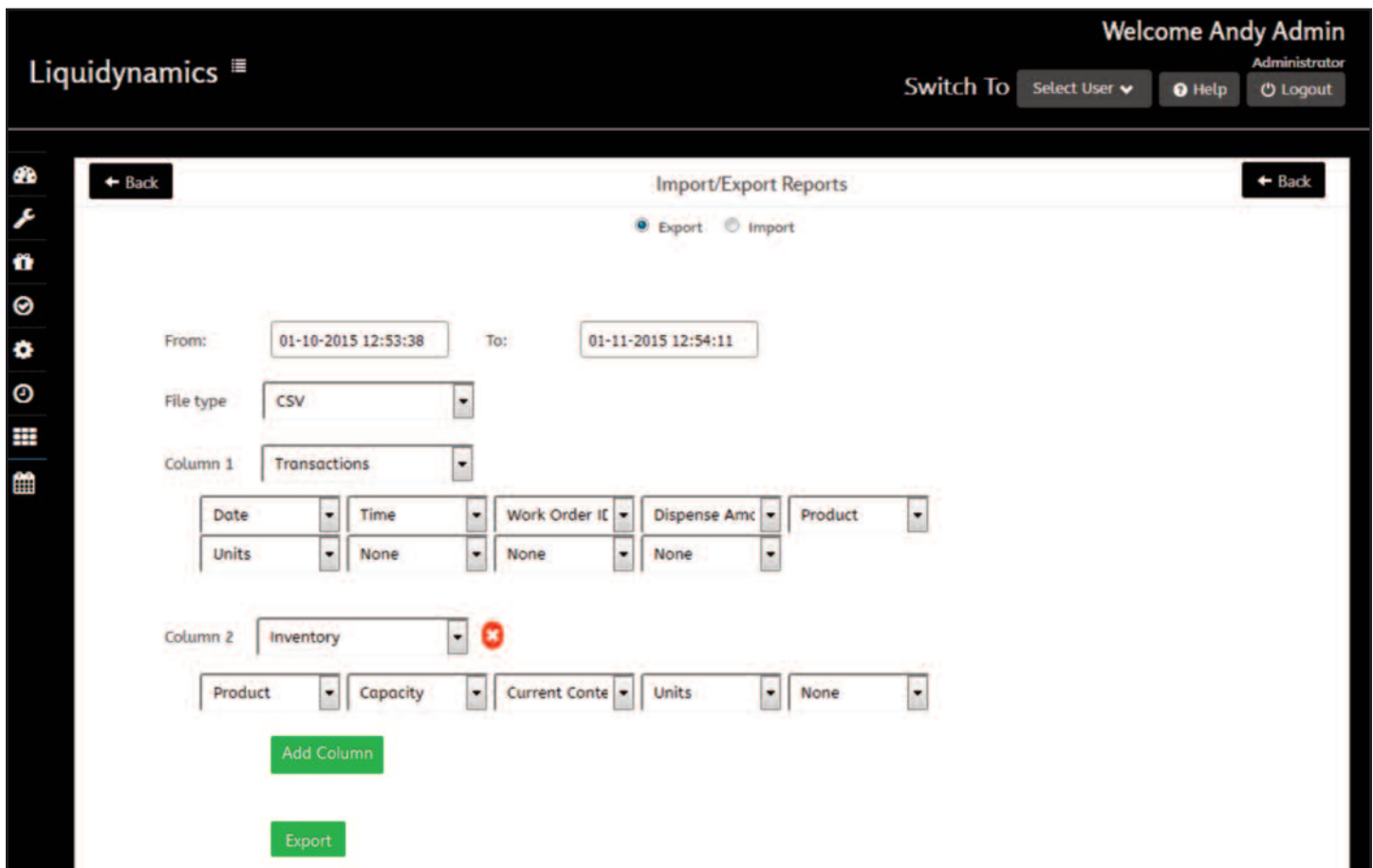


Figure 79 – Import/Export Reports



LIQUIDYNAMICS™

OILCOP

Technician Manual

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18.0 Technician Dashboard

Entering a technician PIN number opens the dispense page, depending how the system is configured will dictate what options are available for the Technician to use: (Fig. 80)

18.1 Select Work Order

Allows Technician to select from a list of “Open” work orders that have been created by the manager. Work orders can be assigned to specific technicians, those work orders will only be visible to the technicians they are assigned to.

If work orders are available they will appear as buttons with the corresponding work order number. If there are no open or assigned work orders for a technician a message appears “No work orders assigned to you are found.” (Fig. 81)

18.1.1 Select “Desired” Work Order

After selecting a Work Order, depending on the user’s **Capabilities** settings and how the work order is configured, the system may prompt the technician to select **Station #**, **Reel #** and/or **Product Type**, then he will be directed to the **Dispense** page.

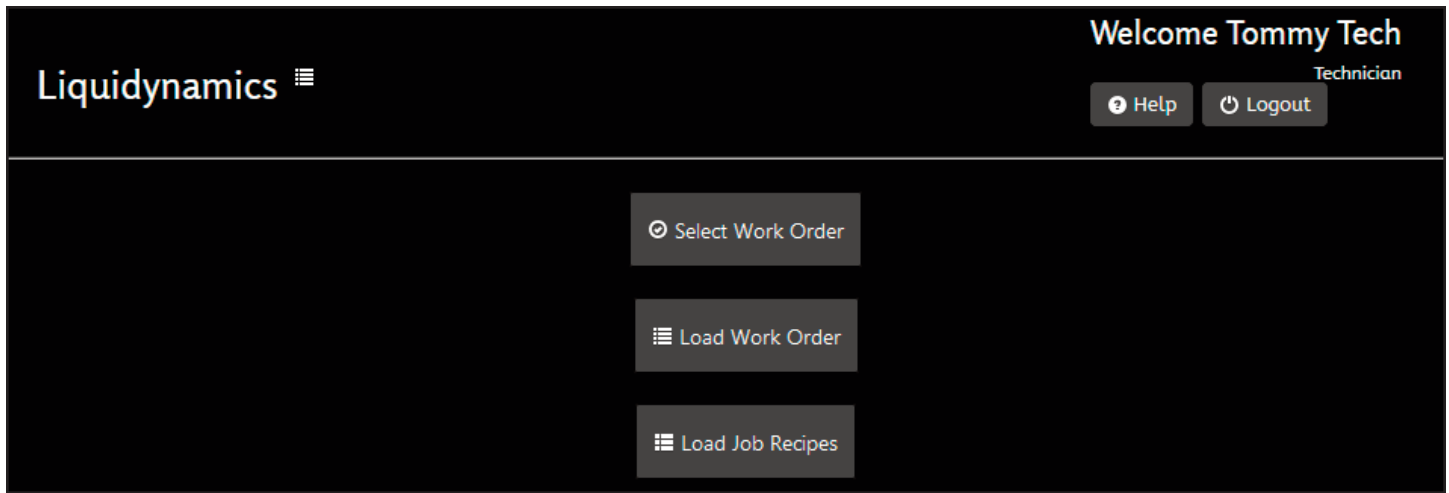


Figure 80 – Technician Dashboard

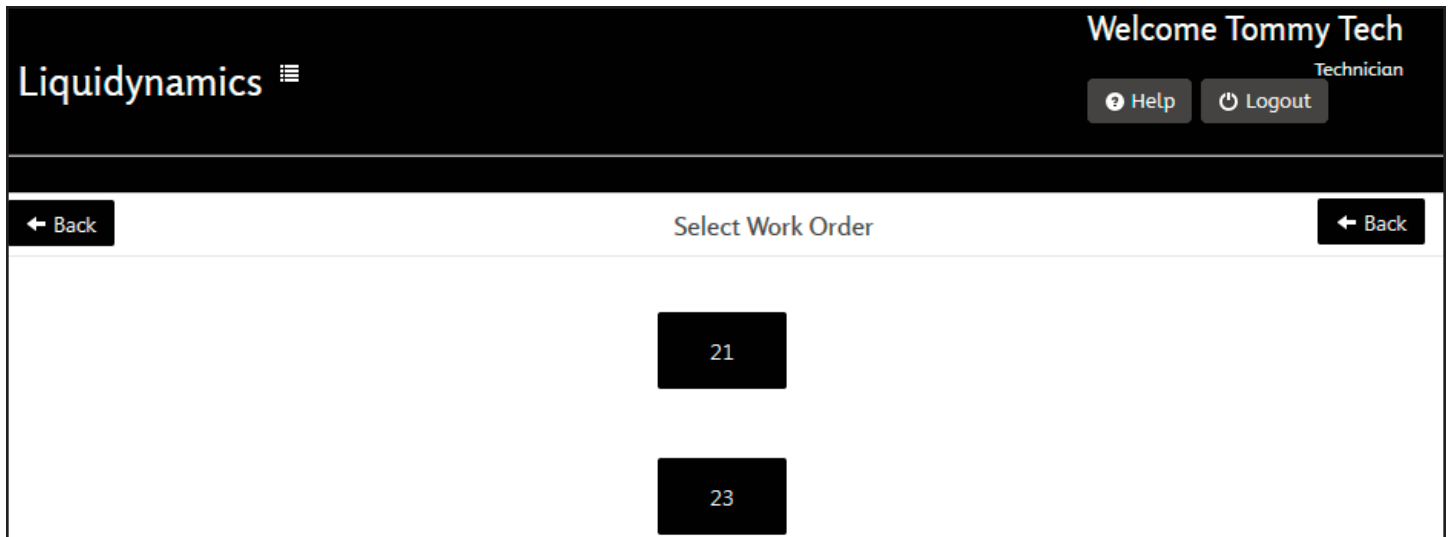


Figure 81 – Select Work Order

18.1.2 Dispense Page

All dispensing operations are conducted from the dispense page. The dispense page has eight buttons and displays all information required to accurately dispense. (Fig. 82)

At the top of the dispense page is a block with numbers and decimal point. This is the dispense counter for dispensing operations. Once dispensing begins, the counter will increment in real time indicating amount of product currently dispensed.

Below the counter is a block indicating the “**Work Order ID**” dispense operation is assigned to. Displayed below Work Order ID is type of product to be dispensed and the Station the Reel/Product is associated with.

Two information blocks located below “**Work Order ID**” block is, the “**Preset button**” on the left and a box with numbers inside located on the right side is the **Preset** amount to be dispensed. If Preset value is 0.0 Technician inputs the preset amount by

clicking on the “**Preset button**” and enters the value. Box to the right of the **TOP-OFF** button displays the unit of measure used for the dispense. *Unit of measure is configured from the Administrators desktop, Station Configuration menu.*

Preset - Allows Technician to input the preset amount for a dispense operation.

The system will not permit user to input a number greater than the **Max Allowed Preset** configured in Administrative Options menu.

The reel/product will stop once the preset amount is dispensed.

Click the **DISPENSE COMPLETE** button to turn off the reel or wait for time out.

Top-Off - If System Administrator configured the Top-Off option, it will not be available until after the initial dispense is completed. Once a Technician completes the initial dispense and clicks the

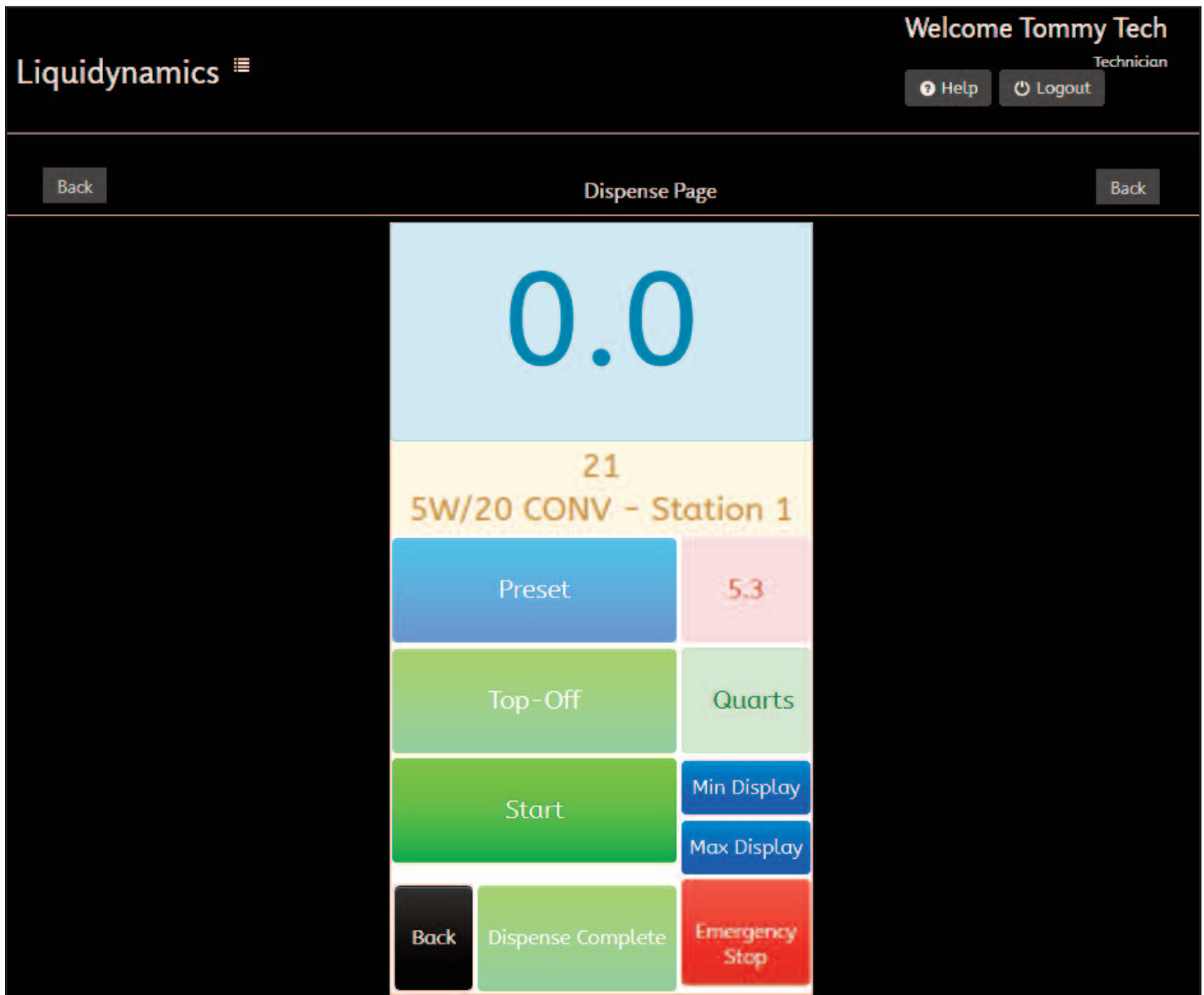


Figure 82 – Dispense Page

DISPENSE COMPLETE button, the TOP-OFF button will illuminate indicating it's available. When the Technician clicks on the TOP-OFF button the reel/product will turn on and be ready to begin dispensing by opening the trigger on the control handle. The dispense counter will reset to zero to indicate amount dispensed during the top-off session.

Amount of product allowed to be dispensed in a top-off session is determined in the Administrative Options menu.

Start - Click the **Start** button to begin the dispense operation. If performing a Preset dispense click Start button to begin the dispense operation.

*If Technician does not set a preset amount and clicks the **START** button the reel will be turned on for an "Open" dispense that the Technician must stop by releasing the oil control handle trigger.*

The maximum amount of product allowed to be dispensed for an open dispense is configured in the Administrative Options menu.

When the start button is pressed, a message appears in the top left corner of the page indicating the reel was "**Started Successfully**" or "**Started Unsuccessfully**," or if the "**Reel is currently in use.**" If the reel is currently in use Technician must wait until

the reel completes a dispense or times out before beginning a new dispense operation.

Dispense Complete - When finished with dispense you must click the **DISPENSE COMPLETE** button. This completes the dispense operation and allows the Technician to use the top-off function if enabled. The **DISPENSE COMPLETE** button must be pressed again after top-off operation is finished. If a Technician dispensed a preset amount they **must** click the **DISPENSE COMPLETE** button even though the system dispense preset amount was reached. (Reference 18.1.3, *Dispense Complete*, page 56.)

Back - When the Technician is completely done with the dispense page and has clicked on the **DISPENSE COMPLETE** button, they need to click the black **BACK** button next to the dispense complete button. This opens a new window where the Technician will be asked if they would like to close the **Work Order** or leave it open.

*Clicking on the green **BACK** buttons at the top of the page or navigating away from the page without click the black **BACK** button will leave the current work order open.*

Max Display - Button maximizes the dispense page on the users monitor allowing Technicians to see the amount currently being dispensed from a distance. (Fig. 83)

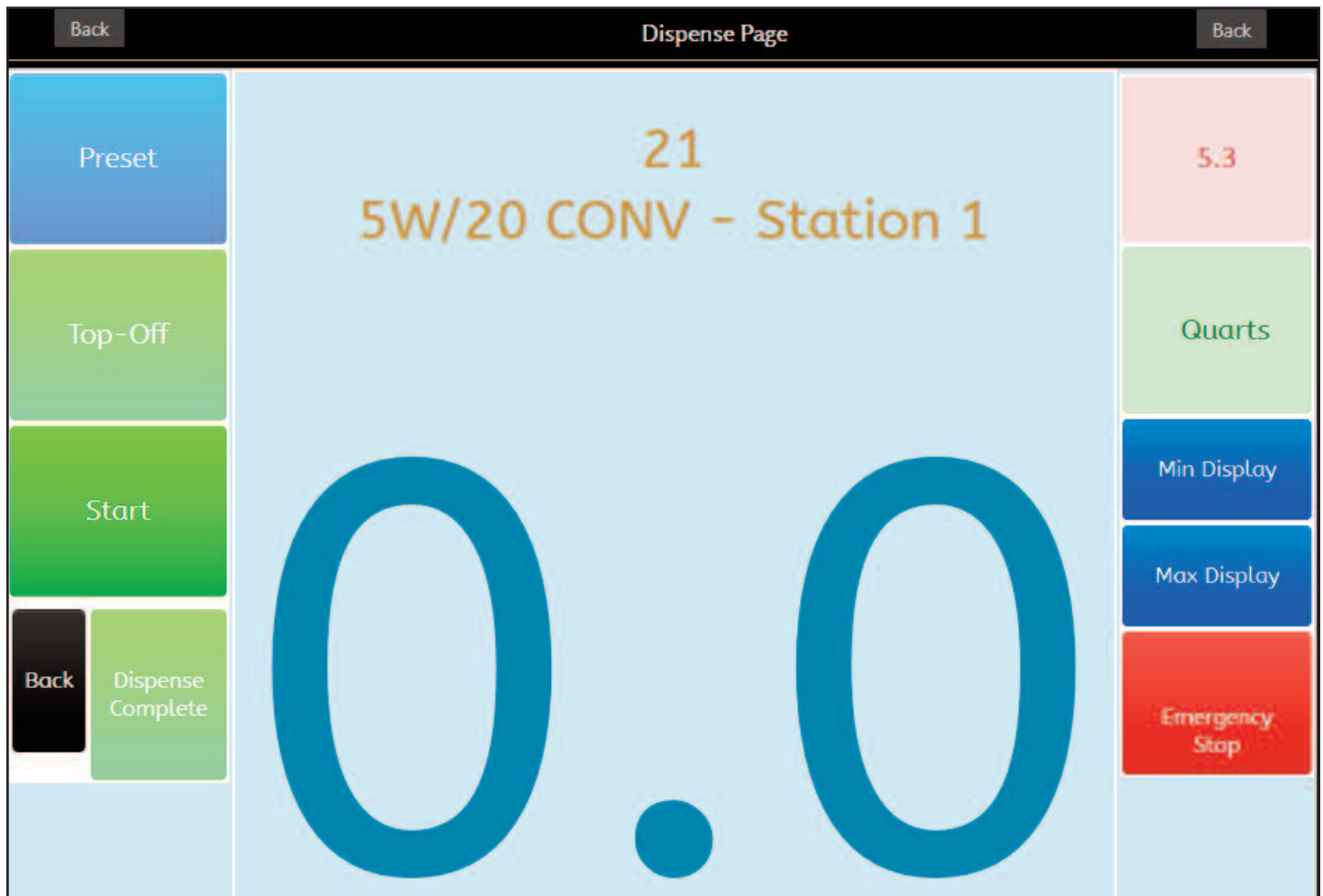


Figure 83 – Max Display

Min Display - Button minimizes the dispense page to its original size from when the page was opened. This button will only work if the dispense page has been set to Max Display.

Emergency Stop - Can be clicked by the Technician at any time during the dispense process. If clicked it will stop the dispense process. To continue the dispense operation the Administrator or Manager will have to be notified to input their PIN number. When the EMERGENCY STOP button is pressed, a field will appear at the top of the window where the Administrator or Manager can input the pin number to continue dispensing.

18.1.3 Dispense page time outs

Timeout settings used with dispensing products allows the system to follow a defined dispensing process to ensure the dispense transactions are properly terminated.

There are five different event conditions that can be edited to modify the timeout configuration to the Administrator's preference. Each timeout condition ends when either the next condition in the dispense process begins, or the time limit for that condition is reached.

Dispense Page - Timeout begins after a user loads/selects a work order and the dispense page is opened.

Pre Dispense - Timeout begins when the user clicks the **START** button on the dispense page and the Pulser Solenoid Module (PSM) activates. Once activated the system monitors for pulses from a pulse meter, if no pulses are observed within the Pre Dispense time out setting the system will terminate the transaction.

This timeout could also be referred to as a missing pulse detection time out. In the event the pulser meter has failed, the dispensing operation would be terminated at the same time as the Pre Dispense timeout setting..

Dispense Complete - Timeout is ready once system observes pulses during a transaction and the time out countdown begins when the system stops observing pulses. If no pulses are observed before timeout has elapsed, system will complete the dispense transaction. The user will have to wait for the Dispense Complete timeout to elapse before performing another dispense operation.

*The user can expedite the Dispense Complete process by clicking the **DISPENSE COMPLETE** button on the dispense page.*

Top-Off - Timeout begins after the system recognizes DISPENSE COMPLETE. Before Top-Off time out has elapsed the User has the option to click the **Top-Off** button allowing a small amount, Defined in Administration Options, of additional product to be dispensed.

Session - Timeout begins after all other timeouts have elapsed. When the timeout has elapsed the user will be logged out of the system and will have to login into the system again.

If the user does not complete the dispensing process, the Session timeout will begin when the last condition the user was on times out. When a session timeout limit is reached the system will automatically take the user out of the dispense process but leave the work order open.

18.2 Load Work Order

Allows Technician to create new work orders. After clicking **Load Work Order** button a new window will appear prompting to input a work order number. The work order number can consist of any combination of numbers and/or characters, **unless the work order format configuration is turned on in administrative options**. If the work order format is turned on the Technician must know the exact format of numbers and/or characters that have been configured by the administrator. Once the work order has been successfully loaded, the Technician will be directed to select the **Station** where the Reel/Product is located to dispense from, then you will be prompted to select a **Reel/Product** to dispense.

After selecting Reel/Product you will be directed to the **Dispense Page**.

18.3 Load Job Recipe

Select pre configured Job Recipe created by a manager. If job recipe exists and Technician with proper credentials is logged in, they can load the recipe. Click on **Load Job Recipe** button will open a list of job recipes to choose from.

After selecting Job recipe, you will be directed to the **Dispense Page**.



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2311 S. Edwards • Wichita, KS 67213 / TEL: 316-943-5477 • FAX: 316-943-4760 / TOLL FREE: 800-894-3572
E-MAIL: productinfo@liquidynamics.com / WEBSITE: www.liquidynamics.com