# GoPlant User Manual

Version 2021.1



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# 1 Getting started with GoPlant

## 1.1 Introduction to GoPlant

GoPlant is an asset inspection and data collection solution that uses a mobile device for field operations and a web browser for administration and reporting. When GoPlant users are created they are allocated one or more predefined user roles which control the extent to which they can use, view and manage the different aspects of the system.

Within GoPlant the hierarchical structure of the company's Plant, Location or other geographic related groupings is represented by **Storage Groups** which can include nested storage groups known as **Sub-Groups**:


*Figure 1 GoPlant – plant hierarchical structure example*

This hierarchical structure is developed and maintained by an Admin level user.

Either an Admin or Editor level user can then populate the created hierarchical structure with **Assets**, build and publish **Forms**, create **Rounds** that use the forms to guide data collection from the assets and then create and schedule **Tasks** (such as daily or weekly collections).

Whilst only an Admin or Editor level user can configure **Reports**, all user levels have access to reporting appropriate to their user level through a **Dashboard** widget.

## 1.2 Mobile application start-up

If not already installed, download and install the GoPlant Mobile application on to the mobile device using the instructions in the GoPlant Mobile User Manual (separate document). GoPlant Mobile is available from the Apple, Android and Windows Application stores. Your IT department may have your devices locked down and unable to install from the internet stores. Please refer to your IT department for instructions to load on a locked device.

Once installed:

- Ensure the device is connected to a network with access to the premise or hosted GoPlant website.
- If this is the first time GoPlant has been accessed, the following dialog will appear:


*Figure 2 GoPlant first time dialog*

- Enter the URL for your GoPlant website in to the dialog. The URL must be prefaced by either http:// or https:// in addition to the GoPlant website URL that defines your system. For hosted customers, it will be https:// (the default). For premise customers, it could be either one.
- Press the blue **Verify** text at the bottom of the 'Welcome to GoPlant' pop-up window.
- Ensure that a green 'Success Ready to Login: 200' message appears and that the blue text label for the bottom button of the pop-up window changes to "OK".
  - ➢ If not, double check the entered value and the device network connectivity (if connected, verify it is on a network that has access to the GoPlant website). Press the **Verify** button again until GoPlant has reached the designated server.
  - ➢ If an error occurs, a red "Unable to connect to this URL: 0" or other error message will appear, along with a pop-up window that logs all details of the failed connection. If the issue is not easily resolved, please copy this log with the copy button in the upper left hand corner and send to SKF technical support at: goplant.techsupport@skf.com.

Further guidance and instructions for operating the Mobile Application can be found in the GoPlant Mobile User Manual.

## 1.3 Online client minimum system requirements

Prior to accessing the system, make sure the computer and web browser meet the following the minimum requirements:

- A network connection to the premise or hosted GoPlant website.
- A desktop web browser such as Google Chrome, Firefox, Microsoft Edge or Safari.
- A GoPlant login and password allocated by the system administrator.
    - ➢ If one has not been allocated and the very first user is accessing the system then a default username is “starthere” with a password of “pass1”. Note though that this account is disabled after set-up, so please check with the administrator.
- The GoPlant web site address (URL). This address may start with either http:// or https://.

Recommended, is a printer connected locally or accessible via the network for printing forms and reports.

## 1.4 Online client start-up and navigation

Irrespective of user role, to get started using GoPlant users must first login via their web browser. Launch the browser and type the GoPlant website URL in the address bar (example: https://goplant). The Login page appears:


*Figure 3 Online client login page*

Login by entering the username and password.

After a successful login GoPlant always opens at the dashboard screen:

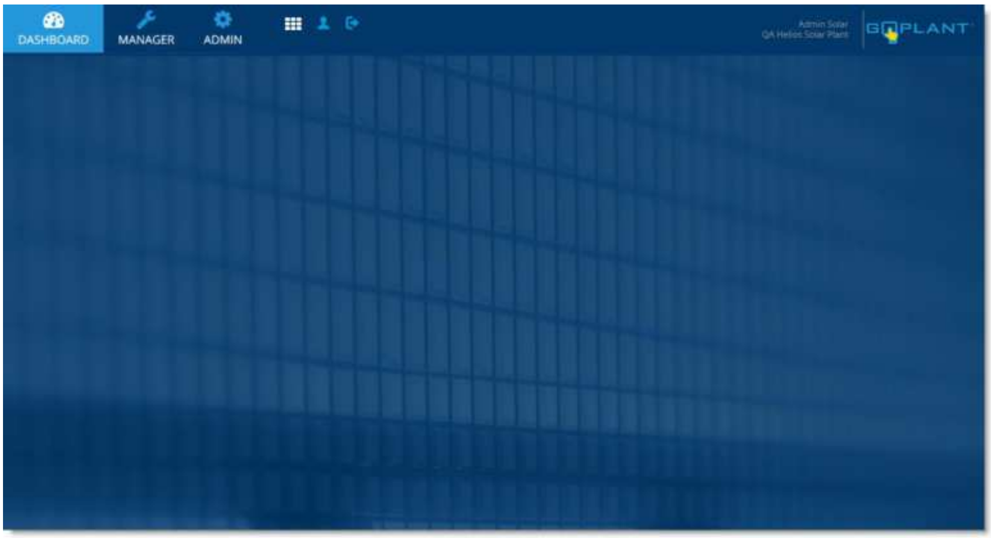



*Figure 4 GoPlant dashboard*

The GoPlant navigation bar is always visible at the top of the page, the icons shown there depend on the user role(s) of the current user:

**DASHBOARD** - for new users the dashboard will, as shown above, be empty until customized by adding widgets to the display.

**MANAGER** – for users with Admin or Editor privileges, the Manager icon will be visible to the right of the Dashboard icon.

**ADMIN** – only visible to a 'Super Admin': a user with the admin role at the root level storage group.

**Manage Widgets** – all users can initially add, then manage what widgets are available in their dashboard although the types of widget available to a user is linked to the user's role.

**User profile** – this provides quick access to the logged in users profile so that they can (where applicable) update their user information, password or security settings .

**Logout** – logout icon.

Immediately to the left of the GoPlant logo is a confirmation of the current, user name and storage group. The latter will update as the user moves between locations in the plant hierarchy tree but will initially show the top level.

## 1.5 Dashboard widgets

Widgets can be added to the dashboard by selecting the Manage Widgets icon:


*Figure 5 The Manage Widgets icon*

In the dialog that opens available widgets are listed and can be individually enabled using the checkboxes:

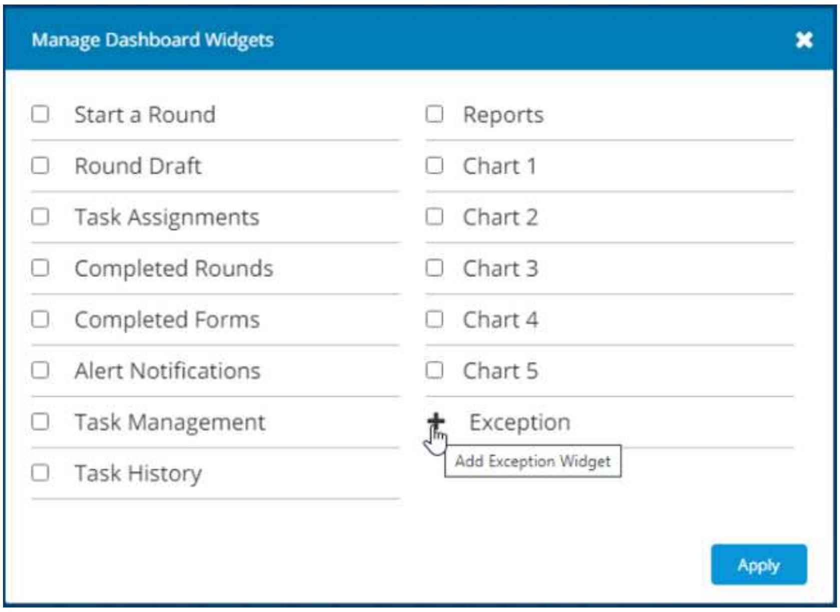



*Figure 6 Manage Dashboard Widgets*

Customize the dashboard by selecting the widgets that should be displayed.

- Multiple widgets are available, but the actual number made available to a particular user depends on their user role.

The different types of widget are described as follows, where the format is **Name**: [applicable user roles] widget description:

1. **Start a Round**: [Admin, Editor, Operator, Reporter] Allows the user to begin a round and complete the elements (assets/forms) with the round based on the variant chosen.
   - Rounds with any Element that has the Scan Required selected will not be able to run from the desktop web browser and can only be run from the GoPlant Mobile Application on a device that supports scanning or NFC capability.

2. **Round Draft**: [Admin, Editor, Operator, Reporter] Allows the user to launch a saved round draft so that they can continue to fill out any remaining, uncompleted assets/forms left in the round. Users can also delete round drafts from this widget. Drafts with a scan required element will not be available in the Draft widget.
3. **Task Assignments**: [Admin, Editor, Operator, Reporter] Gives a preview of any tasks currently assigned to the user. Selecting an item will launch that round variant unless the round contains a scan required element.
4. **Completed Rounds**: [Admin, Editor, Operator, Reporter] Allows the user to search and select completed rounds, as well as drill down in to the elements within the round to see the associated completed forms. Users can add notes to completed forms to show edits and round review. Editor and Admin users have the ability to edit responses within the forms, as well as delete the completed form altogether. When a round review is required, the review status will display as such and will update once the review(s) are completed.
5. **Completed Forms**: [Admin, Editor, Operator, Reporter] Allows the user to search and select completed forms. Users can add notes to completed forms to show edits and form review. Editor and Admin users have the ability to edit responses within the forms, as well as delete the completed form altogether.
6. **Alert Notifications**: [Admin, Editor, Operator, Reporter] Allows the user to view and acknowledge alerts. Alerts are generated when email triggers are added to form steps.
7. **Task Management**: [Admin, Editor] The Task Management widget provides a view of tasks accessible by the user. The tasks displayed on the dashboard widget represents task events generated for the current day. The user may browse and manage additional future task events.
8. **Task History**: [Admin, Editor] The Task History widget provides a view of task events accessible in the future by the user. The tasks displayed are grouped by the task type and display the percentage of tasks completed for the past 14 days.
9. **Reports**: [Admin, Editor, Operator, Reporter] Allows the user to view, open and launch both custom form reports and system reports. The “Recently used” area lists the last 20 reports that were accessed. The number of reports listed may be modified in the Admin are at the root level.
10. **Charts (1 – 5)**: [Admin, Editor, Operator, Reporter] Allows the user to view, open and launch charts. Charts must be created and published under the Reports tab before they are available for adding to the Dashboard widget.
11. **Exception:** [Admin, Editor, Operator, Reporter] Can provide an overview of the alert notifications, asset status, exception conditions, vibration or acceleration alarms, and state conditions generated in GoPlant. A user can add up to 10 Exception widgets.

After making the required selection, click **Apply**, the dashboard page will refresh with the changes.

In respect of the widgets displayed:

- Move a widget panel by left-click and hold on the panel top bar and then dragging it to the new position on the dashboard.
- The widget panels will jump to predefined grid locations to keep spacing consistent.
- Widgets may be resized by dragging the lower right-hand corner of the widget panel.
- Many widget panels have a search icon to open them and display more data.
- Widget update sync is every 10 minutes by default. This can be modified in the Admin tab (root storage group Admin role) to sync as frequently as every 2 minutes or up to 30 minutes.
    - ➢ The widget must sync to pull in new data when changes are made. A manual sync icon is available for each widget.
- To close a panel, click the **X** at the top of the appropriate panel.

## 1.6 Icons and their meaning or function

Although different in detail the panels and windows within GoPlant share a common approach and features, in particular the use of common icons to access key features.

In the following tables icons are split broadly into those that appear in the header bar area and those that are present in the body, particularly in lists of items:

*Table 1 Common header icons and their function*

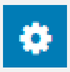
| Icon | Explanation |
|---|---|
| X | Close |
|  | Close |
|  | Minimize this panel to the bottom of the window |
|  | Validation fail – click it for a pop-up window with details of the failures |
|  | Preview - if the validation fails, the validation fail icon is shown instead |
|  | Save – this is normally white<br>Yellow: unsaved changes are present in the panel |
|  | Synchronize |
|  | Search, filter, browse |
|  | Settings |
|  | Trash can/Delete |
|  | Publish |
| | Once published, the External Tag and Working copy icons are available |
|  | Add External Tag (launches the External Tag Editor) |
|  | Create a working copy of a published Form, Round or Task (so as to edit/change) |

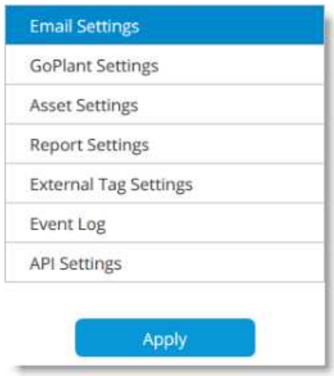
*Table 2 Common list icons and their function*

| Icon | Explanation |
|---|---|
| | Clear ( a search field for example) |
| | Expand a list/hierarchy |
| | Collapse/compact a list/hierarchy |
| | Edit |
| | Print |
| | Includes vibration readings |
| | Search |
| | Working copy available, click to open |
| | Copy |
| | Trash can/Delete icons |
| | Trigger |
| | Visibility |
| | Add visibility rule condition |
| | Asset and Task icons |
| | Settings |
| | Select/Add to window to the right |
| | Add (more variants to the round) |
| | Yes (published) |
| | User |
| | User group |
| | Recurrence |
| | Export to/as (choice via the drop-down) |
| | Run report |
| | Add chart to a report or view an answer history chart |

## 1.7 ADMIN - Super Admin functions

For users with admin rights at the root level storage group the ADMIN icon is available on the main navigation bar and provides the following functionality:


a) ADMIN




b) ADMIN menu

*Figure 7 ADMIN - Super Admin functions*

## 1.8 SKF Pulse / QuickCollect sensor integration

To enable vibration readings, GoPlant integrates with the Pulse / QuickCollect sensor available from SKF or SKF distributors. The CMDT 390 Pulse / QuickCollect sensor is an easy to use **Bluetooth**® enabled handheld sensor that connects to GoPlant. Combining vibration and temperature sensing, overall data can be viewed on the spot in real time and saved to GoPlant.

### 1.8.1 Adding vibration readings to Assets

The first step to including vibration readings is adding vibration measurement points to a GoPlant asset. The **Asset Type** chosen determines the number of measurement points on that asset. For simple use, including where an asset does not match any of the predefined asset types, simply select a type that gives the desired number of measurement points.

Once a type has been selected, the **Configure Vibration and Temperature** button will become available . The configuration menu slides up from the bottom of the screen when selected or when the **Configure Vibration and Temperature** button is pressed.

The configure vibration and temperature window includes all setting information for creating a measurement point, alarm limits and notifications.

- First select a bearing to configure and then choose in which planes, the readings will be taken. Any combination or all three planes may be used.
- Four further areas will appear in the window where settings for velocity, acceleration, and temperature alarms along with notifications, can be made. These sections will initially contain default settings.
  - Each reading taken with the Pulse / QuickCollect sensor provides three different measurements – velocity, acceleration and temperature.
  - Alarms for warning and critical levels may be manually set or configured in accordance with ISO / SKF gE levels. The defaults are calculated using the bore size, machine size, and flexibility settings. Further guidance on these settings is provided via the information icon.
  - Notifications may be set by checking the individual boxes for warning and critical alarms. Once enabled the "+" button is used to choose user groups or individual users as recipients. Recipients will display below each selection along with a trash can icon for removing the entry. After entering all required information save the asset.

This asset now needs an associated form created or modified to include a vibration reading step in order to collect the information from the GoPlant mobile app with the Bluetooth connected SKF Pulse / QuickCollect sensor.

### 1.8.2 Form designer – adding a vibration step to a form

In order to collect vibration readings, there must be a form containing a vibration step attached to a valid asset that has measurement points assigned.

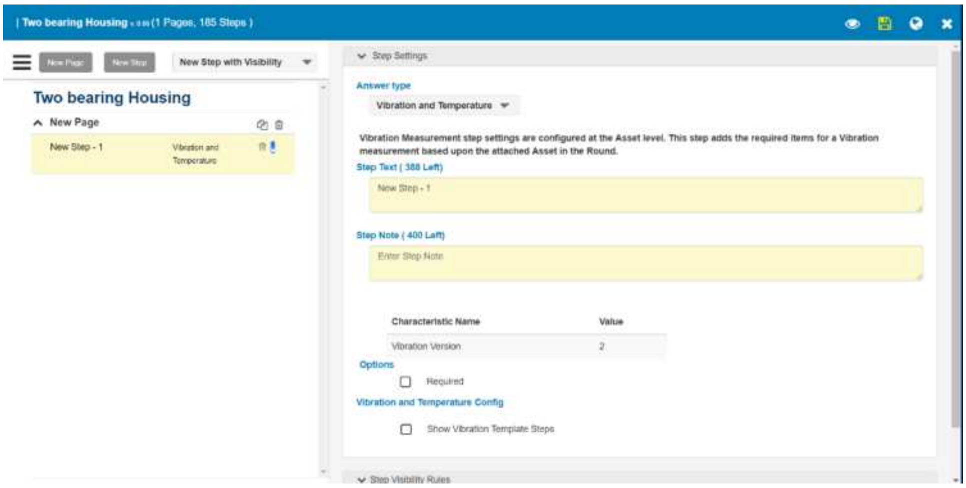



*Figure 8 Form designer: Step with an answer type of Vibration and Temperature*

The appropriate answer type in Form designer is **Vibration and Temperature**. This answer type is available if the storage group has been enabled for vibration readings and the step settings area includes a note that vibration measurements are configured at the asset level.

The Form designer step creates a placeholder in the form to allow for the configured, asset vibration readings. This single step is replaced during GoPlant mobile app operation with the required measurement points and information required to utilize the SKF Pulse / QuickCollect sensor to take a vibration reading that includes velocity, acceleration, and temperature for each bearing and plane configured within the asset.

# 2 Admin and Editor level functions

## 2.1 Online Client Manager Interface

The GoPlant Manager Interface tabs provide the means to configure, operate and maintain the system. Whilst Admin and Editor roles both have access, Admin has access to all tabs/functionality, the role of Editor is more restricted in the tabs that can be accessed.


*Figure 9 Admin – Manager interface tabs*

- Admin users will have access to all Manager Interface tabs including the ability to manage users and the company hierarchy.
- Editor level users do not have the ability to manage users, user groups and the storage group properties tabs (the last three tabs on the right).

Above the tabs, the current storage group path is displayed to the right of the tree icon. Use the adjacent controls to select the appropriate sub-group where it is planned to create, edit, add and/or delete GoPlant items.

➢ As all data contained in the Manager interface tabs updates according to the selected storage group, it is important to always ensure that the appropriate hierarchical level has been selected.

Use either the storage group tree icon or the storage group path drop-down icon to select a storage group:

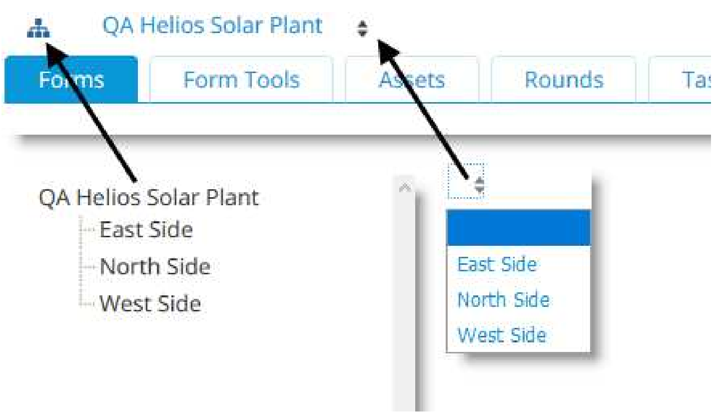



*Figure 10 Alternate methods for selecting the active storage group*

Storage groups organize information within GoPlant and determines the security organization:

- Users can only see items within their storage group and below (child groups of the parent storage group).

Once the intended storage area is selected, the appropriate Manager Interface tab can be used to modify its properties.

## 2.2 Online Client Manager Interface tabs

### 2.2.1 Overview

Having first picked a storage group from the storage group tree, select the appropriate tab to see the details for that storage group.

The tabs are described below with the format Name [applicable user roles] brief description. From the right to the left the tabs are:

- **Storage group Properties** [Admin] This tab allows admin role users to mirror their organization’s plant structure or logical equipment areas when setting up the GoPlant system.
  - The storage group properties tab will be named by taking the selected storage group name (current hierarchical level) and adding the word ‘Properties’.
- **User Groups**: [Admin] Allows admin role users to structure their users in organized groups. Groups are important for task assignments and email distribution lists.
- **Users**: [Admin] The Users tab is for an Admin level user to create, manage and organise users within the storage group hierarchy structure.
- **External Tags**: [Admin, Editor] Used to create, edit and assign external tags to form step questions and assets for external software systems. In addition to data export, External Tags can be used for reporting purposes and displaying asset related information on common forms.
- **Reports**: [Admin, Editor] Used to create, edit, display and publish reports and charts for reporting. GoPlant standard reports are also available on each tab.
- **Tasks**: [Admin, Editor] The Tasks tab is used to display all tasks within the storage group. A Task is a collection of one or more round variants that has a defined set of assignees and a deadline. Tasks define the data collection to be done (round variants), the users or user groups assigned and a single or recurring schedule.
- **Rounds**: [Admin, Editor] The Rounds tab is used to display and manage all rounds within the storage group. Rounds can include both form and asset

elements, as well as have up to four variants. Rounds are the basis for data collection and tasks on the GoPlant mobile application.

- ➢ This tab name is defined by the "Super Admin" (Admin role at the root storage group Level) in the Admin panel.

- **Assets**: [Admin, Editor] Used to create, edit and display all assets within the group hierarchy structure and their status. Forms are assigned to assets so that one data collection template may be used across hundreds of assets. Assets allow for scanning while performing rounds to quickly display the proper data collection form to the operator for a specific Asset.
- **Form Tools**: [Admin, Editor] The Form Tools tab contains functions that can be used to simplify form creation. These functions include Document display, Visibility Defaults and two column Lookup Tables. This area is used to upload/link training or company documentation to be used for reference inside a form.
- **Forms**: [Admin, Editor] The Forms tab is used to create, edit and publish forms used for data collection. Forms are the primary component of rounds and define individual data entry pages to collect specific asset or area type information within the company.

## 2.2.2 Storage group Properties tab

### 2.2.2.1 Introduction

The storage group properties tab will be named by taking the selected storage group name (current hierarchical level) and adding the word 'Properties'. This tab allows admin role users to mirror their organization's plant structure or logical equipment areas when setting up the GoPlant system. A nested hierarchy helps to control the privilege levels, organizes assets and rounds, and creates order when large pools of people are using the system.

When the Properties tab is selected, the main display area updates the various panels with data applicable to the current hierarchical level:

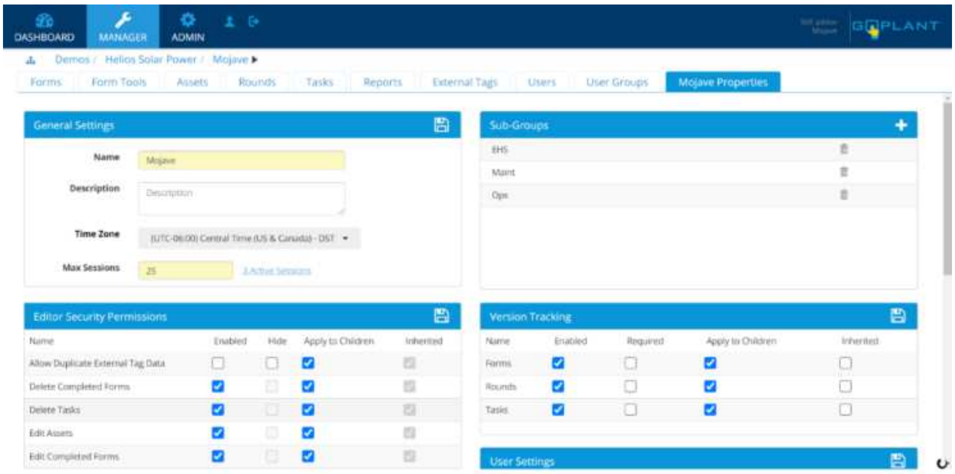



*Figure 11 Storage group properties tab (partial content)*

Each panel has a top bar carrying the panel name and to the right, icons to allow actions appropriate to that panel (for example save, add1). Scroll down to view all available panels.

### 2.2.2.2 General settings

After selecting the desired storage group using the tree icon hierarchical structure, the general settings area is where the storage group properties (**Name**, **Description**, **Time Zone**, and **Max Sessions**) are updated:

- Type the new storage group name and/or description in **Name** and/or **Description** fields.
- Use the **Time Zone** drop-down list, to select an appropriate time zone.
- **Max Sessions** – this allows for adjusting the maximum number of concurrent user licenses available for this storage group.
  - ➢ Multi-location customers can use this to define user license counts per storage group (locations) within their organizational hierarchy.

Use the Save icon in the panel top bar to save any changes made.

### 2.2.2.3 Sub Groups

After selecting the desired storage group using the tree icon hierarchical structure, the Sub-Groups panel is where sub groups of this storage location are displayed and managed:

- Remove an existing sub-group by selecting its adjacent trash can icon.
  - ➢ Deleting a storage group is only possible after all forms, form tools, assets, rounds, tasks, users and user groups have been removed or deleted. Removing the storage group does not remove form or round

data, already collected. Data will still be available for that storage group in the reports.

- Add a new sub-group (nested storage group) by using the ‘plus’ icon in the top bar of the Sub-Groups panel.

When adding a sub-group, the new storage group window opens so that the General settings for this new storage group can be entered.

#### 2.2.2.4 Editor Security Permissions

Editor security permissions only apply to users who have the “Editor” security role. They allow for granular control of the areas within GoPlant that users can make changes. Storage group settings (specified here) allow for quick and easy global configuration and become the default editing settings for editor level users of the storage group.

➢ Individual User Editing settings (when changed from their default) will always override any storage group level permissions, set here.

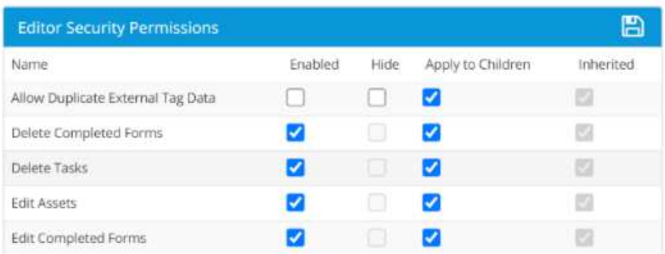



*Figure 12 Storage group Properties tab – Editor Security Permissions panel (partial content)*

Each row contains a specific permission along with **Enabled**, **Hide**, **Apply to Children**, and **Inherited** options/columns.

- **Enabled** control allows this specific permission to be enabled/disabled by default for editor level users in this storage group.
- **Hide** removes this icon, tab or selection mechanism for this permission from editor level users.
- **Apply to Children** allows for this setting to cascade to child storage groups.
- **Inherited** allows for resetting the permission level and allowing this storage group to inherit its permission level from the parent storage group. When the ‘Save’ icon is pressed, the settings will reset and show what was inherited from the parent storage group.
  ➢ Removing an active inherit does not restore any individual User Profile settings. Any user specific changes must be cleared or re-set separately, as desired.

Each Editor Security Permission occupies one row and has a descriptive identifying Name:

- **Allow Duplicate External Tag Data**: When creating external tags allows them to be reused on other forms for the same asset.
- **Delete Completed Forms**: Enables a user to delete an entire completed form via the completed forms Browse widget on the dashboard. This is data collected on a form from the mobile device, not the form template itself.
- **Delete Tasks**: Enables a user to delete Tasks.
- **Edit Assets**: Enables a user to create and modify assets, including moving and copying.
- **Edit Completed Forms**: Enables a user to edit answers on a completed form from either the Completed Form Browse widget or the Completed Round Browse widget. This enables the user to modify answers to step questions on a form. GoPlant keeps all historical data of the original or changes entries.
- **Edit External Tags**: Enables a user to create and modify External Tags for Asset forms and forms. External Tags may also be deleted or moved.
- **Edit Form Tools**: Enables a user to create, modify, and delete form tool items – Documents and two column Lookup tables.
- **Edit Forms**: Enables a user to create, modify or delete forms.
- **Edit Reports**: Enables a user to create, modify or delete Reports as well as Charts.
- **Edit Rounds**: Enables a user to create, modify or delete rounds. This includes making working copies and deleting working copies.
- **Edit Tasks**: Enables a user to create or modify tasks. Does not include the delete function.
- **Edit User Groups**: Enables a user to create, modify or delete User Groups. Please note that the user must also have the ‘Admin’ role in order to have access to the User Groups tab in the Manager area of GoPlant.
- **Edit Users**: Enables a user to create, modify or delete Users. Please note that the user must also have the ‘Admin’ role in order to have access to the Users tab in the Manager area of GoPlant.
- **Edit Visibility Defaults**: Enables a user to create, modify or delete Visibility Default Rules.
- **Revoke Tasks**: Enables a user from the task management widget (on the dashboard) to revoke future task events.
- **Edit Vibration and Temperature**: Allows the vibration step type and extra asset information made available to forms and assets

➢ This setting will not be available unless vibration sensor capabilities are enabled, refer to the **Enable Vibration and Temperature Feature** control and associated note in User Settings.

### 2.2.2.5 Version Tracking

GoPlant tracks all changes made in **Forms**, **Rounds** and **Tasks** by each user, the Version Tracking panel allows GoPlant admins to have additional information added when saving or publishing items within the storage group.

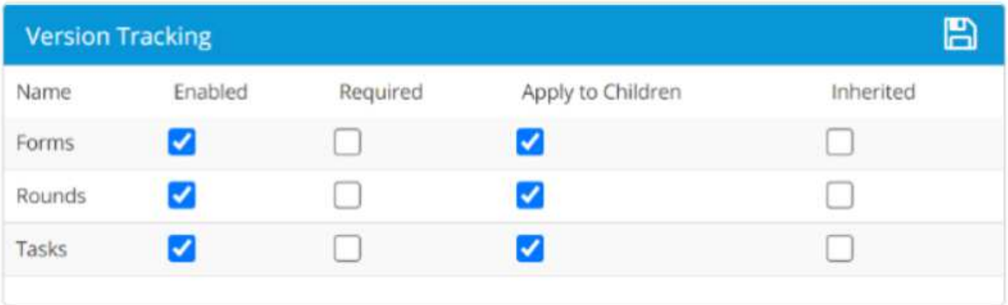



*Figure 13 Storage group Properties tab – Version Tracking panel*

The Version Tracking options enables additional information and notes to be saved for the changes for reporting purposes within each item. The column headers are as follows:

- **Enabled**: Allows the user to optionally add an ID and Log entry for each change in Forms, Rounds or Tasks. This information is added to the Form Designer, Round Designer and Task Designer before each change.
- **Required (Enabled and Required)**: Requires a Log entry for each change in Forms, Rounds or Tasks and allows the user to add the optional ID.
  - ➢ A user cannot save/publish the item without entering a Log entry.
- **Apply to Children**: Applies storage group version tracking rules to child storage groups so that they inherit the version tracking settings for Forms, Rounds or Tasks.
- **Inherited**: Inherits the version tracking rules of the parent storage group.

To enable these options in Forms, Rounds or Tasks, check the individual enables and click on the save icon.

➢ By default, for the root storage group, the options (**Enabled**, **Required** and **Apply to Children**) will be disabled.

➢ The **Apply to Children** option will push these settings to all child storage groups. Version tracking settings can be changed at any storage group level.

- To reset customized version tracking rules simply select the **Inherited** checkbox and save the panel data changes. This will clear out any storage group level rules and revert to the inherited permissions from its parent.

#### 2.2.2.6 User Settings

Storage group user settings (specified here) allow for quick and easy global configuration and become the default user settings for all users of the storage group.

- Individual user level settings (when changed from their default) will always override any storage group level settings, made here.

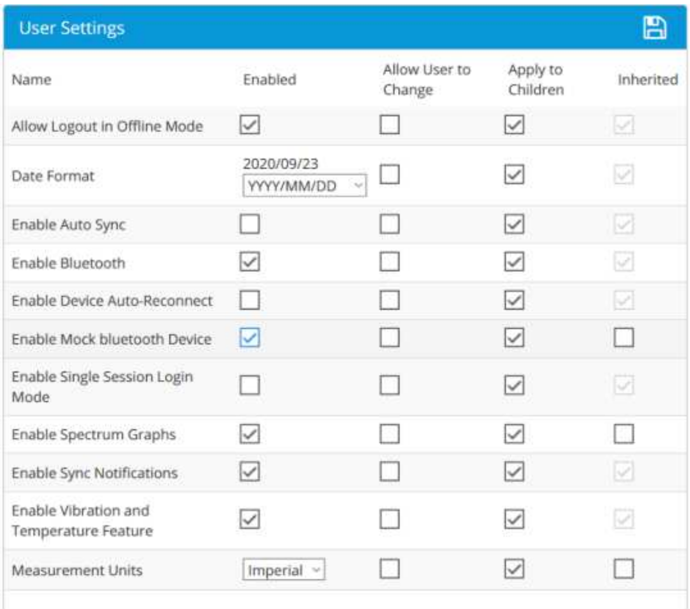



*Figure 14 Storage group Properties – User Settings panel*

For the various user settings (shown above, one per row) there are individual option control columns for: **Enabled**, **Allow User to Change**, **Apply to Children** and **Inherited**:

- **Enabled**: Sets the default status (on, off or a particular format/choice), for the named function for users within this storage group.
- **Allow User to Change**: Determines whether users are allowed to change from the default.
- **Apply to Children**: Allows for this setting to cascade to child storage groups.
- **Inherited**: Allows this storage group to inherit it's setting from the parent storage group. When the 'Save' icon is pressed, the settings will reset and show what was inherited from the parent.

Each user settings occupies one row and has a descriptive identifying Name:

- **Allow Logout in Offline Mode**: Allow the User to logout with the GoPlant mobile app in “Offline Mode”. If this option is disabled, the user is forced to be online prior to log out.
- **Date Format**: GoPlant allows for different date formats per storage group. Storage group areas located within different countries or areas may choose their own date format.
- **Enable Auto Sync**: Allows the device to automatically synchronize all mobile app information. The GoPlant app attempts to sync on the “Home” page and most main “Tab” screens (round, task, draft and asset main screens). GoPlant will not attempt to sync while items are being edited or within a round or task operation.
- **Enable Bluetooth***: This enables the Bluetooth functionality within GoPlant and is required before any other vibration feature is available.
- **Enable Device Auto-Reconnect**: The GoPlant app will attempt to connect regularly to the configured GoPlant Server. If the connection attempt is successful, the GoPlant application will initiate a synchronization to upload / download any data or change to the mobile device. This will change the WiFi button to green and keep GoPlant in online mode.
    - Enabling “Auto-Reconnect” AND "Auto Sync" for the GoPlant Mobile application (GoPlant app) means that whenever the GoPlant app is on its “home screen” AND a network connection is present at the device level the GoPlant app will regularly attempt to connect to its configured GoPlant Server. If the connection attempt is successful, the GoPlant app will initiate a sync to upload/download any data or changes to the mobile device. In addition to the Home screen, the main Tasks, Rounds, Drafts and Asset screens will also allow for an auto-reconnect of the GoPlant app to the server.
- **Enable Mock Bluetooth Device**: This enables a mock sensor device to be used for previewing and taking readings. This simulates a real pulse sensor device connected to the website so that users can simulate taking a vibration reading.
- **Enable Single Session Login Mode**: GoPlant will only allow users at this storage group level to login once to the application (both website and mobile device). The users will only be able to have one concurrent session under their login ID unless specifically changed at their user profile level.
- **Enable Spectrum Graphs**: Disables or enables the detailed spectrum graphs within GoPlant or on the Mobile device.
- **Enable Sync Notifications**: The device will indicate when there are items that require an update such as Rounds, Tasks, Drafts or Assets. A ribbon notification will appear indicating the group of items that need to be synced. The GoPlant app home screen will also change the text color to yellow for those items that are not synced with the server.

- **Enable Vibration and Temperature Feature***: Enables the Editor security permission (**Edit Vibration and Temperature**) to enable a user to edit the vibration and temperature steps of a form. This must be enabled for a user to add the vibration step to forms.
- **Measurement Units**: Sets default measurement display for asset information.

In order to use the vibration sensor capabilities both “Enable Bluetooth” and “Enable Vibration and Temperature Feature” (marked with an * above) must be selected for the storage group.

Selections made here will be the default for all users allocated to this storage group but can be overridden on an individual user basis by choosing differently at an individual user level.

#### 2.2.2.7 Default Settings

➢ The Default Settings panel is only available at the root level storage group, properties tab.

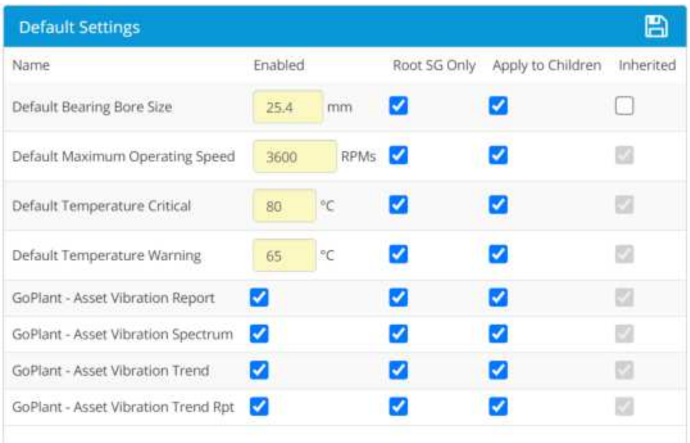



*Figure 15 Storage group Properties – Default Settings panel*

For the various default settings (shown above, one per row) there are individual option control columns for: **Enabled**, **Root SG Only**, **Apply to Children** and **Inherited**:

- **Enabled**: Sets the default status (on, off or a particular format/choice), for the named function for users within this storage group.
- **Root SG Only**: Determines whether this should be the default for all or for only the root storage group.
- **Apply to Children**: Allows for this setting to cascade to child storage groups.

- **Inherited**: Allows this storage group to inherit it's setting from the parent storage group. When the 'Save' icon is pressed, the settings will reset and show what was inherited from the parent.

Each setting occupies one row and has a descriptive identifying Name:

- **Default Bearing Bore Size**: Sets the default bearing bore size when adding a new vibration measurement point to the asset. As shown, the value is entered here in mm but is converted to Imperial if required by the storage group or user setting for units.
- **Default Maximum Operating Speed**: Sets the default operating speed of the asset. This value is entered into forms and also used to calculate ISO velocity and SKF gE enveloping alarms.
- **Default Temperature Critical**: Sets the default critical temperature warning threshold when adding new vibration measurement points to the asset. As shown, the value is entered here in degrees Celsius but is converted to Imperial if required by the storage group or user setting for units.
- **Default Temperature Warning**: Sets the default warning temperature warning threshold when adding new vibration measurement points to the asset. As shown, the value is entered here in degrees Celsius but is converted to Imperial if required by the storage group or user setting for units.
- Further rows for enabling or disabling reports of the following types:
    - **GoPlant – Asset Vibration Report**
    - **GoPlant – Asset Vibration Spectrum**
    - **GoPlant – Asset Vibration Trend**
    - **GoPlant – Asset Vibration Trend Rpt**

## 2.2.3 User Groups tab

### 2.2.3.1 Introduction

This functionality allows admin role users to structure their users in organized groups. User Groups within GoPlant are used for easily assigning tasks and choosing email recipients within step triggers.

- ➢ It is important to assign tasks to a user group instead of individual user accounts in order to ease the future maintenance burden as people are added, change roles or leave the company.


*Figure 16 User Groups tab*

In the main area of the User Groups tab is a list of existing user group names with access to the hierarchical level currently selected. Note that there are controls to create a **New User Group**, multiple levels of **Search** and at the individual user group level the ability to edit or remove that group.

### 2.2.3.2 Add or edit a User Group

After using the hierarchical tree or drop-down icons to pick a sub-group to add a user group to, select the User Groups tab and either:

- Press the **New User Group** button or
- Edit an existing user group by clicking on its **Name** or the adjacent edit icon

The User Group window opens:

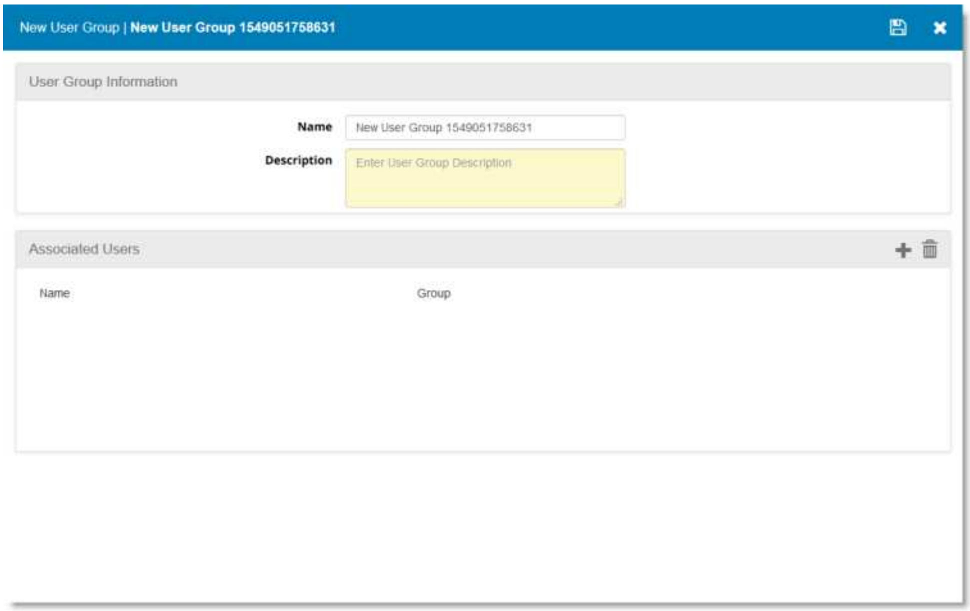



*Figure 17 New User Group panel*

For the User Group Information:

- Enter the **Name** of the user group.
- Type a **Description** for this user group.

In the top bar of the lower Associated Users panel, select + to open the Add Users window:

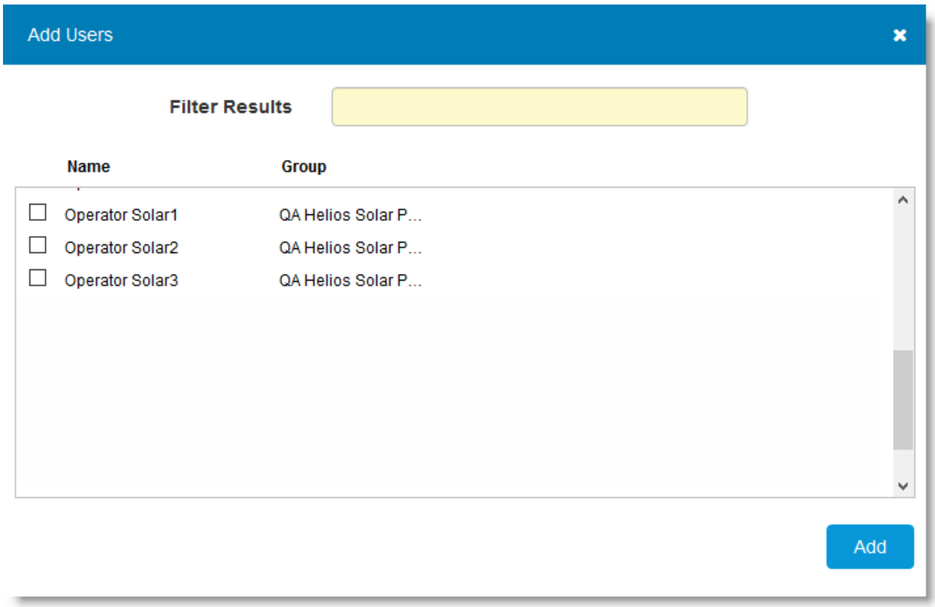



*Figure 18 User Groups – Add Users dialog*

- Select the checkbox next to the user(s) to be added in this user group.
- Select **Add** to continue or **X** to close the window without saving.
- The Add Users dialog closes.

The main User Group panel is refreshed, select there the save icon to save any changes to the user group or the **X** to close without saving.

## 2.2.4 Users tab

### 2.2.4.1 Introduction

The Users tab is for an Admin level user to create, manage and organise users within the storage group hierarchy structure.

Prior to creating users and user groups in GoPlant, it is important to first identify and select the hierarchical level at which they will reside, as well as the user role(s) they will have and whether or not they will have the ability to perform supervisory round reviews.

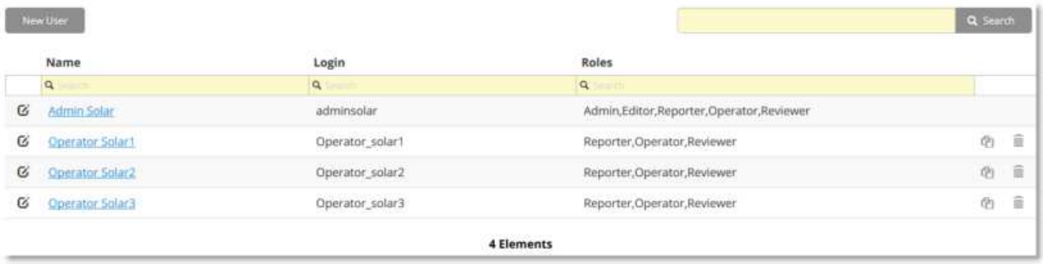



*Figure 19 Users tab*

In the main area of the Users tab is a list of existing users with access to the hierarchical level currently selected. For each there is a **Name**, **Login** (username) and the **Roles** allocated. Note that there are controls to create a **New User**, multiple levels of **Search** and at the individual user level the ability to edit, copy or remove a user.

- ➢ As illustrated by the example above, details for the current logged in user can be edited but not copied or deleted
- ➢ A user is only allowed access to data and forms at their level within the organization and below (that storage group and any of its child storage groups).

#### 2.2.4.2 User Roles

- **Admin**: Can create, edit and delete storage groups, user groups and users at their hierarchy level and below. Admins also have special privileges like being able to release user sessions, reset user passwords and manage max concurrent user sessions within a storage group. This is the most advanced user role in the system and inherits the abilities of the other roles within GoPlant.
  - ➢ A "Super Admin" is an admin defined at the root level storage group and has access to the Admin global settings.
- **Editor**: Can create, edit and delete forms, assets, rounds, tasks and reports at their hierarchy level and below. An Editor does not have the ability to manage Users, User Groups or Storage Groups.
- **Operator**: Can launch rounds, drafts and task assignments, as well as view alert notifications at their hierarchy level and below. On the website they only have access to dashboard items.
- **Reporter**: Can view completed rounds/forms, reports and charts at their hierarchy level and below. Reporters have access to the website dashboard only and are not capable of collecting data on the mobile client app.
- **Round Review**: GoPlant provides the ability to enable either a single or dual review on completed rounds. A user identified as a "reviewer" must have the round review option enabled in the user's profile.

### 2.2.4.3 Add or edit a user

After using the hierarchical tree or drop-down icons to pick a sub-group to add users to, select the Users tab and either:

- Press the **New User** button or
- Edit an existing user by clicking on their **Name** or the adjacent edit icon

The User window opens:

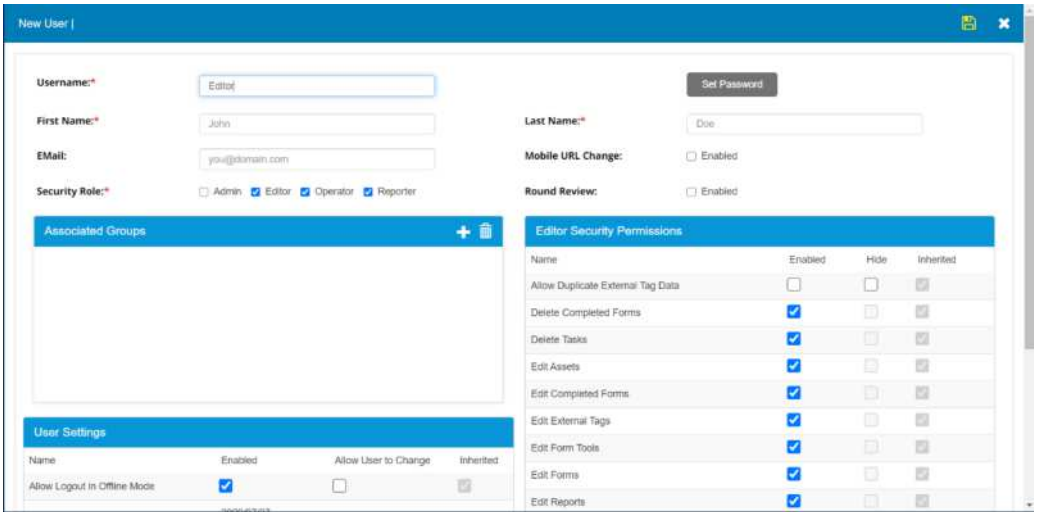



*Figure 20 Users – add or edit a user (partial content)*

The window contains basic user data towards the top and below that a number of panels (precisely which panels depends on the **Security Role** chosen).

#### Basic user data area

In the basic data area, a red asterisk marks fields that are required/mandatory.

- **Username** (Required): This field is used to type in the login name the user will have. Use any combination of letters and whole numbers.
- **Set Password**: A temporary password can be set by the Admin user. To set a temporary password, use a combination of letters and whole numbers and confirm the password selected.
  - ➢ If a temporary password is not set, the user will use their username as the password.
- **First Name** (Required): This field is used to type in a user's first name.
- **Last Name** (Required): This field is used to type in a user's first name.
- **Email**: This field is used to type in a user's primary email address.

   - This is the address that will be used in trigger alerts and task assignment reminders.
- **Mobile URL Change**: Selecting this option will give the user the ability to reconfigure the mobile app so that it can switch between different GoPlant sites.
   - This is only used for any user that may have more than one GoPlant website.
- **Security Role** (Required): Select the appropriate box beside each role to be granted to the user. Selecting Admin will automatically check all other options that are included.
- **Round Review**: Select this option to enable round review to allow the user the ability to perform supervisory reviews on completed rounds.

**Associated Groups panel**

An admin level user can use this panel to associate the user with managed user groups. In the top bar of the Associated Groups panel are controls to add or clear group selections. The main Associated Groups window will list any groups that this user is already associated with.


*Figure 21 Users – Associated Groups panel*

See also User Groups.

### User Settings panel

By default, the user settings defined in the Storage group Properties tab are used, but the panel here allows for those to be overridden and user specific, customised settings to be applied.

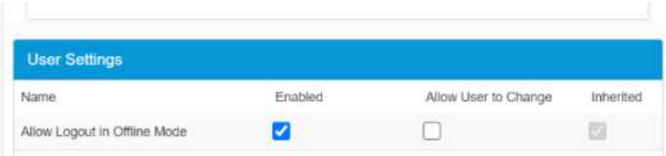



*Figure 22 Users – User Settings panel (partial content)*

For a detailed description of the functionality of these settings, refer to the Storage group Properties tab.

- ➢ The ‘Apply to Children’ option/column is only available there and is not an option here, at an individual user level.

### Editor Security Permissions panel

The Editor security panel only applies to (is only visible when editing/creating) users who have been allocated the “Editor” security role.

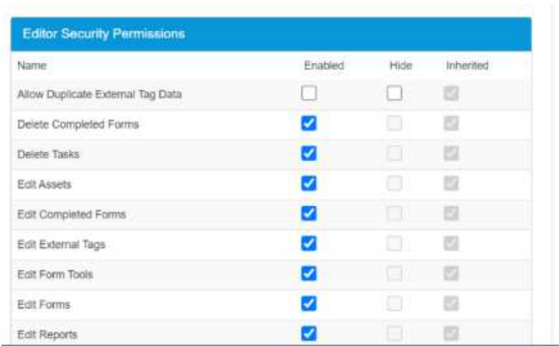



*Figure 23 Users – Editor Security Permissions panel (partial content)*

Editor security in GoPlant allows for granular control of the areas within GoPlant that users are allowed to make changes. Whilst global changes to Editing security may be made at the individual storage group level, modifying (here) an individual user’s Editor permissions will override those settings.

For a detailed description of the functionality of these settings, refer to the Storage group Properties tab.

- ➢ The ‘Apply to Children’ option/column is only available there and is not an option here, at an individual user level.

## 2.2.5 External Tags tab

### 2.2.5.1 External Tags – Introduction

External tags allow users to manage links between GoPlant and an external system. An external tag in GoPlant maps a form response to a data point or label in an external software system.

Tags can map responses per asset form or form combinations to external tags that link to software historians, asset management systems or 3rd party reporting software. The external tag can be mapped to the form response for each asset individually because the same form may be reused against many assets in GoPlant.

> For example, asset forms can be tagged for historian software packages and numerical readings can be assigned the tags associated with these software systems allowing for easy file export or API query of the data.

External tags may also be shown on the form along with the step question for the response, in addition to other historian, logbook or related tags.

> For example, the piping and instrumentation diagram (P&ID) label for a pressure gauge may be shown to the operator when they are answering a response question.

Tags used in this way ensure the proper gauge label can be displayed to the user despite that the same form is used for hundreds of assets.

### 2.2.5.2 External Tags – Tag Source Types

Before being able to use external tags, the tag source must be defined. A tag source is the 'type' designation for grouping tags together (think of it as a folder organizing all tags of a specific external software or purpose such as displaying on the GoPlant mobile app). The tag source groups together all tag names that belong to one grouping or external software package link. Hundreds of tags may be grouped together for reporting and exporting purposes. GoPlant has the following predefined tag Sources available for use:

1. Display Name
2. Honeywell DynAMo
3. Hach WIMS
4. AspenTech InfoPlus.21
5. JB Systems Mainsaver
6. IBM Maximo
7. OSIsoft Pi
8. Honeywell Uniformance Process Historian (PHD)

These tag sources group the tags together for exporting via the API, reports and output to files. CSV output reports may be executed by tag Source so that all data gathered from the operators can be easily exported by date range. The tag Source also defines the type of tag displayed on the form during data entry by the operator. GoPlant currently limits the number of tag Sources to twenty (20).

The predefined **Display Name** source may be used to display unique pressure or temperature tag names for step questions.

> For example, a tag label such as “PG-1234” could be displayed if the operator needs to verify what pressure gauge he should view. When a form is attached to multiple assets, many times the same pumps will have different suction and discharge pressure gauge labels. In this case, the unique gauge label can be displayed to the operator when he answers the form for readings on each individual pump.

The tag sources are global and defined only once for the GoPlant database (across all storage groups).

- External tag sources are defined by the “Super Admin” for GoPlant (a user with the Admin role at the root level storage group).

Select the ADMIN button and choose the ‘External Tag Settings’ from the menu on the left, the window to the right updates with the External Tag Settings:

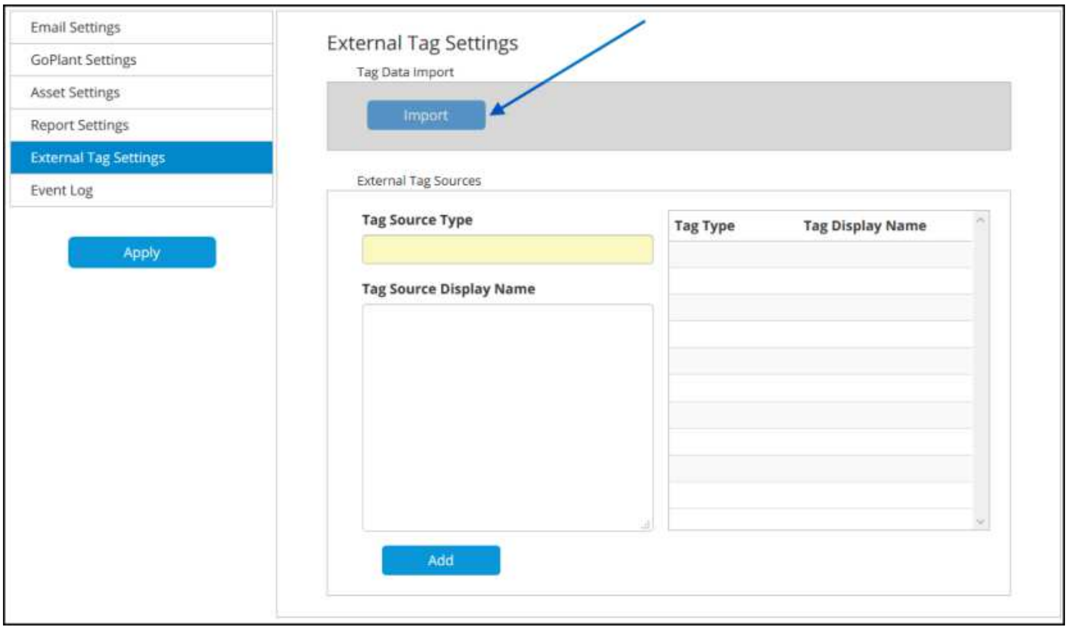



*Figure 24 Admin – External Tag Settings*

### Tag Data import

- Currently the ‘Import’ function is disabled. If there is an immediate need to bulk import tags, please contact TSG and they will assist with this process.

**External Tag Sources**

**Tag Source Type**: A unique field that is used to export and query GoPlant for the tag data. This field will update any input to force the text to be all uppercase characters with no spaces. This change is required to keep a unique identifier used by IT departments and the API functions that will be used to query GoPlant for the response data.

**Tag Display Name**: Can be updated to whatever is meaningful for end users. This display name will be used when creating and assigning external tags for this source.

As each required tag source type is defined it is added to the Tag Type/Tag Display Name list to the right and will be available for use when creating and assigning external tags:

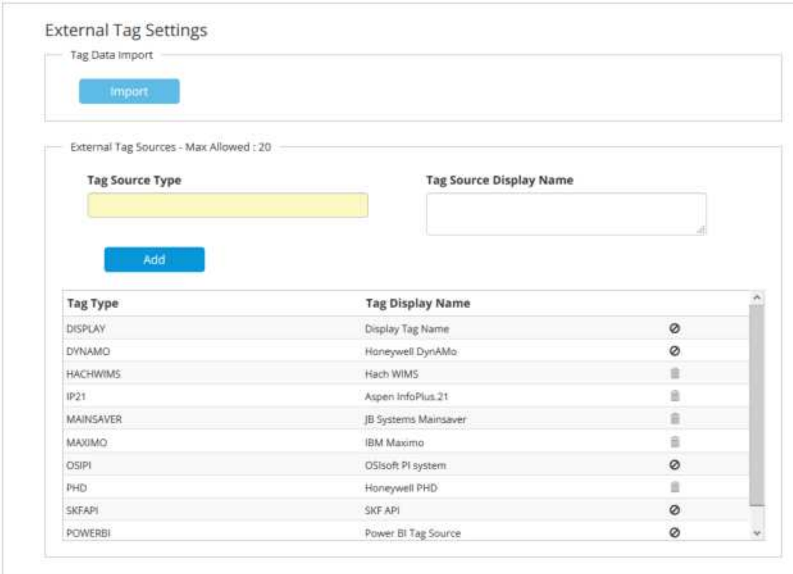



*Figure 25 Admin – External Tag Settings - Tag Type/Tag Display Name list*

In the example above, two tag source types have been registered on the system:

- ‘HACHWIMS’ doesn’t currently have any tags assigned to this tag source so it can be deleted using the trash icon.
- ‘DISPLAY’, ‘DYNAMO’ and others have tags associated and assigned so cannot be deleted, (trash icon has been replaced by function not available/blocked icon).

### 2.2.5.3 External Tags – Tag Management

Admin and/or Editor level users can manage external tags via the external tag management window (the External Tags tab). This allows for editing of both form and asset/form external tags. The tag can be assigned to form steps to label the response for that question. As forms are created for multiple assets (to save time and handle consistency), the asset is also required to ensure a unique assignment of the tag.

- Only published forms are available for external tag assignment, external tags cannot be added to unpublished steps within a form.

As always, before selecting the tab ensure that the proper storage group has been selected from the storage group tree or drop-down list.

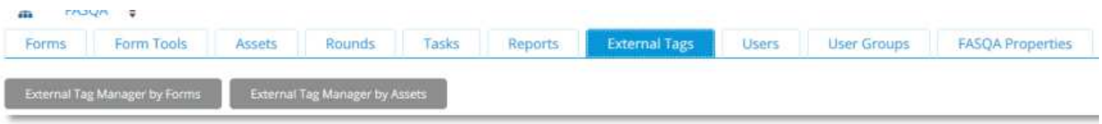



*Figure 26 External Tags tab*

Tags are assigned at the initial form or combined asset/form level: a form can have its own tags when no asset is assigned, as well as individual entries for each asset that the form is associated with.

> For example, if a form is assigned to ten liquid pumps within a plant, the form can have unique tags for each of the suction pressure question responses for those pumps. When the specific pump is added to the round, the appropriate external tag is associated with each reading taken.

Select ‘**External Tag Manager by Forms’**. The external tag manager window appears:

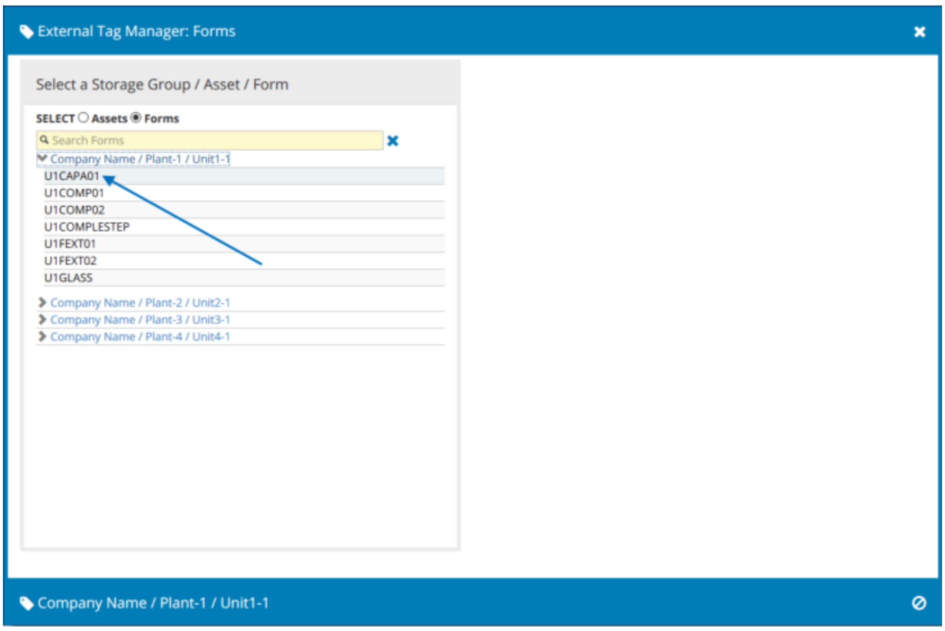



*Figure 27 External Tag Manager: Forms*

The window is designed in a split format. After choosing the asset/form combination in the upper area, the tag editor scrolls up from the bottom of the screen (header bar shown in the figure above as docked to the bottom of the panel until a form selection has been made).

➢ It is possible to switch between ‘Assets’ and ‘Forms’ at any time in the editor, using the radio button **SELECT** control.

A list of the storage groups is displayed in blue text on the left side of the screen. Expand the appropriate storage group in order to locate the specific form to assign tags to.

After having selected the appropriate form the External Tag Manager: Forms section collapses to a top header and the editor window will scroll up from the bottom of the screen:

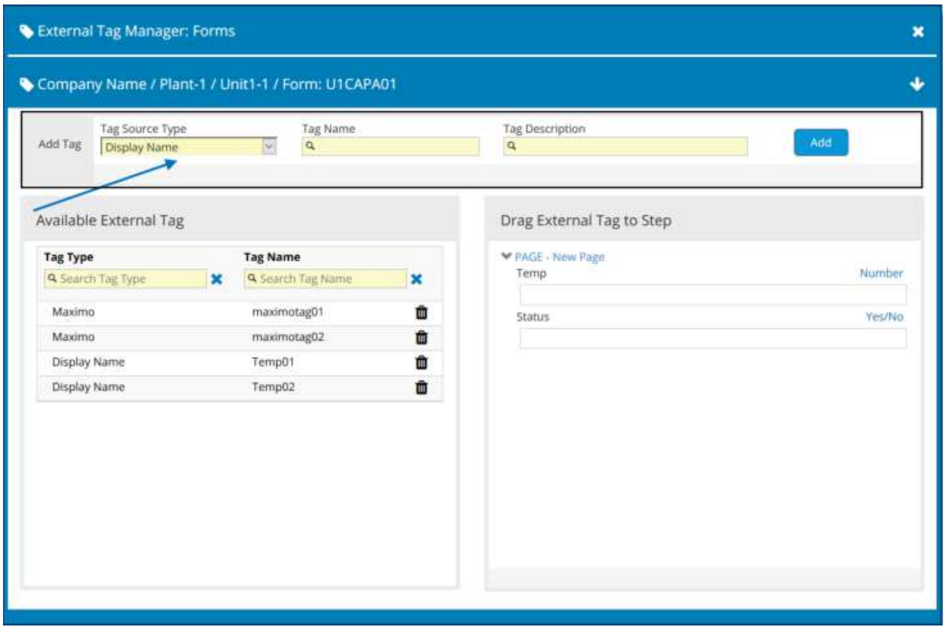



*Figure 28 External Tag Manager: Form selected, the editor window is now visible*

At the top, tags can be added for this form (**Add Tag** section). Choose the tag source from the drop-down list. To create a new tag, simply enter both the tag name and optionally a tag description. Press the blue **Add** button to add the tag.

If there are any tags loaded for this form, they will be displayed in the bottom left box area: **Available External tag**. The form pages along with step questions, response type and a drag/drop area appear on the lower right side of the screen: **Drag External Tag to Step**.

**Available External Tag**: An area that shows the tags that are available for assignment to the form step questions. By hovering over a tag, its description will appear in a tooltip text window.

- Tags may be deleted from here by clicking on the Trash can icon.
- Search fields are available to quickly locate tags by type or name.

**Drag External Tag to Step**: This area displays each page of the form in blue text. Expand the appropriate page to show the associated steps.

➢ While all steps will display, not all steps can have an external tag added. The system will not allow an assignment of a tag to a step item that would be invalid.

## 2.2.6 Reports tab

### 2.2.6.1 Introduction

The Reports tab is available to Admin and/or Editor level users. Before working with the data on this tab, ensure that the proper sub-group in the hierarchy has been selected.

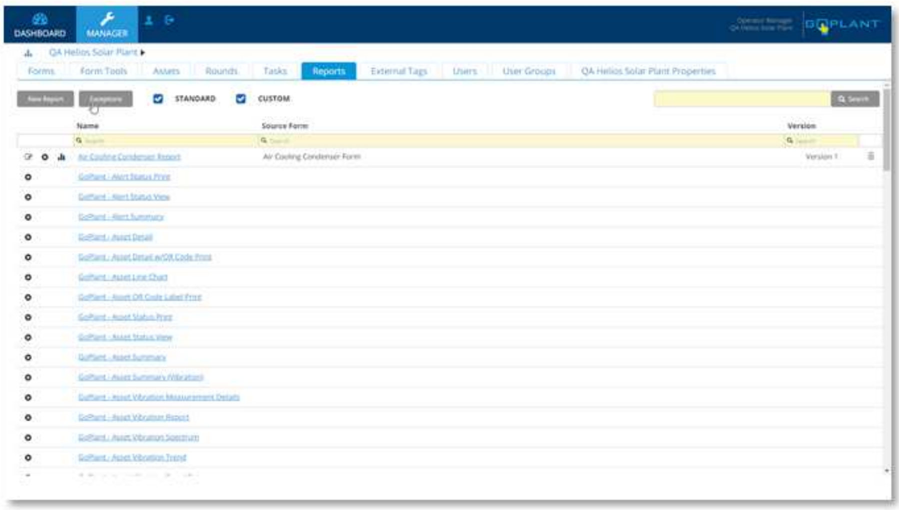



*Figure 29 Reports tab*

The Reports window contains a (potentially filtered) list of reports and associated controls:

- A **New Report** button/control.
- An **Exceptions** button/control that will launch the Exception viewer.

- **STANDARD** and/or **CUSTOM**: These are two checkbox selections to show or hide each individual report type. This filter allows for faster access to the different report types.
- **Name**: The name in blue is a clickable link that opens/runs the report. All Custom reports have icon controls for Edit, Run and create a new chart, **Standard** GoPlant report names begin with "GoPlant – " and only have the Run icon.
- Multi levels of **Search** field are available to quickly locate the required report.

### 2.2.6.2 Creating or editing a GoPlant Custom Report

Click **New Report** or for an existing custom report click on the report name. The report editor opens at the first of four tabs, the Settings tab:

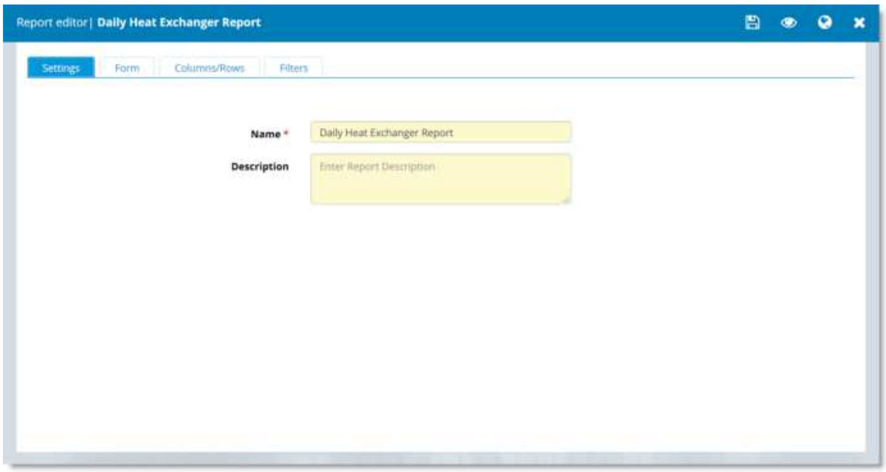



*Figure 30 Report editor: Settings tab*

The top right header bar of the editor contains common controls for working with the report:

- Save, Preview or Publish the report or **X** to close the editor window.

**Settings tab**

- **Name**: Enter the name of the Report.
- **Description**: Text to describe the report (an entry here is optional)

**Form tab**

This is where a form can be selected and added to the report, click **Add** to open a dialog to select and **Apply** the selected form(s) to the report:

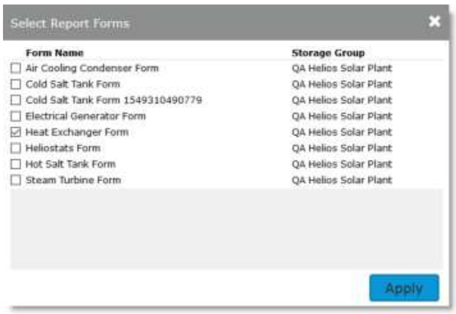



*Figure 31 Report editor: Form tab – Select/Add form*

After at least one form has been chosen the Columns/Rows and Filters tabs appear.

### Columns/Rows tab

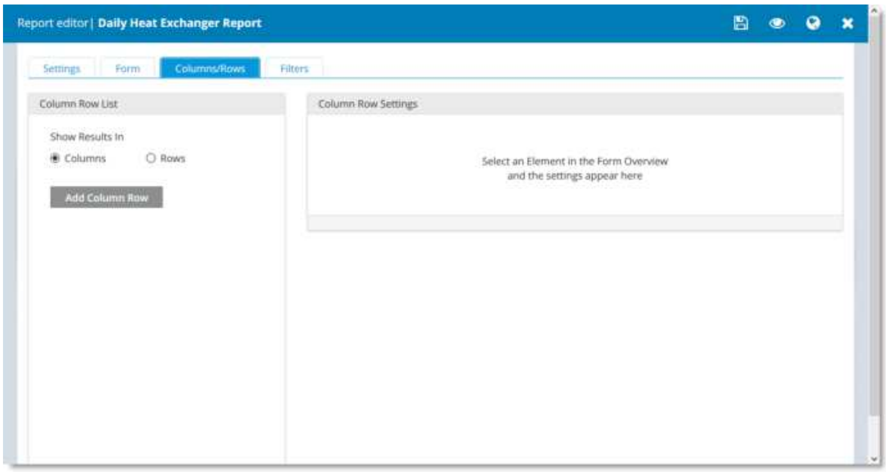



*Figure 32 Report editor: Columns/Rows tab*

There is a radio button to select whether results should be shown in columns or rows, the tab areas and controls have generic ‘Column/Row’ naming so as to apply to either selection: **Column Row List**, **Add Column Row** and **Column Row settings**.

Click **Add Column Row** to add the required step responses to the report. The Add window appears where the Step Text for each response is listed under a **Form elements** section for each form:

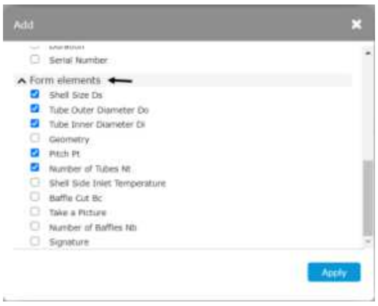



*Figure 33 Report editor: Columns/Rows tab – Add column/row dialog*

Click on the drop-down arrows to display available information relating to Task, Asset, Header and Form elements values. Check the relevant box to select a value and to add it to the report. When the selection process is complete, click **Apply**. The **Column Row List** refreshes with the values chosen.

Now click on a value in the **Column Row List** to refresh the **Column Row Settings** with data for that value and to be able to change its **Column Title** or alias:

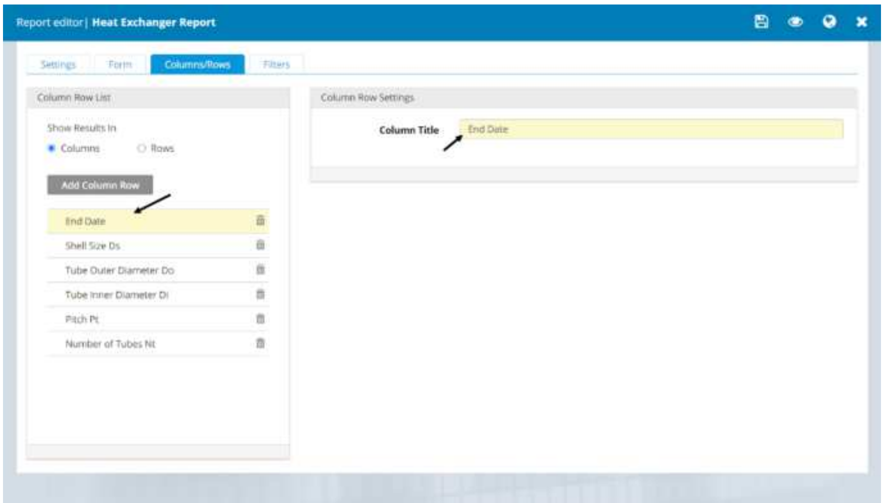



*Figure 34 Report editor: Columns/Rows tab – Changing Column Title*

If the selected item is a number step, the user can add custom colors to the cell by selecting it and clicking on **Add Formatting**:

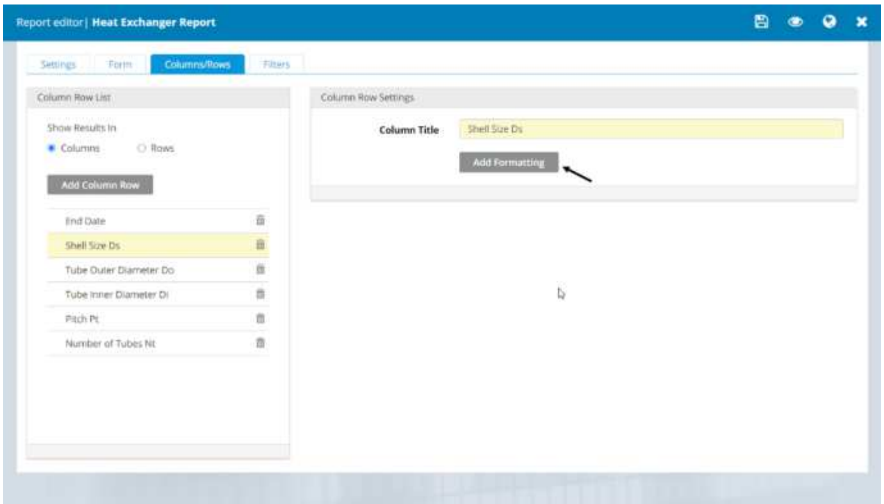



*Figure 35 Report editor: Columns/Rows tab – Add Formatting*

- ➢ If this option is not configured and the step question has an associated trigger, it will show the cell with the color that was configured in the form designer.

Then select the condition and **Format Cell as**, color:

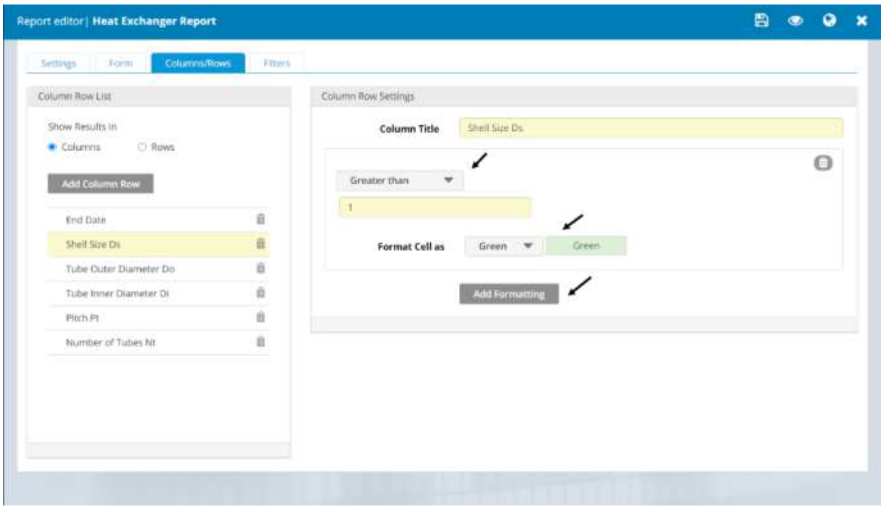



*Figure 36 Report editor: Columns/Rows tab – Adding cell formatting*

### Filters tab

The Filters tab allows the results to be filtered by set criteria, at least one filter criteria must be selected for the report to be published.

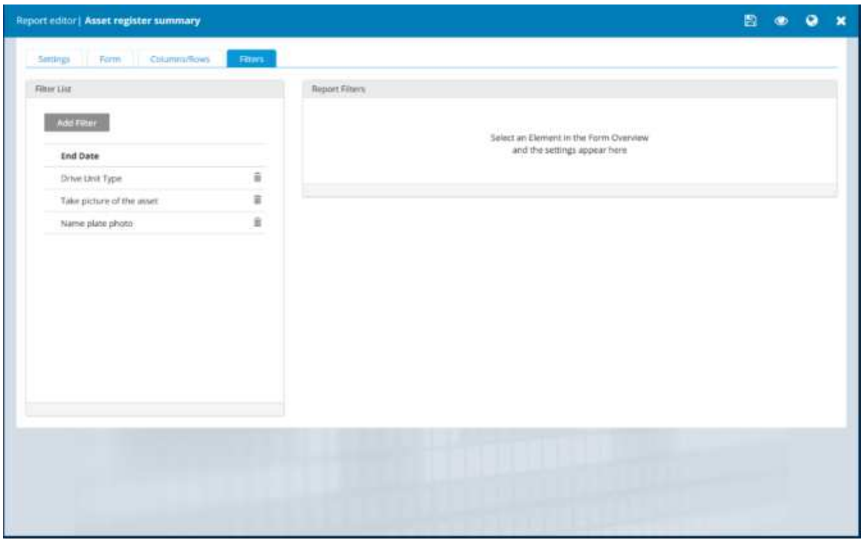



*Figure 37 Report editor: Filters tab*

Click **Add Filter** to select the filter criteria values. Use the down arrow to expand the sections and display available Task, Asset, Header, and form element values to be added as filters. Check to select that value for the report.

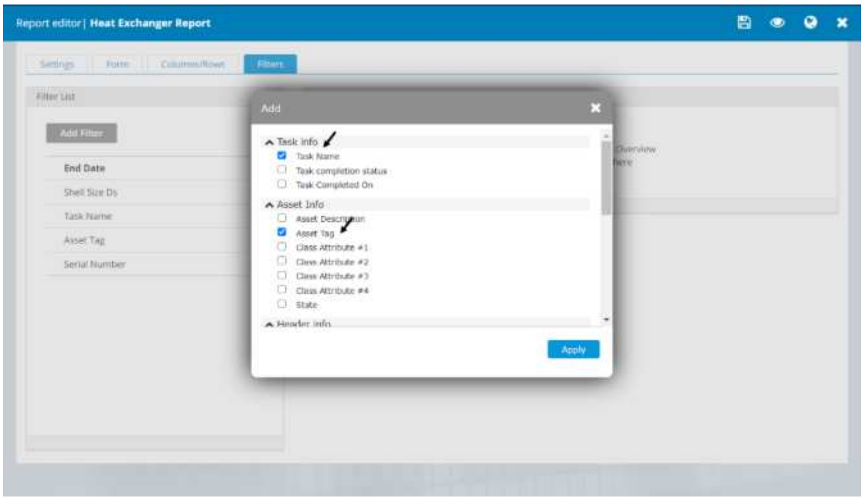



*Figure 38 Report editor: Filters tab – Add Filter*

When the selection process is complete, click **Apply**. The **Filter List** refreshes with the values chosen.

**End Date** must remain as a filter item because date range of the data is required. At a minimum the **End Date** should be selected with a default range. With the End Date highlighted, on the right choose from the drop-down a default date range.

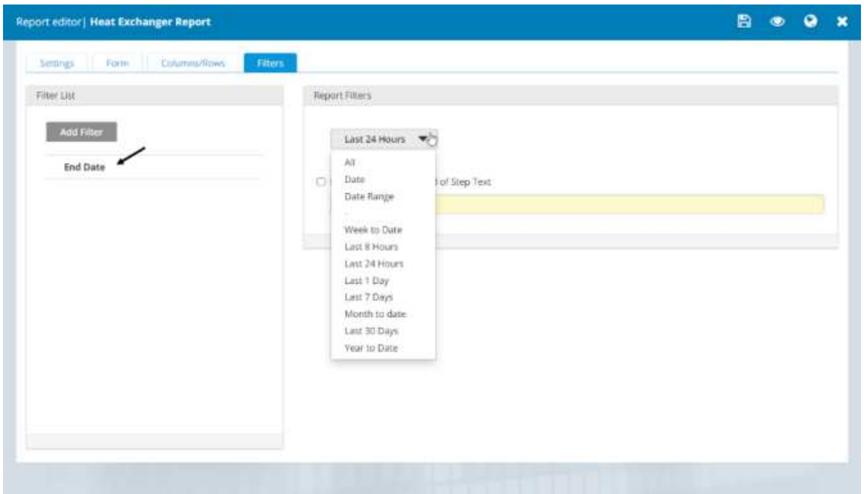



*Figure 39 Report editor: Filters tab – Example of configuring an End date filter*

Other filters may be set with defaults or left to be chosen at run time of the report.

Now to verify the filtering use the Report Editor header bar, Preview icon to display the report grid.

On the left is a report **Filters** area and on the right a **Data** area. To run the report preview, ensure one or more of the filters is appropriately configured by the drop-down selection and then press the green run icon in either the Data area header or the main dialog header. The data area then updates to show the filtered data:

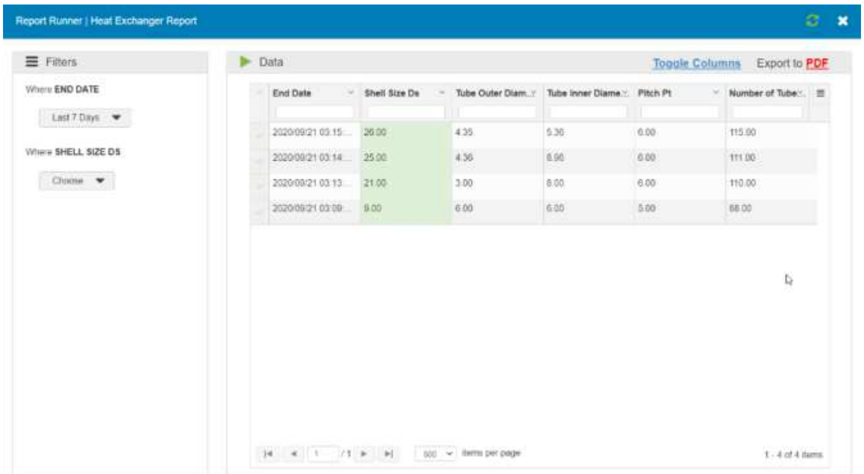



*Figure 40 Report editor: Preview – Preview has been run and data displayed*

Clicking on the hamburger icon in the left of the report **Filters** header area, will collapse that panel and allow the output data grid to take the full screen width:

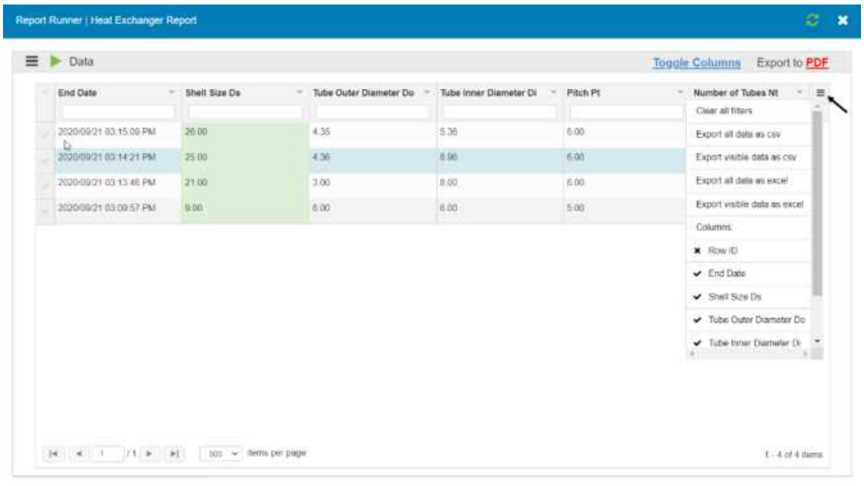



*Figure 41 Report editor: Preview – Filters area hidden*

The output data grid contains sorting and organizational features along with a menu for more choices.

- Each column has a drop-down menu that allows for sorting as ascending or descending, hiding the column, or pinning it to the left or the right side of the grid. For the latter, pin to controls, this means that the selected data column will remain there as the grid is scrolled left or right.
- As also shown above, on the right of the output data grid there is another hamburger icon that accesses a menu for controlling the output and adjusting the display:
    - **Clear all filters** will clear all changes and revert the grid back to defaults.
    - Data **Export** in CSV or Excel format is available for filtered display or all data that met the input filter criteria.
    - The report grid also allows for selecting rows and exporting just a specific selection:

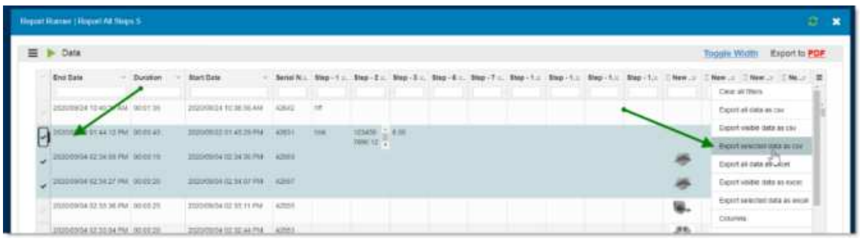



*Figure 42 Report editor: Preview – Selecting rows for export*

The report grid menu also displays all column labels and they can be turned on or off for display from this menu. To **Export to PDF,** click on the red hyperlink in the report data, header area.

The similarly located **Toggle Width** hyperlink will reduce or auto-size columns for the display. Columns may be manually adjusted and long text strings will word wrap within the row.

When done designing and previewing the report, use the header bar icons to Save or Publish it or use X to close the Report editor window.

### 2.2.6.3 Creating a GoPlant Chart

GoPlant Charts are created based upon an underlying custom report and that report must be configured with a date range in the columns chosen in order to have a horizontal axis component when creating the chart. Reports that can serve as the data collection for the chart and are therefore valid selections are denoted in the Reports tab window, Figure 29, by the 'add chart' icon to the left of the report name.

Create a new chart by selecting the chart icon next to a report in the reports window. The chart editor will open at the **Settings** tab:

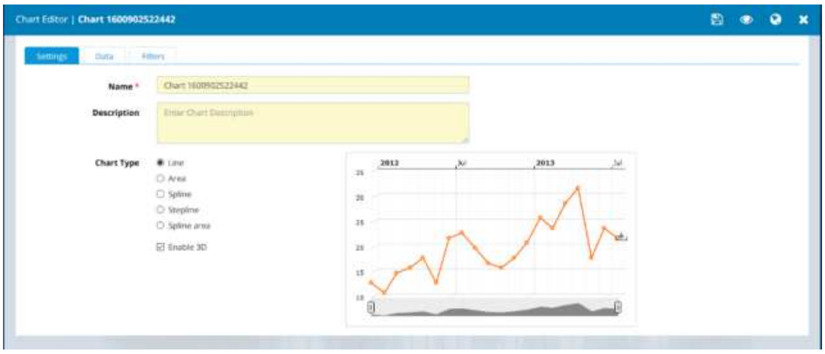



*Figure 43 Chart editor: Settings tab*

- **Settings tab**
  - **Name**: The name of the chart.
  - **Description**: Descriptive text for the chart.
  - Select the appropriate **Chart Type**. A preview of the chart appears in the Simulated Chart area.
    - **Line Chart**: Displays series as a set of points connected by a line. This type of chart is useful for trending.
- **Data tab**
  - Use this tab to select the Horizontal and Vertical axis.
  - Select from the **Horizontal** drop-down the appropriate report column to use for the horizontal axis.
  - Select the appropriate vertical option in **Computation**.

   - Check to select the applicable Numeric columns to include in the chart.
- **Filters tab**
   - Click on the filters tab to change the filter values inherited from the report for running the chart.

Finally, as appropriate and similarly to the Report Editor, use the Chart editor header bar icons to Save, Preview or Publish the chart or use **X** to close the Chart editor window.

### 2.2.7 Tasks tab

The Tasks tab is available to Admin and/or Editor level users. Tasks are scheduled round variant(s) with a **Startline** and a **Deadline** and can be assigned to user groups or individual users. For the assignees they will appear in the TASKS area on the mobile device but only when the scheduled **Startline** date/time has passed.

Tasks may contain multiple round variants or one individual round variant. Tasks are created by first determining a deadline and then picking a **Startline** and an expiration time. Tasks are created in the time zone of the storage group so when choosing dates and times, dates and times must be chosen accordingly. Tasks can be created with a recurring schedule or as a single instance.

Using the controls at the top left of the navigation bar verify that the appropriate point in the hierarchical structure of the company is selected, then select the Tasks tab:

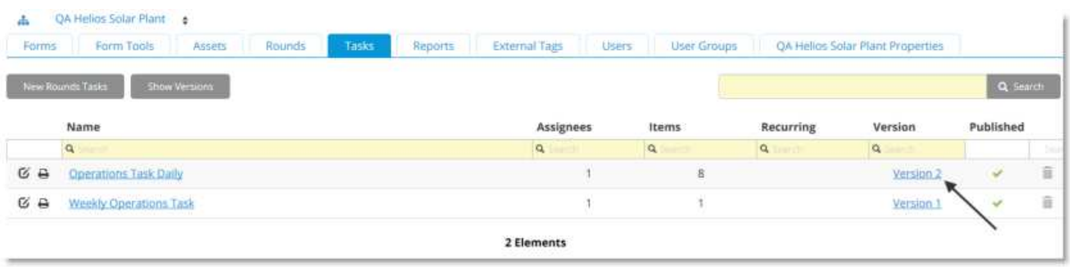



*Figure 44 Tasks tab*

The Tasks window contains a list of tasks and associated controls:

- A **New Rounds Tasks** button/control.
- A **Show Versions** button/control.
- **Name** and the **Version** in blue are clickable links that respectively open the specific task or the version/change log for that task. All tasks have icon controls for **Edit**, **Print** and **Delete**.
- At this summary level, there are columns to indicate the number of **Assignees**, of **Items** within the task, whether it is of a **Recurring** type, if it has been **Published** and the current **Version**.

- Multi levels of **Search** field are available to quickly locate the required task.

#### 2.2.7.1 Creating or editing a GoPlant Rounds Task

Click **New Rounds Tasks** or for an existing task click on its name. The task editor opens at the first of five tabs, the General tab:

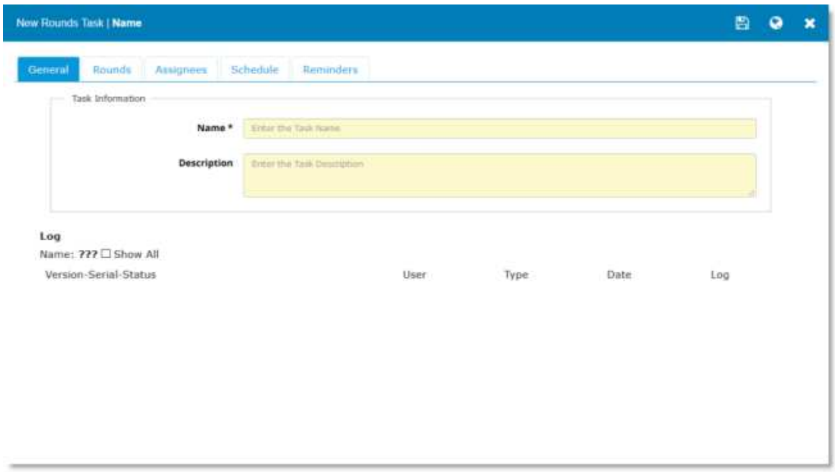



*Figure 45 Rounds Task editor: General tab*

The top right header bar of the editor contains common controls for working with the task:

- Save, Publish the task or **X** to close the editor window.

When a task has been published, the available header icons change and a create working copy icon becomes available. Note that to edit an already published task, use this icon to create a “working copy” that can be edited/changed and then select the save and publish icons when ready to publish the changes.

When republishing tasks:

- Only existing tasks that have not started will be updated (the Startline is in the future at the time it is published).
- Any task already created by the system where the Startline has passed will not be modified.
- New tasks where the Startline is now in the past will also not get created even they would have on the initial task creation.
- GoPlant mobile app will continue to show any task where the Startline has passed.
- GoPlant cannot modify a task once it is available on the mobile app.
- When editing an existing task, the deadline must be updated to a future date, as an old task cannot be republished if the deadline is in the past.

### General tab

The General tab always has the two following, Task Information fields:

- **Name**: Enter a name for the task (required).
- **Description**: Text to describe the task (an entry here is optional)

Its layout and further fields are dependent on whether version tracking for tasks is enabled on the storage group:

- When it is not, the version tracking log is displayed on this tab, example Figure 45, above. Only the latest version information is displayed unless the **Show All** checkbox is selected.
- When it is, there is also a Version Tracking area visible to the right of the Task Information area.

A further distinction arises when version tracking is enabled and the REQUIRED flag is set whereupon completion of the version tracking **Log** field becomes mandatory. This is indicated by the addition of 'Required' in red text, to the Version Tracking area name:

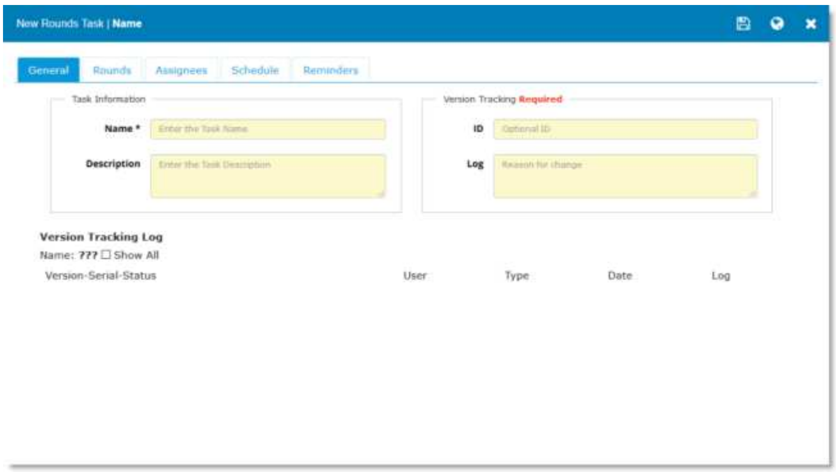



*Figure 46     Rounds Task editor: General tab – Version Tracking Required*

When the Version Tracking area is visible:

- **ID**: Enter a version tracking ID (always optional).
- **Log**: Enter a reason/log entry for the change. This is a required entry when the area is named 'Version Tracking required'.

### Rounds tab

Select the Rounds tab, this is where rounds can be selected and added to the task:

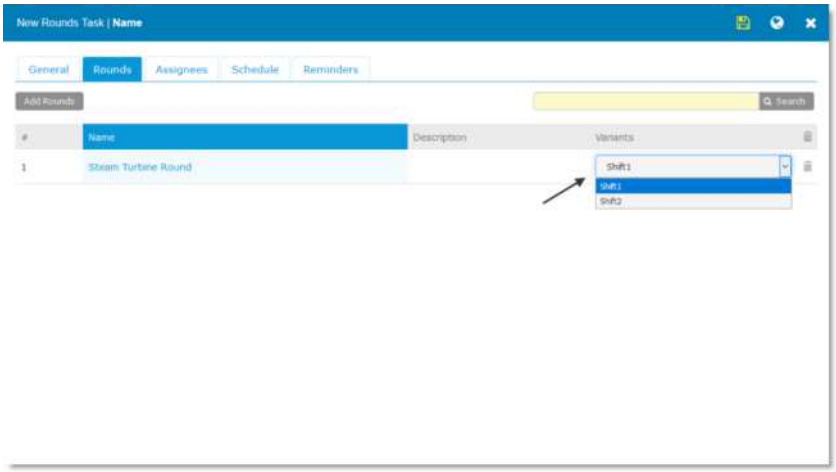



*Figure 47 Rounds Task editor: Rounds tab*

- ➢ The name of this tab may have been customized by the site admin.
- ➢ The same round can only be added a second time if a different variant is selected (example shown above, Shift1 and Shift2).
- ➢ Only round variants can be scheduled and assigned as tasks. A form must be included within a round variant before it is visible on the mobile device as well as available for scheduling with a task.

Add the required rounds to the task by selecting **Add Rounds**, the Add Rounds dialog appears:

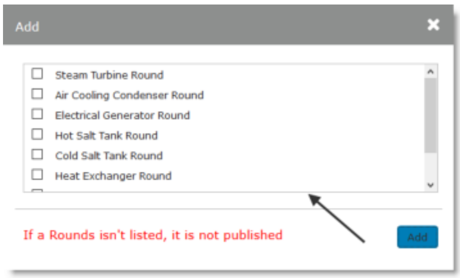



*Figure 48 Rounds Task editor: Add Rounds*

### Assignees tab

Now to add assignees to the task, select the Assignees tab:

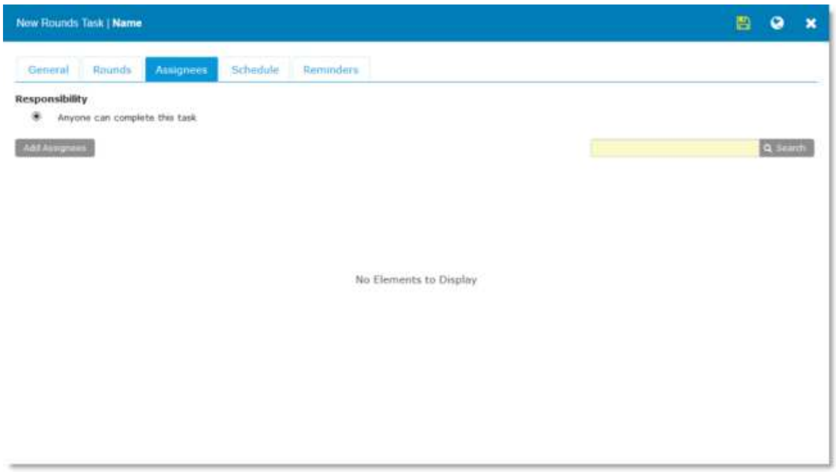



*Figure 49 Rounds Task editor: Assignees tab*

Any existing assignees will be displayed or **Add Assignees** to the task:

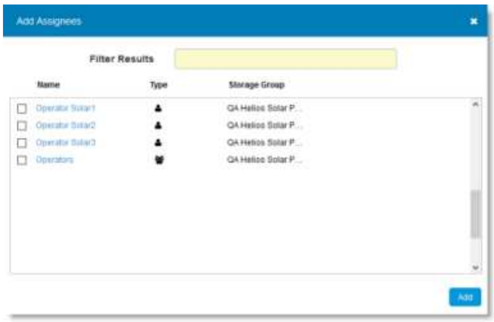



*Figure 50 Rounds Task editor: Add Assignees*

Select the assignees to assign to the task, noting the different icons for user and user group **Type**.

➢ Whilst both individual users and user groups can be added as assignees it is recommended to only use user groups as this will be beneficial for future updating and maintenance of the task.

### Schedule tab

Create the schedule on the Schedule tab:

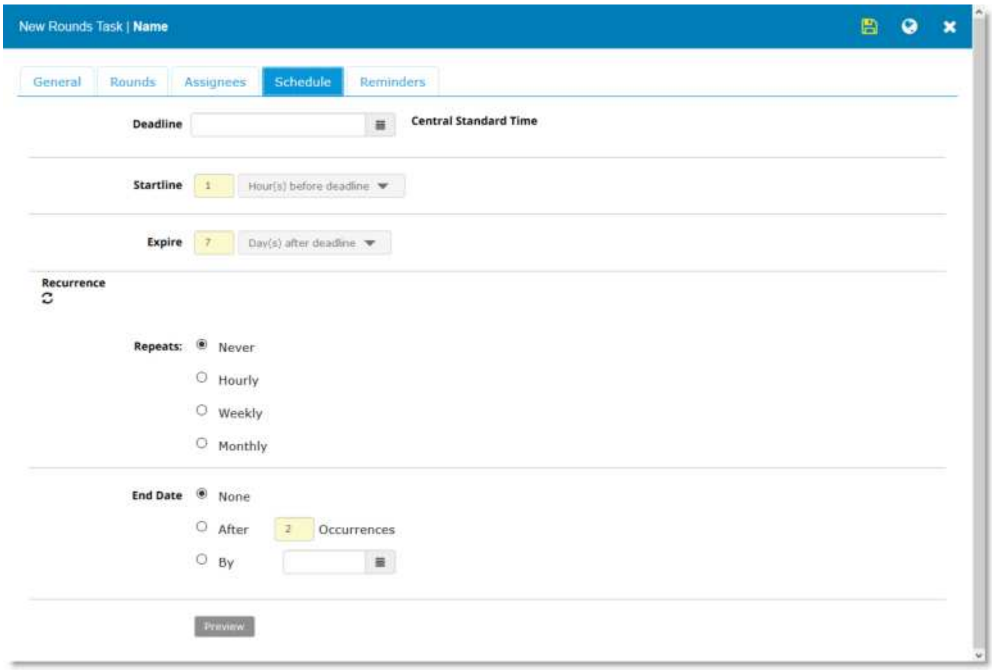



*Figure 51 Rounds Task editor: Schedule tab*

- **Deadline**: Enter the task deadline by selecting the calendar and picking a date.
  - ➢ The Deadline relates to the time zone indicated to the right of the entry box, this may well be different to the current time zone, where the creation process is ongoing.
  - ➢ The task deadline must be in the future for the task to publish.
- **Startline**: Enter the time the task should begin as a number of minutes, hours or days before the Deadline.
  - ➢ The task will not appear on the website or mobile app until the Startline has been reached.
- **Expire**: Enter a task expiry to expire as a number of minutes, hours or days after the Deadline.
  - ➢ If the task has not been started, it will no longer appear on the website or mobile app once the expiration time has been reached. Any task that was started, however, will remain open until completed or deleted.
- **Repeats**: In the recurrence area use the radio buttons to select an option for if/how often the task should repeat.
- **End Date**: Use the controls here to define when/if the recurrence should end.

There is a **Preview** button at the bottom of the window to allow the task to be reviewed. After the review, finalise the task by:

- Selecting the Reminders tab and scheduling a notification to be sent, to the assignees.
- Save the task changes using the save icon in the tab, top header bar.
- Publish the task by selecting the publish icon in the tab, top header bar.
    - ➢ Though a task is published it will only be available to the assignees once the Startline has been met.

### 2.2.7.2 Tasks tab – Version tracking

Select Show Versions, to view all tasks and their versions. It will display the version information in a print-out type format, for all tasks in the storage group (Version log by Storage Group):

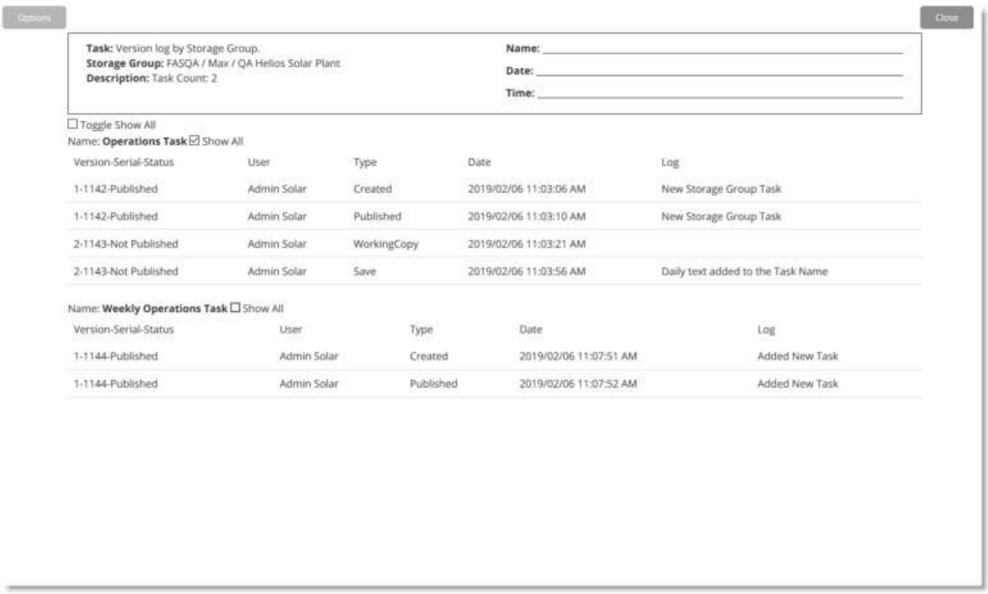



*Figure 52 Tasks: Version log by Storage Group*

To generate a similar output but for only a specific individual task, click instead on the blue **Version** name/hyperlink of the required task.

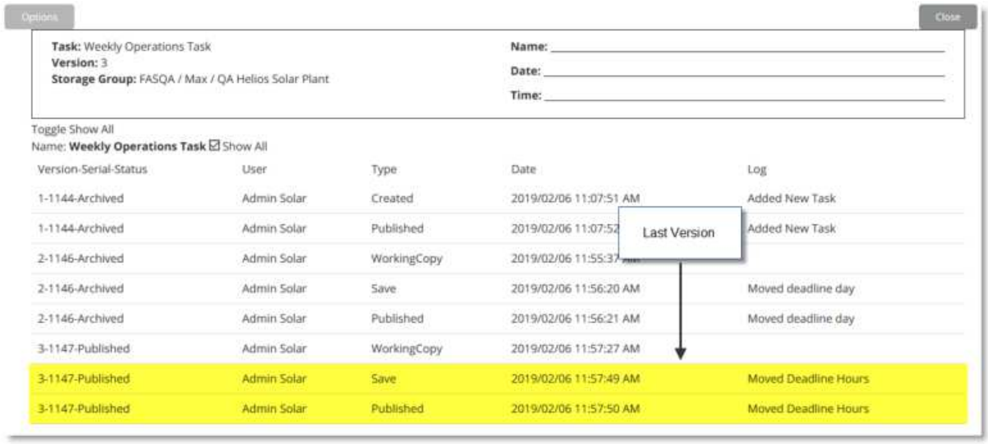



*Figure 53 Tasks: Version log for an individual task*

Both styles of output show the task version history and status including columns for displaying the **User**, **Date** and **Log** entry text for the change as well as its **Type** classification.

## 2.2.8 Rounds tab

The Rounds tab is available to Admin and/or Editor level users. The Rounds tab is used to display and manage all rounds within the storage group. Rounds can include both form and asset elements, as well as have up to four variants. Rounds are the basis for data collection and tasks on the GoPlant mobile application.

- Rounds may contain assets which are unique and only exist in one storage group, therefore although any round created at a storage group level can be copied it cannot be moved.
- The tab name is defined by the "Super Admin" (Admin role with user at the root storage group Level) in the Admin panel.

Before working with the data on this tab, ensure that the proper sub-group in the hierarchy has been selected.

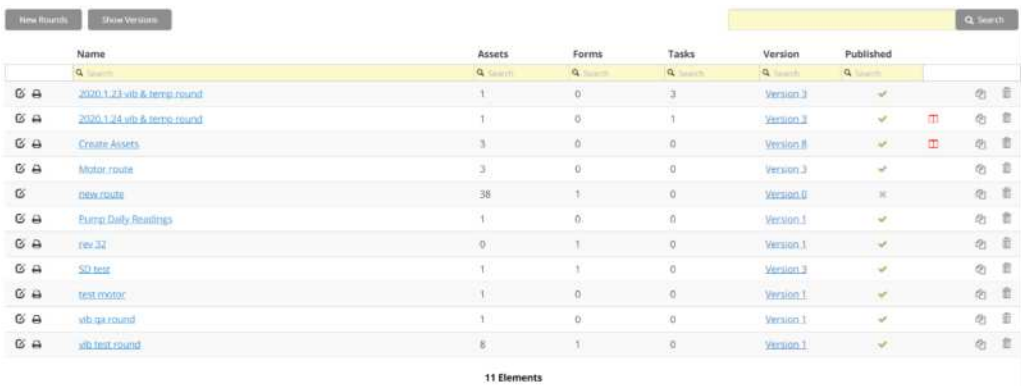



*Figure 54 Rounds tab*

The Rounds window contains a list of rounds and associated controls:

- A **New Rounds** button/control.
    - ➢ The actual button name is defined by the “Super Admin” in the Admin panel.
- A **Show Versions** button/control.
- **Name** and the **Version** in blue are clickable links that respectively open the specific round or the version/change log for that round. All rounds have icon controls for **Edit**, **Print**, **Copy** and **Delete**. Where rounds have been published and already have a working copy, this is denoted by the red working copy icon (in the column between ‘Published’ and the copy icon). Selecting its icon opens the working copy for viewing or editing.
- At this summary level, there are columns to indicate the number of associated **Assets**, **Forms** and **Tasks**, it’s current **Version** and whether it has been **Published**.
- Multi levels of **Search** field are available to quickly locate the required round.

### 2.2.8.1 Creating or editing a GoPlant Rounds Round

Click on the **New Rounds** button or for an existing round, click on its name. The **Rounds Designer** opens at the first of three tabs, the General tab:

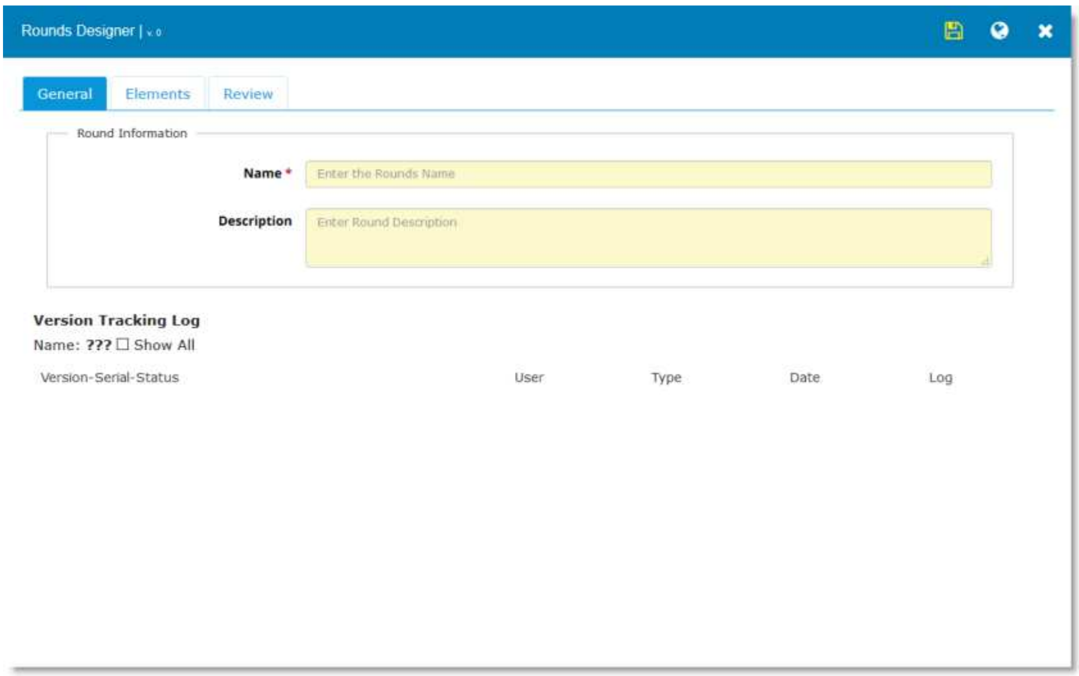



*Figure 55 Rounds Designer: General tab*

The top right header bar of the designer contains common controls for working with the round:

- Save, Publish the round or **X** to close the designer window.

When a round has been published, the available header icons change and a create working copy icon becomes available. Note that to edit an already published round, use this icon to create a “working copy” that can be edited/changed and then select the save and publish icons when ready to publish the changes.

**General tab**

The General tab always has the two following, Round Information fields:

- **Name**: Enter a name for the round (required).
- **Description**: Text to describe the round (an entry here is optional)

Its layout and further fields are dependent on whether version tracking for rounds is enabled on the storage group:

- When it is not, the version tracking log is displayed on this tab, example Figure 55, above. Only the latest version information is displayed unless the **Show All** checkbox is selected.
- When it is, there is also a Version Tracking area visible to the right of the Round Information area.

A further distinction arises when version tracking is enabled and the REQUIRED flag is set whereupon completion of the version tracking **Log** field becomes mandatory. This is indicated by the addition of ‘Required’ in red text, to the Version Tracking area name:

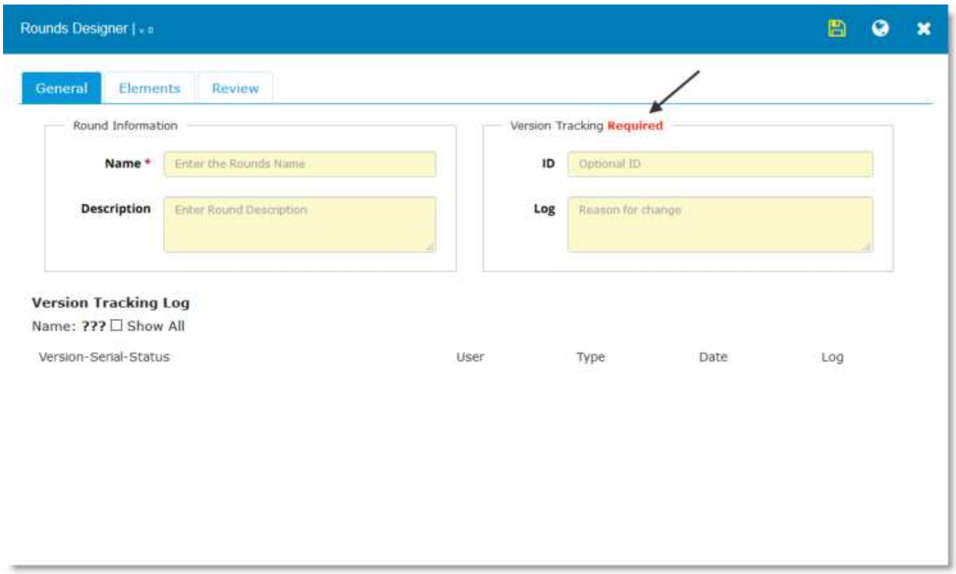



*Figure 56 Rounds Designer: General tab – Version Tracking Required*

When the Version Tracking area is visible:

- **ID**: Enter a version tracking ID (always optional).
- **Log**: Enter a reason/log entry for the change. This is a required entry when the area is named ‘Version Tracking required’.

### Elements tab

The Elements tab is where assets and/or forms are added to the round. Any number of assets along with forms can be added:

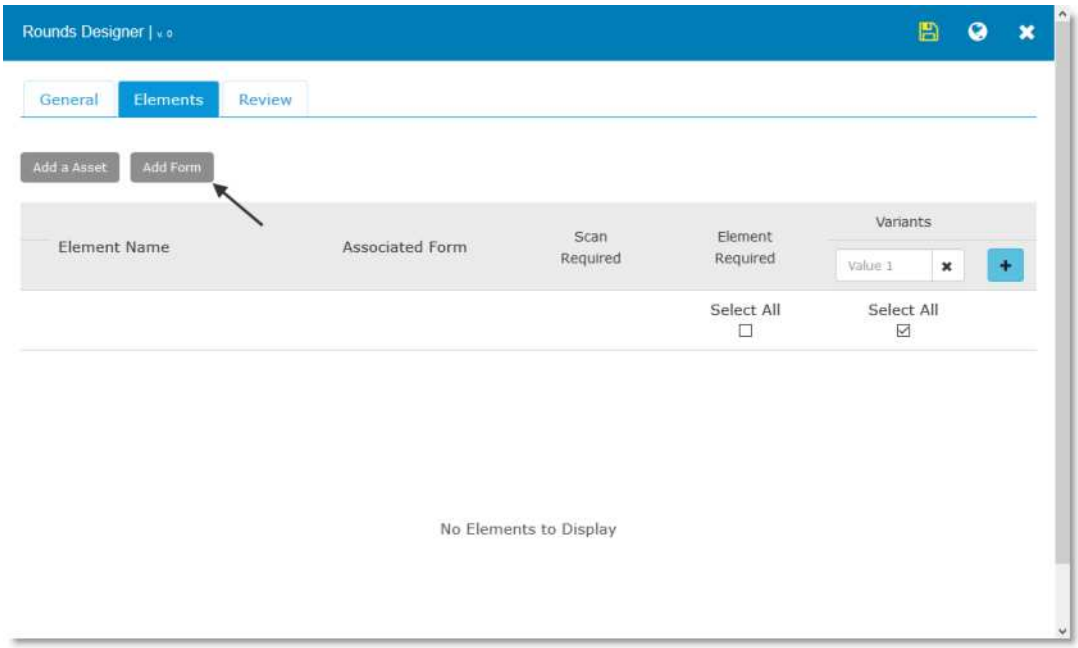



*Figure 57 Rounds Designer: Elements tab (empty)*

Add forms to the round by using the **Add Form** button to launch the dialog, select the desired forms and when finished press the **Add** button:

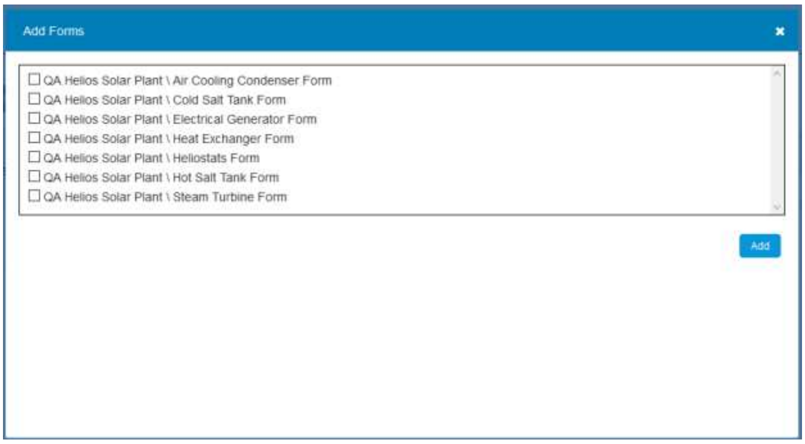



*Figure 58 Rounds Designer: Elements tab – Add Forms dialog*

In Rounds Designer, added forms are available as elements and become available for selection/association with an asset element.

Add asset elements to the round by using the **Add a Asset** button to launch the dialog:

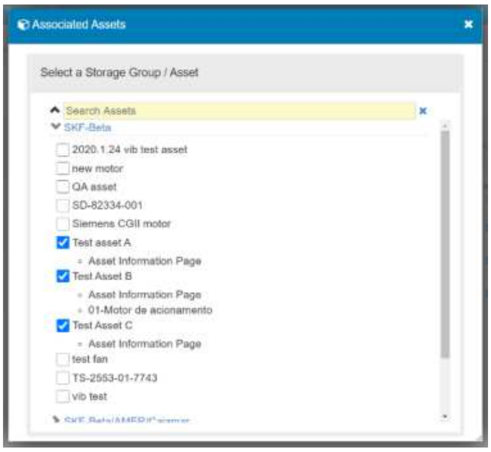



*Figure 59 Rounds Designer: Elements tab – Associated Assets dialog*

The asset element hierarchy is shown, expand the element list as required and use the checkboxes to add/associate the relevant assets. A search bar is available to assist in locating specific assets. Once all required assets have been selected, close the dialog.

The Elements tab will now be updated with the added assets and forms:

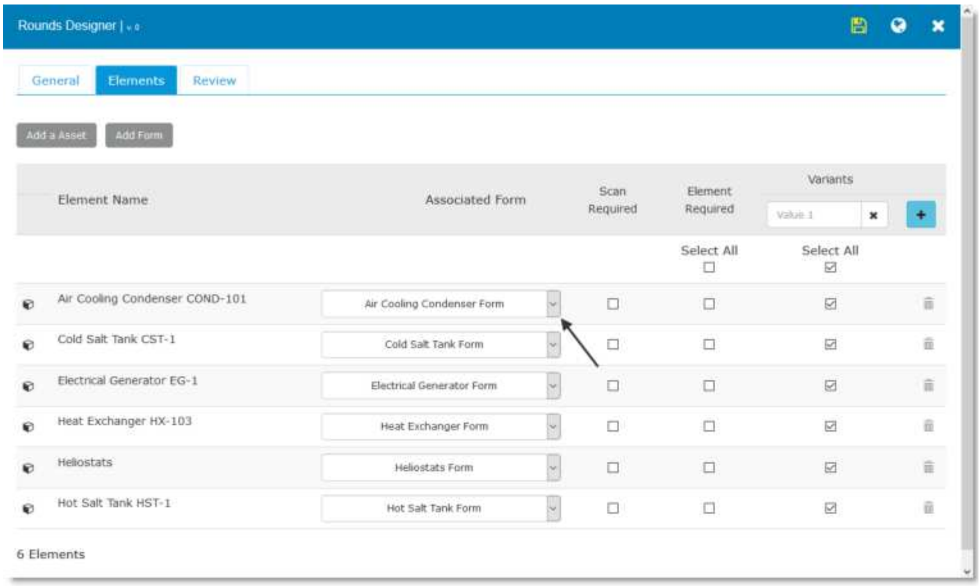



*Figure 60 Rounds Designer: Elements tab (with asset element content)*

The elements will be listed in the **Element Name** column, one per row with an initial icon indicating whether this element is an asset or a form. The added forms will also be available in the **Associated Form** drop-downs, for each asset.

- For each asset element, use those drop-downs to select the required associated form.
- Remove any unwanted elements (including any unwanted form only entries) using the individual trash can icons.

Other controls on the tab are as follows:

- **Scan Required**: When enabled will enforce asset tag scanning to confirm the asset identity.
  - This setting/column is not available for any ‘form only’ elements in the round.
  - By enforcing the operator to scan an asset’s barcode or QR code (all devices) or NFC/RFID Tags (Android devices with that option), the operator will only be allowed to collect data after a valid scan of that asset is performed.
- **Element Required**: When enabled this requires that this element be completed before the round can be completed. Setting elements that are required will force the operator to finish and commit the round element before completing the entire round.
- **Variants**: Add a variant name in the header field and select the elements to be included in that (round) variant. Use the “+” button to add more variants to the round (up to a maximum of 4).

- The user must name each variant and select the elements to be used within each. Select or deselect elements from each variant based on the instance that is being configured.
- A variant is a variation of a round that enables or disables different assets and form elements. As usage examples:
  - Variants may relate to shifts such as Shift 1, Shift 2, Shift 3 and Shift 4. Equipment checked in shift 1 may not be checked in shift 2.
  - Variants may also be used for the status or state of the equipment to be checked. One variant may be for “Running” and another for the “Out of Service” or “Standby” condition.
  - The use of variants allows one round with typical asset/forms or forms to be utilized up to 4 different ways. This reduces the need to create a new round for every application.
- Variants define the elements that are visible when the end user opens the round on the mobile device or website. The variant allows a single round to have 4 different sets of elements that display and are available for data entry.

**Review tab**

The Review tab is where round reviews are enabled:

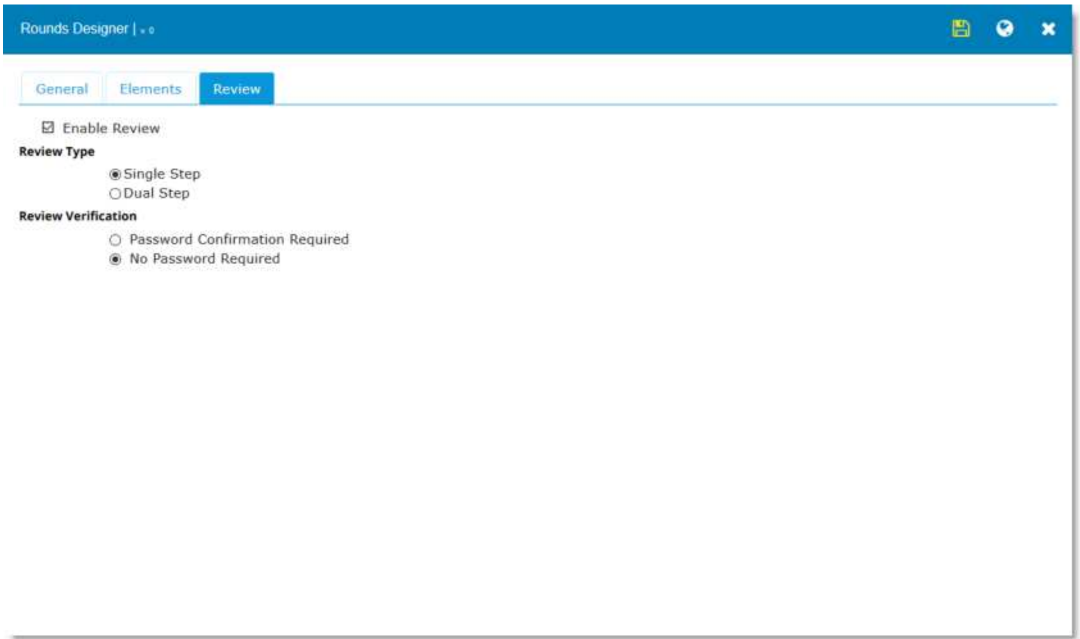



*Figure 61 Rounds Designer: Review tab*

After selecting the **Enable Review** control, the review controls appear.

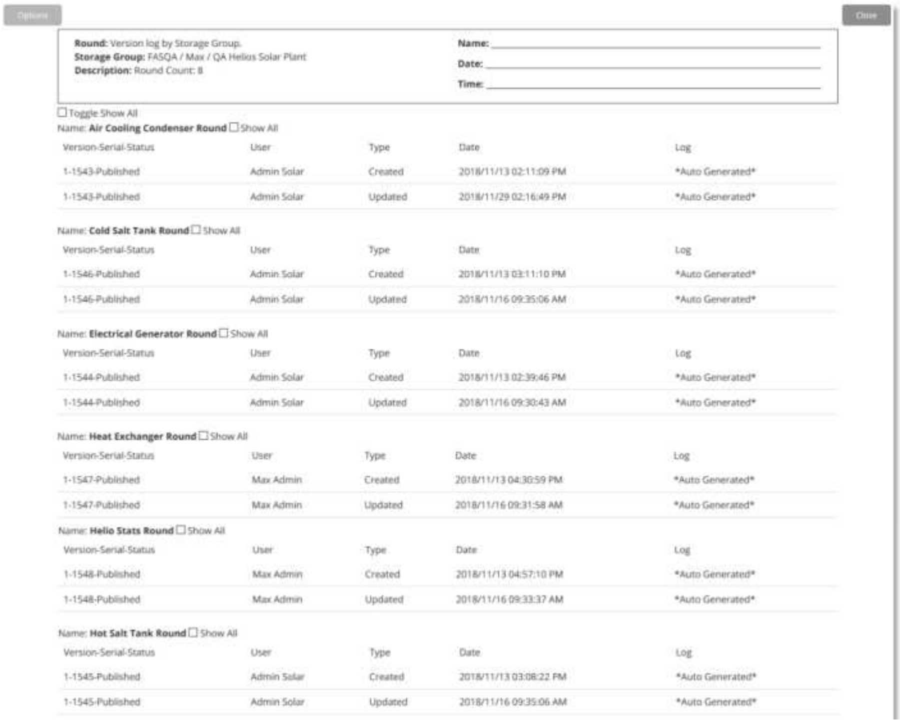
- **Review Type**: Rounds can have either a **Single Step** or a **Dual Step** review.
  - A **Single Step** review allows for a single reviewer to perform the review, whereas a **Dual Step** review requires two reviewers to accept the round before the review status is considered complete.
- **Review Verification**: Is a means of enabling verification/authentication for the review process.
  - **Password Confirmation Required** enforces the reviewer(s) to re-enter their password to providing a secure authentication method for the review.

Save the round and then publish it using the icons in the tab, top header bar.

- Once a round is published it will be available to all users that have access through the storage groups.
- Only published rounds are available on the mobile device.
- When a round has been published, the available header icons change and a create working copy icon becomes available. To edit an already published round, use this icon to create a "working copy" that can be edited/changed and then select the save and publish icons when ready to publish the changes.

#### 2.2.8.2 Rounds tab – Version tracking

Select Show Versions, to view all rounds and their versions. It will display the version information in a print-out type format, for all rounds in the storage group (Version log by Storage Group):



Options

Close

**Round:** Version log by Storage Group.
**Storage Group:** FASQA / Max / QA Helios Solar Plant
**Description:** Round Count: 8

**Name:** ______
**Date:** ______
**Time:** ______

☐ Toggle Show All

Name: **Air Cooling Condenser Round** ☐ Show All

| Version-Serial-Status | User | Type | Date | Log |
|---|---|---|---|---|
| 1-1543-Published | Admin Solar | Created | 2018/11/13 02:11:09 PM | *Auto Generated* |
| 1-1543-Published | Admin Solar | Updated | 2018/11/29 02:16:49 PM | *Auto Generated* |

Name: **Cold Salt Tank Round** ☐ Show All

| Version-Serial-Status | User | Type | Date | Log |
|---|---|---|---|---|
| 1-1546-Published | Admin Solar | Created | 2018/11/13 03:11:10 PM | *Auto Generated* |
| 1-1546-Published | Admin Solar | Updated | 2018/11/16 09:35:06 AM | *Auto Generated* |

Name: **Electrical Generator Round** ☐ Show All

| Version-Serial-Status | User | Type | Date | Log |
|---|---|---|---|---|
| 1-1544-Published | Admin Solar | Created | 2018/11/13 02:39:46 PM | *Auto Generated* |
| 1-1544-Published | Admin Solar | Updated | 2018/11/16 09:30:43 AM | *Auto Generated* |

Name: **Heat Exchanger Round** ☐ Show All

| Version-Serial-Status | User | Type | Date | Log |
|---|---|---|---|---|
| 1-1547-Published | Max Admin | Created | 2018/11/13 04:30:59 PM | *Auto Generated* |
| 1-1547-Published | Max Admin | Updated | 2018/11/16 09:31:58 AM | *Auto Generated* |

Name: **Helio Stats Round** ☐ Show All

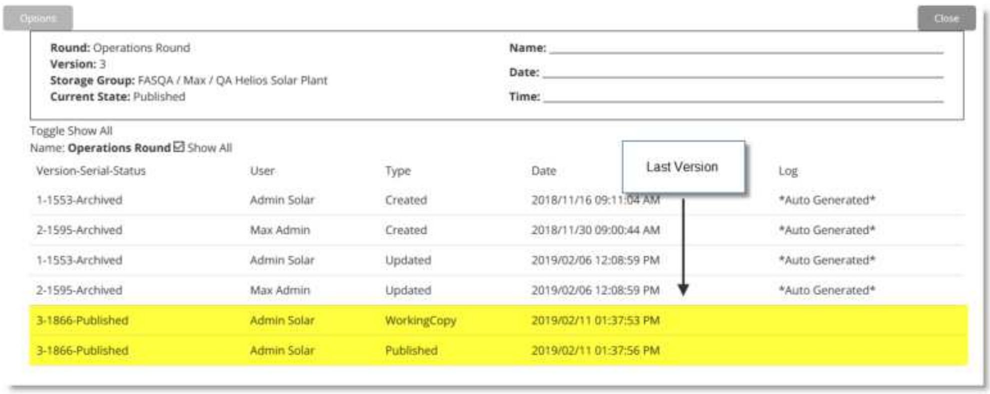
| Version-Serial-Status | User | Type | Date | Log |
|---|---|---|---|---|
| 1-1548-Published | Max Admin | Created | 2018/11/13 04:57:10 PM | *Auto Generated* |
| 1-1548-Published | Max Admin | Updated | 2018/11/16 09:33:37 AM | *Auto Generated* |

Name: **Hot Salt Tank Round** ☐ Show All

| Version-Serial-Status | User | Type | Date | Log |
|---|---|---|---|---|
| 1-1545-Published | Admin Solar | Created | 2018/11/13 03:08:22 PM | *Auto Generated* |
| 1-1545-Published | Admin Solar | Updated | 2018/11/16 09:35:06 AM | *Auto Generated* |

*Figure 62 Rounds: Version log by Storage Group*

To generate a similar output but for only a specific individual round, click instead on the blue **Version** name/hyperlink for the required round.



Options

Close

**Round:** Operations Round
**Version:** 3
**Storage Group:** FASQA / Max / QA Helios Solar Plant
**Current State:** Published

**Name:** ______
**Date:** ______
**Time:** ______

Toggle Show All

Name: **Operations Round** ☑ Show All

Last Version

| Version-Serial-Status | User | Type | Date | Log |
|---|---|---|---|---|
| 1-1553-Archived | Admin Solar | Created | 2018/11/16 09:11:04 AM | *Auto Generated* |
| 2-1595-Archived | Max Admin | Created | 2018/11/30 09:00:44 AM | *Auto Generated* |
| 1-1553-Archived | Admin Solar | Updated | 2019/02/06 12:08:59 PM | *Auto Generated* |
| 2-1595-Archived | Max Admin | Updated | 2019/02/06 12:08:59 PM | *Auto Generated* |
| 3-1866-Published | Admin Solar | WorkingCopy | 2019/02/11 01:37:53 PM | |
| 3-1866-Published | Admin Solar | Published | 2019/02/11 01:37:56 PM | |

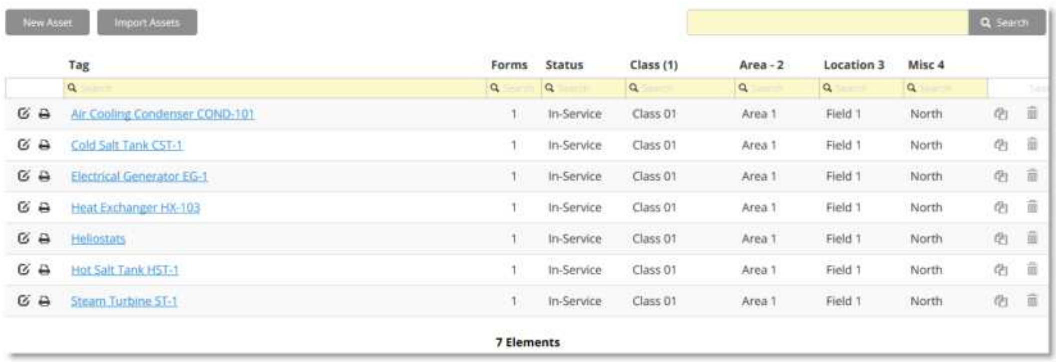
*Figure 63 Rounds: Version log for an individual round*

Both styles of output show the round's version history and status including columns for displaying the **User**, **Date** and **Log** entry text for the change as well as its **Type** classification.

## 2.2.9 Assets tab

This is used to create, edit and display all assets within the group hierarchy structure and show their status. Forms are assigned to assets so that one data collection template may be used across hundreds of assets. While performing rounds, there is support for asset scanning to quickly display the proper data collection form to the operator for a specific asset.

Using the controls at the top left of the navigation bar verify that the appropriate point in the hierarchical structure of the company is selected, then select the Assets tab:




| Tag | Forms | Status | Class (1) | Area - 2 | Location 3 | Misc 4 |
|---|---|---|---|---|---|---|
| Air Cooling Condenser COND-101 | 1 | In-Service | Class 01 | Area 1 | Field 1 | North |
| Cold Salt Tank CST-1 | 1 | In-Service | Class 01 | Area 1 | Field 1 | North |
| Electrical Generator EG-1 | 1 | In-Service | Class 01 | Area 1 | Field 1 | North |
| Heat Exchanger HX-103 | 1 | In-Service | Class 01 | Area 1 | Field 1 | North |
| Heliostats | 1 | In-Service | Class 01 | Area 1 | Field 1 | North |
| Hot Salt Tank HST-1 | 1 | In-Service | Class 01 | Area 1 | Field 1 | North |
| Steam Turbine ST-1 | 1 | In-Service | Class 01 | Area 1 | Field 1 | North |

*Figure 64 Assets tab*

The Assets window contains a list of assets and associated controls:

- A **New Asset** button/control.
- An **Import Assets** button/control.
- **Name** in blue is a clickable link that open the specific asset. All assets have icon controls for **Edit**, **Print, Copy** and **Delete**.
- At this summary level, there are columns to indicate the number of **Forms**, the asset **Status**, **Class**, **Area**, **Location** and a final **Misc** location descriptor.
  - ➢ Naming of these last four columns may be changed at a system admin level.
- Multi levels of **Search** field are available to quickly locate the required asset.

### 2.2.9.1 Creating or editing a GoPlant Asset

Click **New Asset** or for an existing asset click on its name. The asset editor opens:

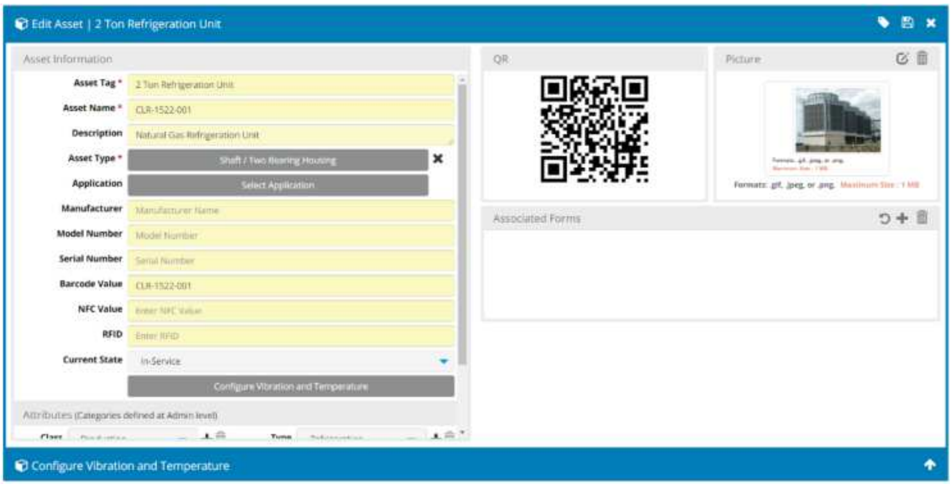



*Figure 65 Asset editor*

The top right header bar of the editor contains common controls for working with the asset:

- Tag, Save or **X** to close the editor window.

In the Asset Information area:

- Enter a unique Asset ID in **Asset Tag** (This is required, the remaining fields are optional).
- Enter the **Asset Name**.
- Enter the descriptive text in the **Description** field.
- Choose an **Asset Type** from the **Select Asset Type** button.
- Choose an **Application** from the **Select Application** button.
- Enter the manufacturer's name in **Manufacturer**.
- Enter a **Model Number**.
- Enter the **Serial Number**.
- Enter the barcode or QR code of the asset in **Barcode Value** (Optional but recommended).
  - Barcodes are case sensitive and do not accept special double-byte characters.
  - The **Barcode Value** is a unique value associated with the asset and defines the QR code image. If the **Barcode Value** is changed, the QR code image will change as well. Changing this value after having printed or created tags for the equipment will require an update of the physical tags on the machinery.

- Enter the NFC code of the asset in **NFC Value**. The NFC value can be the unique address of the NFC tag or defined as the information written to the NFC tag. When using the Serial # of the tag all lowercase letters must be used.
  - ➢ The NFC Value is a unique value associated with the asset and defines the NFC Tag of the asset.
- Enter the RFID code of the asset in **RFID Value**. The RFID value can be the unique address of the RFID tag or defined as the information written to the RFID tag.
  - ➢ The RFID Value is a unique value associated with the asset and defines the RFID Tag of the asset.
- Choose an asset state in the **Current State** field.
  - ➢ The default states can be changed by the Super Admin user in the System Admin tool.
- Select the attribute from the drop-down(s) for the attribute types defined in System Admin or add a new attribute by selecting the + and typing in the attribute value.
  - ➢ The default attributes types (Class, Type, Area and Location) can be changed by the Super Admin user in the System Admin tool.
- **Picture**: Attach an optional .gif, .jpeg or .png image by browsing to and selecting this file.
  - ➢ Adding large numbers of images will affect the Sync speed of the mobile device. Images also affect the storage available on iOS devices and may cause issues with completing Rounds in the field.
- Add an **Associated form** by clicking on and selecting a published form. This makes the asset available to have its state changed in a Form Step as a triggered response, as well as allows GoPlant to automatically maintain any asset information when the operator collects data on an asset within a round.
  - ➢ An associated form can only be added if the form has been published.

The asset editor will display the **Configure Vibration and Temperature** button and menu bar at the bottom of the window if the vibration sensor capabilities are enabled. Refer to the **Enable Vibration and Temperature Feature** control and associated note in User Settings.

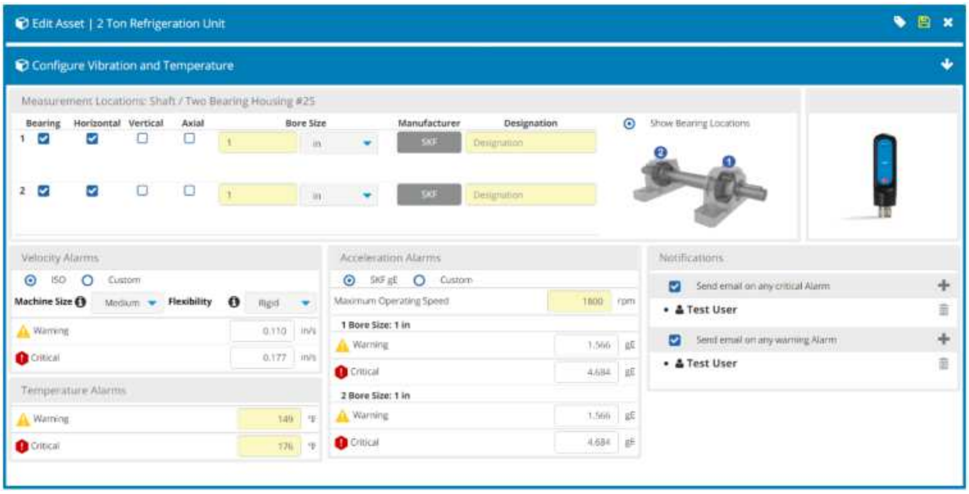



*Figure 66 Configure Vibration and Temperature window – Two bearing/point example*

The number of bearing measurement points shown on the configuration window is based on the **Asset Type** selected. If there are not enough measurement points available, then select a different asset type.

- For each bearing, measurements in up to 3 separate planes are supported – **Horizontal**, **Vertical** and **Axial**.
- Settings for each point apply to the row selected.
- **Bore Size** for each bearing is a required value and is used for setting ISO and SKF gE alarming defaults. It may be specified in either Imperial or Metric units, independently of the storage group settings.
- The **Show Bearing Locations** radio button will toggle the visual display to depict the approximate measurement locations for a user.
    - It is recommended that tags or labels be placed on the physical equipment in order to standardize the readings. Each reading must take place at the same location in order for the values to create a proper trend of equipment operational values.
- Alarm sections are available for each of the three readings taken with the Pulse / QuickCollect sensor – Velocity, Acceleration, and temperature.
    - **Machine Size** and **Flexibility** must be set up properly as these two drop down selections affect the calculation of ISO and SKF gE alarm levels. Defaults have been provided for ease of use.
    - Units of measure in Imperial or Metric can be adjusted at the storage group level or per user.
- The **Notifications** area allows for emails to be sent to user or user groups for the warning or critical alarms set. If notifications are not set the values will still be colorized in GoPlant standard and custom reports.

Click to save the asset or click X to cancel creating the asset.

#### 2.2.9.2 Importing a GoPlant Asset

Assets are imported into one storage group at a time via a comma separated value (CSV) file template.

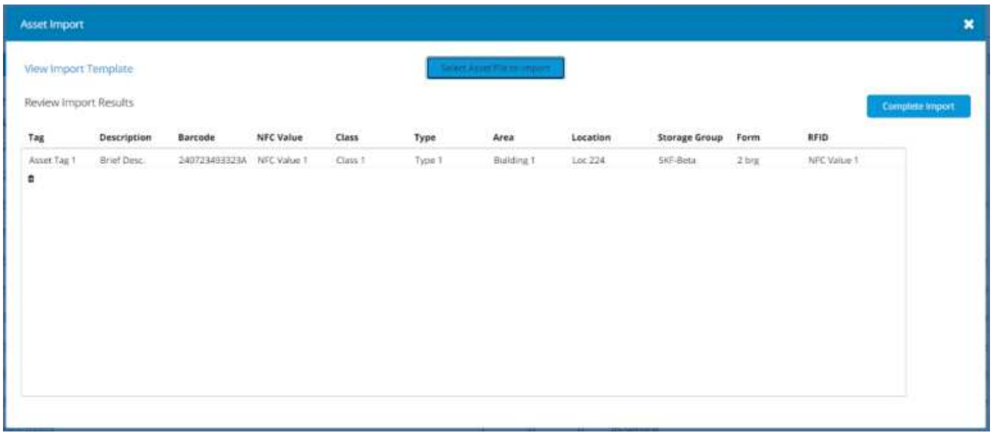



*Figure 67 Asset Import*

A CSV file template with example text etc. can be downloaded via the **View Import Template** blue hyperlink, in the upper left hand corner of the Asset Import dialog.

After creating the data in the template and removing the demo data and instructions, the file can be loaded via the **Select Asset File to Import** button. GoPlant will load the information into the Asset Import window for review to ensure all information looks correct.

The Asset import may be used to add Forms to multiple assets at one time. The import is an update or add type in that it will not duplicate assets but will update the information for each column if the asset already exists.

### 2.2.10 Form Tools tab

The Form Tools tab contains functions that Admin or Editor roles can use to simplify form creation. These functions include **Document display**, **Visibility Defaults** and two column **Lookup Tables**. This area is also used to upload/link training or company documentation to be used for reference inside a form:

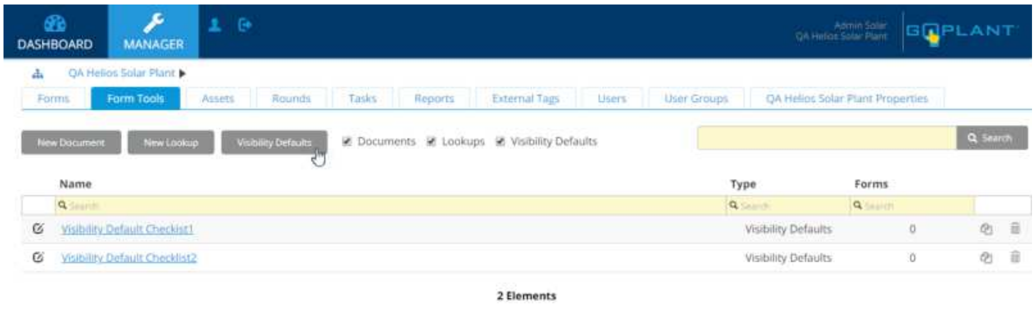



*Figure 68 Form tools tab*

### 2.2.10.1 New document

The **New Document** button brings up the Document Designer window:

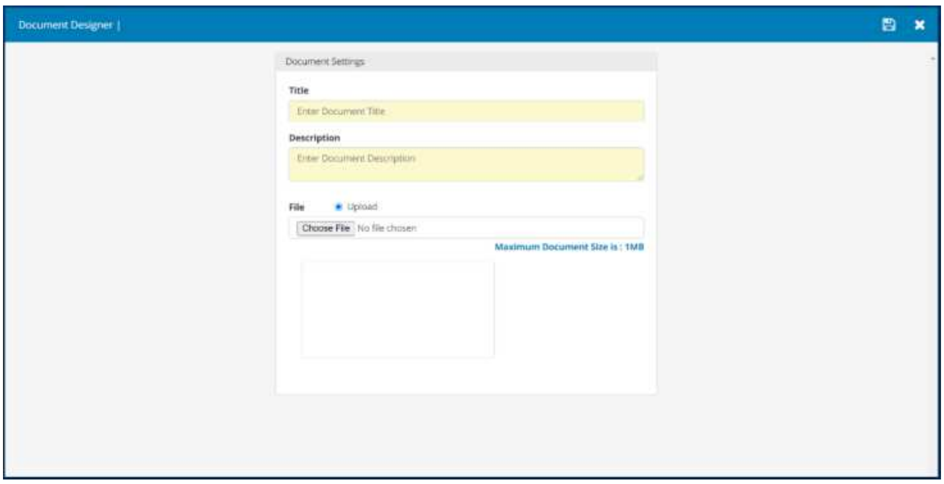



*Figure 69 Document Designer window*

This allows for uploading PDF or .png, .jpeg, .jpg image files. These files are referenced and added to the forms via the ‘show document’ step type.

Enter a **Title** (**Description** is optional) and click on the **Choose File** button to pull up a file manager window and select the appropriate file.

- File sizes must be under 1 MB.

### 2.2.10.2 New Lookup

The **New Lookup** button brings up the Lookup Designer window:

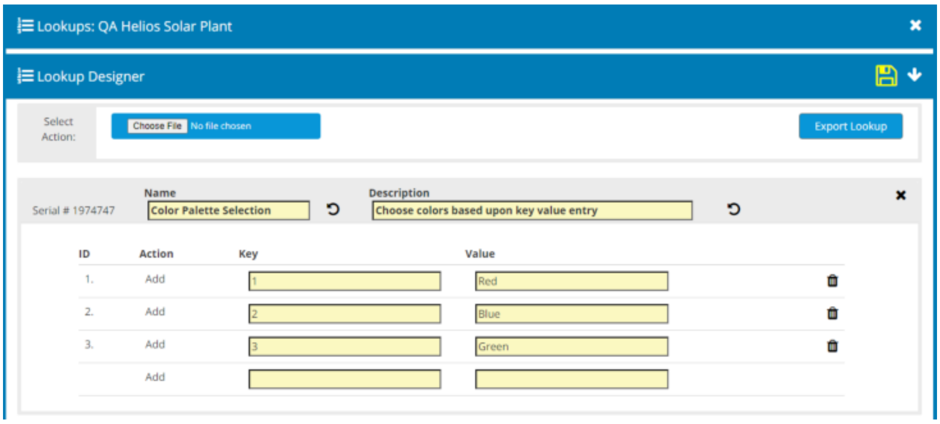



*Figure 70 Lookup Designer window*

Lookups are created for addition to forms via the 'Lookup' step type. Lookups are 2-column tables that search and find a value for a matching key pair.

A user entered value can be used to display information based upon the 2-column lookup table, example as illustrated above: key '2' for 'Blue'.

The lookup table **Key** and **Value** pairs may be manually populated (using the **Add**, 'Action' column control) or imported from a file (the **Choose File** button).

- The import file must be in CSV format and contain only 2 columns – the **Key** and the **Value** columns. The **Key** is the parameter that is matched, and the **Value** is the parameter that is returned to the form.
- The **Key** must be unique and cannot repeat, as otherwise the system will not be able to find a unique match when picking the value item.

Lookup tables may be also exported via the **Export Lookup** button, this generates a csv file that can be used for editing purposes:

| | | | |
|---|---|---|---|
| Source: | GoPlant Lookup Import Template | | |
| Export By: | Admin Solar | | |
| Export On: | Fri Nov 20 2020 11:02:11 GMT-0600 (Central Standard Time) | | |
| | | | |
| | | | |
| | | | |
| Lookup Name | Lookup Description | Key Name | Key Value |
| Color Palatte Selection | Choose colors based upon key value entry | 1 | Red |
| | | 2 | Blue |
| | | 3 | Green |

*Figure 71 Export Lookup: example output*

#### 2.2.10.3 Visibility defaults

A default visibility creates a set of visibility rules for one or more response types that define how the visibility should be created when the step is added. When adding a new step, the visibility rule will automatically be added without user intervention based upon the settings saved in the visibility default template. This saves multiple mouse clicks every time a step is added that requires visibility (such as procedures where every step is dependent upon the previous answer).

For example:

> If a checklist procedure is being created where each step should only appear if the previous step is answered “Completed” (a Yes/No response type with the list items changed to Completed and Not Completed) this rule can be saved as a default and automatically added to each step.

Default rules are created in the Form Tools tab. The Auto-Visibility default will be given a name and can be chosen when designing the form. Each default set created will include the visibility settings for any/all step types required.

Visibility rules for each response type may be configured to create a default setting that matches how they will be used when creating a form. By setting up the defaults for various response types it enables a single-click addition of the visibility rule. The required visibility rule’s step dependency, criteria equation and the rule values are all entered automatically.

This drastically reduces the amount of time required to add multiple steps with the same visibility when designing the form.

To use this functionality, select **Visibility Defaults** on the Form Tools tab and the Visibility Default Manager window appears:

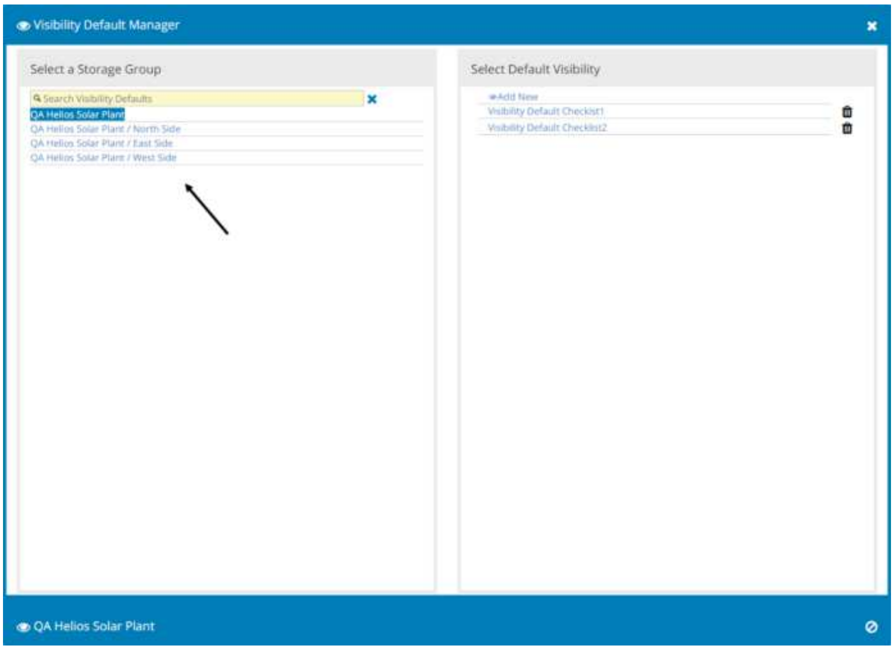



*Figure 72 Visibility Default Manager window*

Storage groups are displayed in blue on the left side of the window. Using the selections available there allows access to any Default Visibility in or below the active storage group.

As the selected storage group changes, available Default Visibility templates for the selected storage groups are shown on the right with options to manage that list by using **Add New** or **Delete** (trash can icon).

### 2.2.10.4 Add/edit visibility defaults

At the top of the **Select Default Visibility** area click **Add New** and the docked lower panel comes into view:


*Figure 73 Select Default Visibility – Add new (default)*

To create a new Default Visibility, leave the **Available Defaults** control set at '+ Add New' and enter the **New Default Name** and optionally a **New Default Description**.

- The (New) Default Name must be unique with each storage group.

Then press the blue **Add Default** button to add the Default Visibility. The lower part of the window that shows the selected default, updates. To display and potentially edit the newly added default or any of the **Available Defaults**, select the required default by name, from the drop-down list:

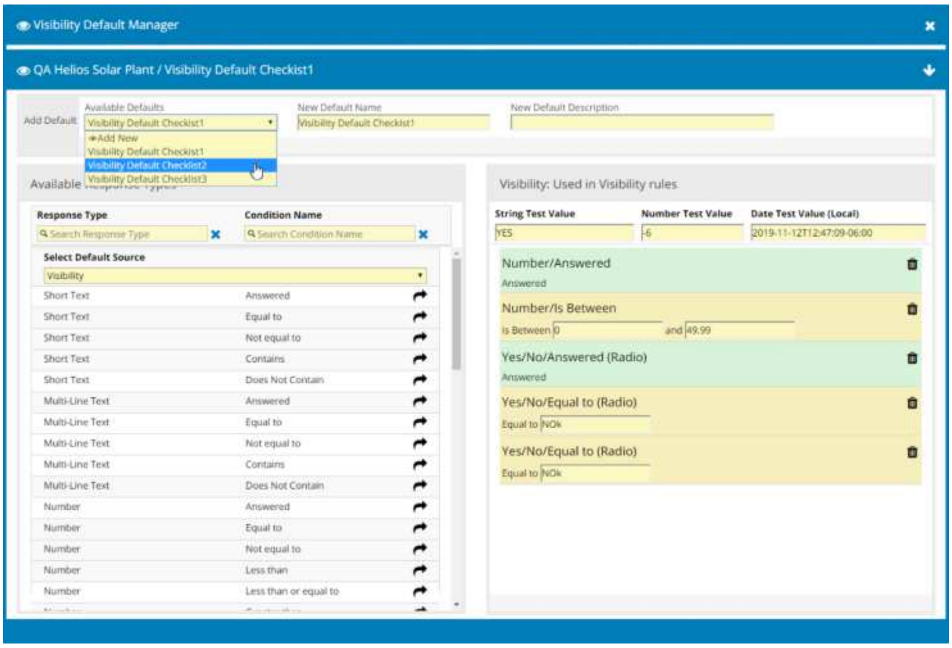



*Figure 74 Visibility Defaults: Available Defaults selection*

- The window name will reflect the currently selected default.
- The user can update the **Name** or the **Description** of the selected visibility in the top 'New Default' fields and any changes will be auto saved after 1.5 seconds.

**Available Response Types** and **Visibility** areas

The Available Response Types list to the left shows the Response types that are available for assignment to the selected Default Visibility:

- Search windows are available to quickly locate Response Type and Condition Name. Add a **Condition** by clicking the associated "Right Arrow" icon to add it to the right-hand side.

The list to the right contains any default values that the user has added to this visibility default list. At the top are 3 text boxes used for 'testing' conditions. Each default value will use the test box based on its type. For example, 'Short Text' uses 'String Test Value', Number uses 'Number Test Value' etc.

- The background color of each condition will change according to whether the local validation passes or fails.

  - The example above is a number step, it tests against the ‘Number Test Value’. Since -6 is outside the specified range, the first condition is yellow (fail).

- The 3 test values are stored locally and will reload when the user navigates back to this page.
- This local validation is just a helper function and does not affect saving the Default Visibility.
- When typing a value into any condition, it will be auto saved after 1.5 seconds
- Delete a condition by clicking on the delete icon.

To create a form using Default Visibility Rules, select **New Form** on the Forms tab to launch Forms Designer.

## 2.2.11 Forms tab

The Forms tab is used to create, edit and publish forms used for data collection and is available to Editor and Admin level users. Forms are the primary component of rounds and define individual data entry pages to collect specific asset or area type information within the company.

Using the controls at the top left of the navigation bar verify that the appropriate point in the hierarchical structure of the company is selected, then select the Forms tab:

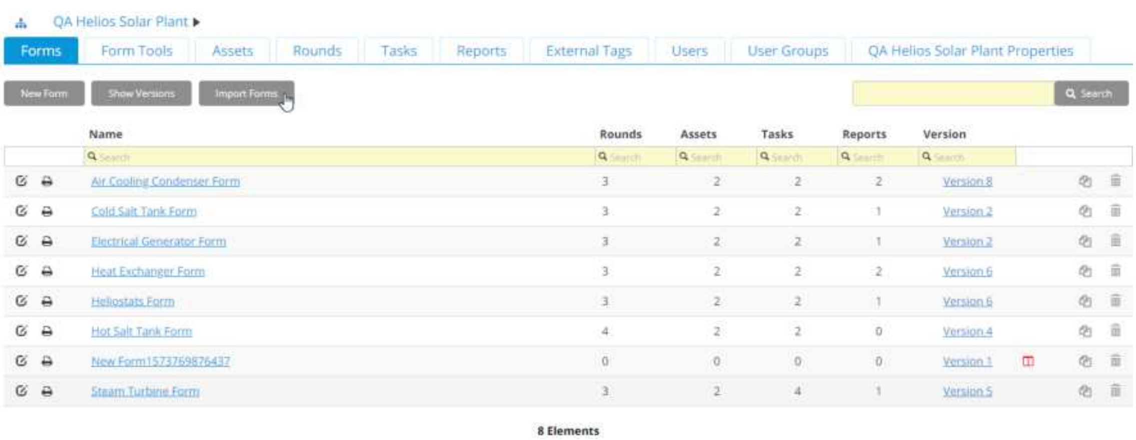



*Figure 75 Forms tab*

The Forms window contains a list of forms and associated controls:

- A **New Form** button/control.
- A **Show Versions** button/control.
- An **Import Forms** button/control.

- **Name** in blue is a clickable link that open the specific form. All forms have icon controls for **Edit**, **Print, Copy** and **Delete**. Where forms have been published and already have a working copy, this is denoted by the red working copy icon (in the column between 'Version' and the copy icon). Selecting its icon opens the working copy for viewing or editing.
- At this summary level, there are columns to indicate the number of **Rounds**, **Assets**, **Tasks** and **Reports** the form is associated with and a form **Version** where this is a clickable link to open the version/change log for the specific form.
- Multi levels of **Search** field are available to quickly locate the required form.

### 2.2.11.1 Building and Publishing Forms

Create a new form by selecting the **New Form** button or to edit an existing form click on the appropriate form, edit icon. The Form Designer window appears:

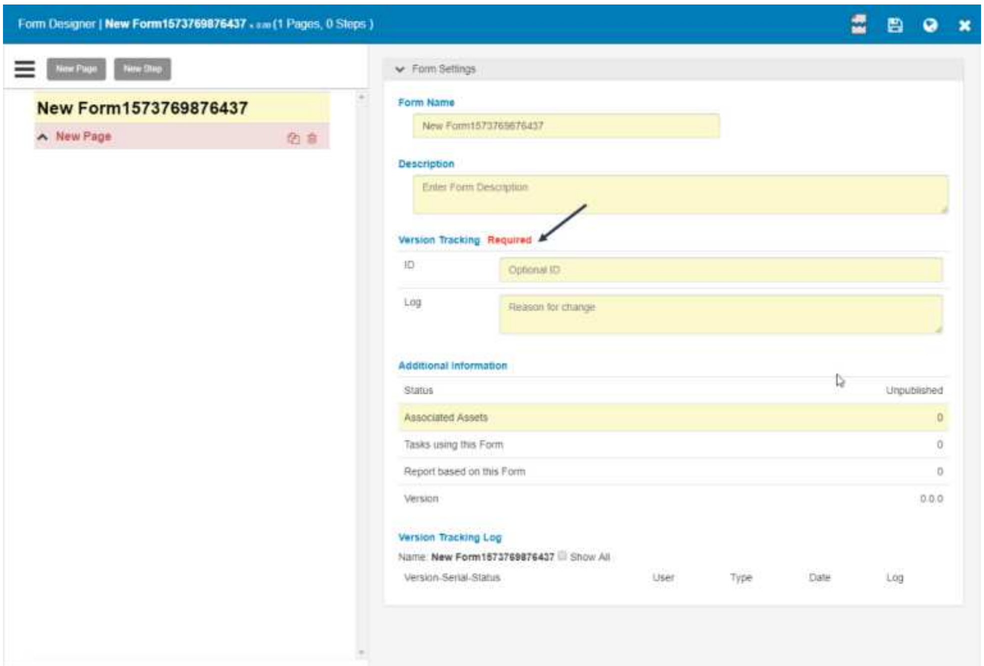



*Figure 76 Form Designer*

The top right header bar of the designer contains common controls for working with the form:

- Preview, Save**,** Publish the task or **X** to close the editor window.
  - ➢ Note that a preview isn't available until the form passes validation, until then it is replaced by the **Validation failure** icon shown above. Press that icon to reveal the details of the validation failure. In this case once the required fields are completed and a step is added, then the familiar 'eye' icon will be shown to indicate a preview is available.

In Form Designer, the form name will be highlighted on the left at the top of a navigation area and the **Form Settings** area where details of the selected item are displayed, is on the right.

- Enter appropriate text for the **Form name**. The label on the left will update with the text entered.
- Enter appropriate text for the form **Description**.
- The **Version tracking** area, **ID** and **Log** fields are only displayed when version tracking for forms is enabled at the storage group level.
  - A further distinction arises when version tracking is enabled and the REQUIRED flag is set whereupon completion of the version tracking **Log** field becomes mandatory. This is indicated by the addition of 'Required' in red text, to the Version Tracking area name as illustrated in the image above.
- The **Additional Information** area displays a summary **Status** with the number of associated **Assets**, **Tasks** and **Reports** using this form. Current **Version** is also indicated.
- **Version Tracking Log** default view shows the last version change along with the Log. The **Show All** control will display all version notes for this form.

To add a page to the form, select the **^ New Page** text below the form name.

➢ Do not select the **New Page** button, above.

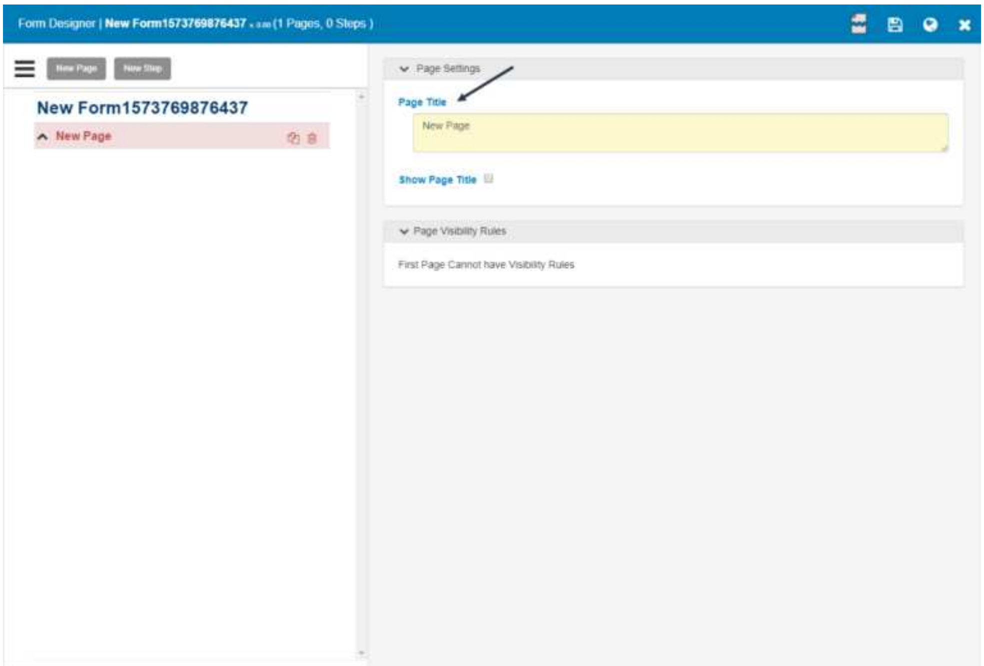



*Figure 77 Form Designer - new first page*

The page settings appear on the right:

- Enter the **Page Title**.
- Select the option to **Show Page Title**, if desired.

➢ The first page cannot have visibility rules because there must be at least one page on every form and visibility rules must always have a step above them in order to configure the visibility rule.

Use the **New Step** button to create a new step. The step is displayed on the left and the step settings are displayed on the right.

➢ As new steps and pages are created, they will be displayed on the left and can be rearranged in any order by selecting and dragging the page/step to the appropriate place. When dragging a step or page and moving it, ensure that the gray background is highlighted before dropping it into place. If the gray area does not appear, the step has nowhere to “move” and will stay in its original position.

➢ Once a step has been added and so long as validation passes, the Preview icon is now shown in the designer, header bar.

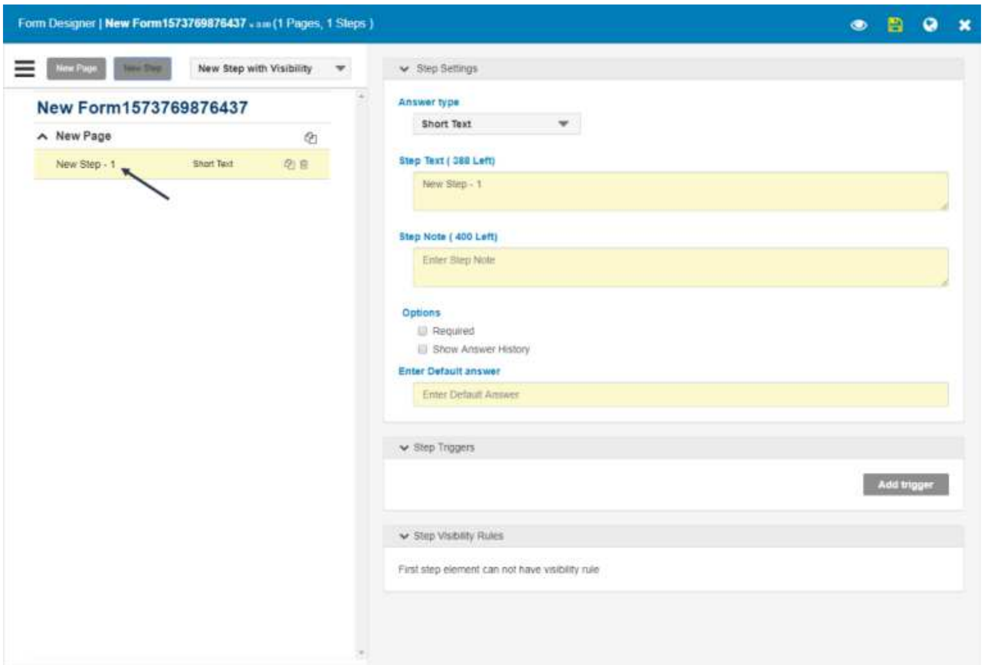



*Figure 78 Form Designer - new first step*

Select and highlight “New Step – 1” on the left navigation side to update the step settings on the right.

Select the type of step to create by choosing an **Answer type** (each new step will have a default answer type that can be changed in the settings). The available options on the drop-down are:

a) **Short Tex**t: Use this option to allow the user to type in a short text answer. Letters, numbers and symbols may be used. Mobile Devices may allow dictation.

b) **Multi-Line Text**: Use this option to allow the user to type in an answer that may require more than one line (2, 3, 5 and 10).

c) **Number**: Use this option to compel the user to enter a number (numbers can be used in calculations).

d) **List**: Use this option to allow the user to select an answer from a pre-determined list (radio buttons, checkboxes, drop-down). The use of radio buttons and drop-downs will allow a user to select only one value from the list. When using checkboxes, the user will have the option to select multiple values from the list.

e) **Yes/No**: Use this option to designate an answer value as a Yes/No or True/False statement. The user also has the option to include N/A, if needed.

f) **Previous**: Use this option to pull a value from a previously answered step. The value displayed will be the result of the chosen step the last time the form was saved and committed.

g) **Lookup**: Use this option to reference pre-defined key/value table. The step data type will reflect the data type of the value within the lookup table and can be used in calculations when the value is a number.

   - The lookup table must first be created in Form Tools and can have several options to display. In addition, when using the “Answer From Step” option, all text entries made by users MUST match exactly (entries are case sensitive).

h) **Date/Time**: Use this option to compel the user to select a Date and Time. There is an option to display only the date, only the time or display both date and time. There is also the option to default this field to the current date and time.

i) **Show Popup Message**: Use this option to alert a user with information and/or request the user to act and provide an acknowledgement of the action. This answer type step must be associated to a previous answer through the visibility rules feature, as well as set the criteria in which this step will display.

j) **Show Document**: This option is available for displaying documents within a form. Note that the document must first be uploaded in Form Tools.

k) **Scan Code**: Use this option to compel the user to scan an asset barcode/QR code or NFC/RFID tag within a form. The type of scan is chosen within the step.

   - This step is limited to only mobile devices (not through the GoPlant website). In addition, all text entries made by users MUST match exactly (entries are case sensitive). For NFC tags utilizing the unique serial number the data must be entered in all lower case without the ":" characters.

l) **Scan Location**: Use this option to verify that an operator is at a certain location or has scanned a specific tag. This step forces the operator to scan a barcode/QR code or NFC/RFID tag in order to complete the form. GoPlant Mobile will not continue the Round or commit the form until the proper value is scanned.

m) **Take Picture**: This option will give the user the ability to use the camera on a handhold or select images from the handhold's memory.

n) **Drawing**: Use this option to allow the user to sketch a small drawing.

o) **Signature**: Use this option to have the user enter a signature.

p) **Calculation**: Use this step to display the result of a calculation. This calculation can be created by entering a formula and using the results of any numeric step values already defined in the form. The Calculation step will display all previous numeric steps within the form. The listing of Numeric steps is then given an Alias name to be used in the formula. The Alias name should not be a numeric value but can be an alpha-numeric item if it begins with an alphabet character. The formulas are entered along with choosing a precision value and clicking on the "=" will execute the formula and display an answer based upon the "Test Value" number entered. This enables the user to verify their calculation. It is important to not repeat Alias names, they must be unique. Calculations can point to other calculation steps; simply create an alias name and it can be used in subsequent calculations.

q) **Instruction**: Use this option to place instructions/text within the form. An Instruction step is free-form HTML text that can be saved anywhere on the form.

r) **Vibration and Temperature**: This step inserts all asset required measurement points for taking readings with an SKF Pulse / QuickCollect sensor. The steps added will default to the total number of measurement point and planes defined for the Assets assigned to this form.

Now continue to update the step settings on the right, by typing or adding the appropriate step information in the remainder of the Step Settings. Note that the step settings may differ depending on the answer type previously selected:

- **Step Text**: This is the question or value that the User should answer or entered into the mobile device.
- **Step Note**: This field is used to enter additional Notes to be displayed under the Step Text on the mobile device.
- **Options**: Allows a step question to be set as Required, Show Answer History or both.

- **Enter Default Answer**: Is the ability to set default answer values. The default answer will automatically display in the answer field, but the operator has the option to change the value as needed.
- **Step Triggers**: Rules can be created to trigger emails, change the state of an asset if required or set Alarm conditions for Reporting and alerting purposes. A user can define triggers that define the conditional formatting rules on the data during reporting analysis through the use of "*Is between*" criteria. This will create the exceptions that are generated in reports. Refer Defining Exceptions and Conditional Formatting.
- **Step Visibility Rules**: Visibility rules can be created such that the step or page will be displayed or not displayed based on certain conditions. Similar to page, , the first step on the very first page cannot have visibility rules assigned. By definition a visibility rule points to a step above in the form and for the first step on the first page there is no other step to define the rule. Refer Working with Visibility Rules in Form Designer.

Save the form by selecting the Save icon in the designer header bar or similarly, if required, Preview it. When ready publish the form by selecting the Publish icon.

- When selecting publish, the form is automatically saved first then published.
- Once a form is published it will be available to all users as well as being available for use in associated Assets, Rounds, Tasks and Reports/Charts.

Once the form is published, the icons available in the header bar change. The save and publish icons are removed and two new icons appear before preview::

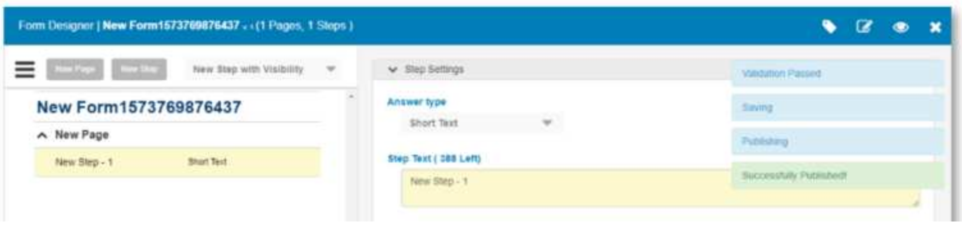



*Figure 79 Form Designer – Form has been published*

**External Tags**: The tag icon launches the External Tag Editor. External Tags are used to assign specific Step questions on the form with external software "Tags" that allow for reporting output, external data queries via the GoPlant API or CSV output reports. External Tags are assigned by Asset / Form relationships or in some cases just the form relationship. The External Tag assigned to the Step flags that information on any response from the field and allows for exporting the reading / response to external software packages.

**Edit working copy**: To edit a form after it is published, a "working copy" must be created by selecting this icon. Only working copies of forms may be edited. Working copies enable users to modify forms without disrupting the current published copies on the mobile devices.

When the working copy opens, the header bar controls change again:

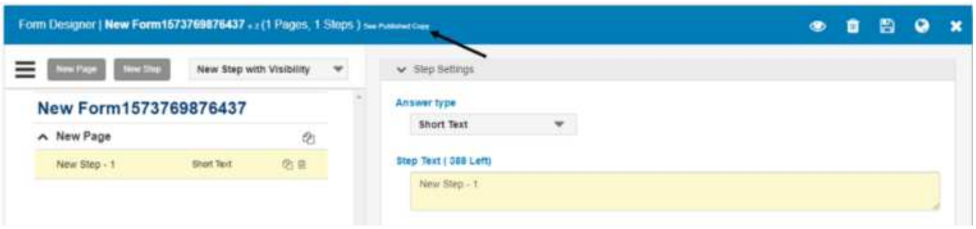



*Figure 80	Form Designer – Form working copy*

A link appears at the top of the working copy in the Form Designer that allows the display to switch between the working copy and published copy.

The icon controls allow for a Preview, Deletion, Save or Publish of the working copy, use **X** to close the designer window.

- Select the save icon when ready to save and the publish icon to publish again.
- A delete, deletes the working copy and leaves the last published version of the form. This does not delete the entire form, only the working copy that was created.
- When a **Working copy** is available, from the list of forms in the Forms tab a user can view/edit the working copy of a form by selecting its red, working copy icon.

### 2.2.11.2 Working with Triggers in Form Designer

The Form Designer provides the ability to add triggers to a form to initiate action when necessary. Defining triggers within a step can provide the following:

1. **Send Email** (Normal, Warning, Critical) – emails are generated and sent by GoPlant once the form is completed by the operator and the data has been synced to the server.
2. **Send Pictures Email** – the image is included in any condition (Normal, Warning, Critical) associated with the email that is sent.
3. **Change Asset State** – managing asset states within the GoPlant system can be done using this option.
4. **Define Exceptions and Conditional Formatting** in Reports – setting exceptions on Number steps (*Is Between* condition for LoLo, Lo, Normal, Hi, HiHi) and Yes/No steps (State Condition) allows data to be displayed with conditional formatting in both reports and round review, as well as the ability

to see the exceptions through the system exception reports. Refer Working with Triggers in Form Designer.

Triggers are added to a form step by selecting the **Add Trigger** button in the Step Triggers section:

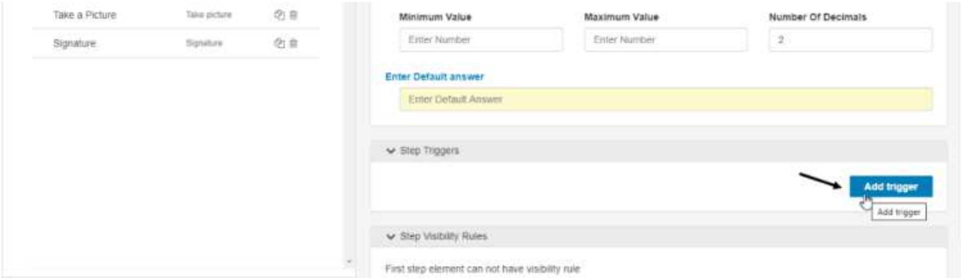



*Figure 81 Form Designer – Add trigger to step*

With a new trigger added, the corresponding entry in the left step list now includes an icon to indicate that this step has a trigger and the Step Triggers area, to the right has fields for setting the trigger condition that must be satisfied and the action that will then be taken:

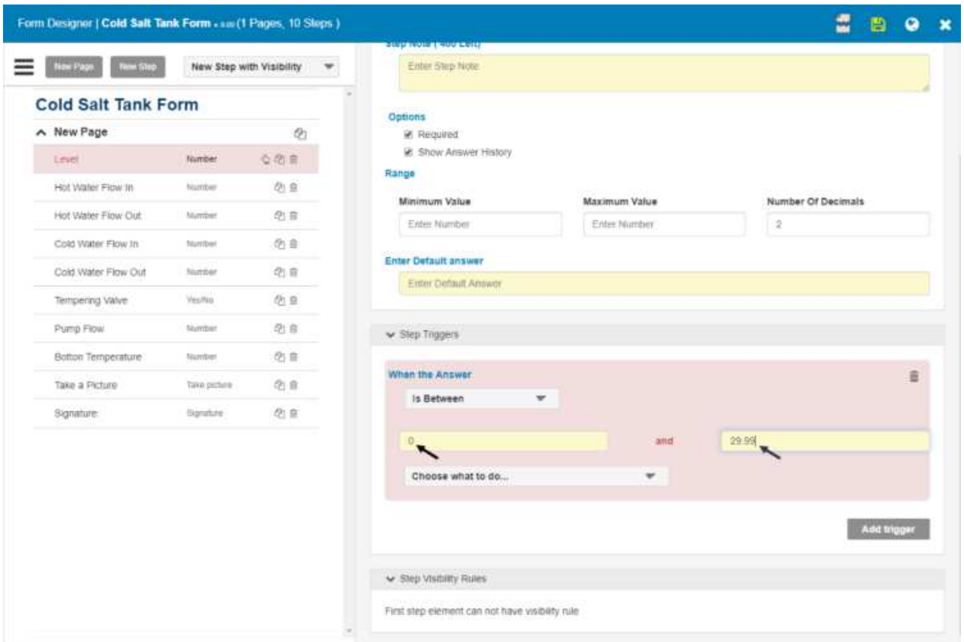



*Figure 82 Form Designer – New trigger added to step*

- The red area backgrounds and (header bar) **Validation failure** icon, both reflect that the configuration is incomplete or otherwise fails validation. When needed or the reason for the failure isn't obvious, press the icon for a pop-up window with details of the validation error(s).

**When the Answer**: Is a drop-down to set the logical criteria for taking action on the step.

- The logical criteria available for selection are dependent upon the answer type of the step.

Further fields will be provided to set the condition for activating the trigger. For example, if the **When the Answer** selection was *Is Between*, then fields to define that range will be visible.

**Choose what to do…**: Is a drop-down to set the required trigger action.

If the trigger action selected is *Send Email* (or the Warning or Critical variants of that) an optional list will appear with the Take picture steps available on the form to include them in the email:

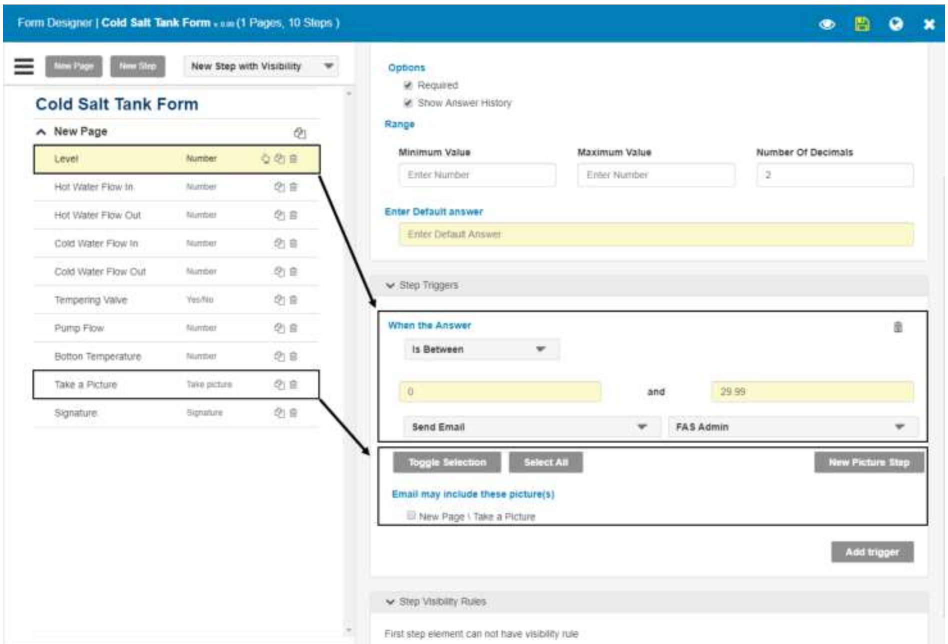



*Figure 83        Form Designer – Take picture can be added to an email*

When a Take picture step has been associated with the trigger, a dependency line will indicate the relationship between the step questions:

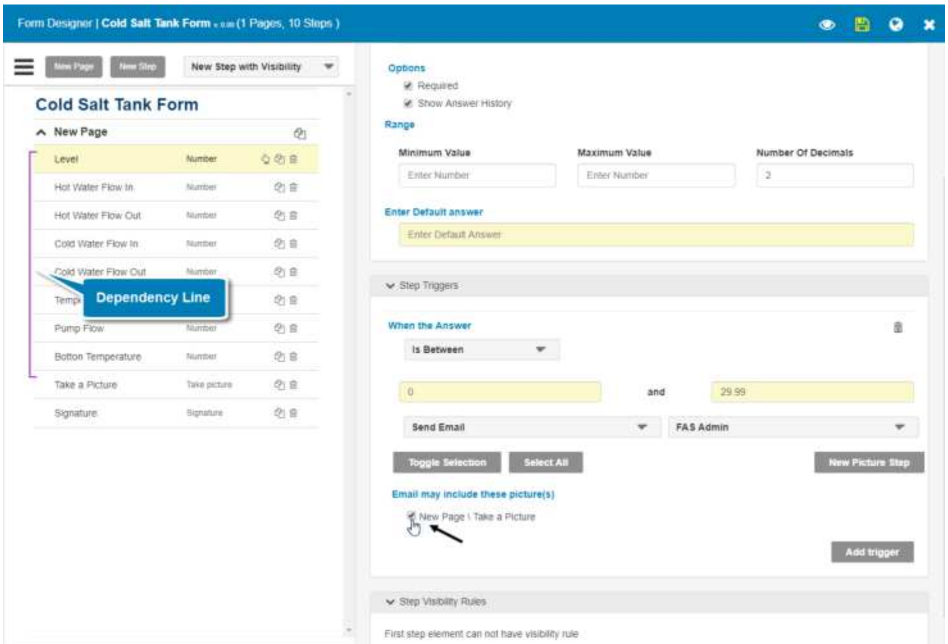



*Figure 84 Form Designer – Dependency line*

- When all necessary trigger options have been selected and completed, the area backgrounds change to white and the validation icon will be replaced by the preview icon.
- As required, select **Add trigger** again to add additional triggers in the step settings.

### Defining Exceptions and Conditional Formatting

Both the *Number* and *Yes/No* answer type steps will allow triggers to define exceptions and conditional formatting in the completed form supervisory reviews, as well as the GoPlant System Reports.

- The conditional formatting colors are globally defined in the Admin Report Settings.

Two examples illustrate this usage:

### 1. Number Step Exception example

Choose a Step Trigger, with a **When the Answer** selection of *Is Between*. Then enter the numeric range corresponding to a LoLo condition and select *LoLo Condition* from the drop-down list:

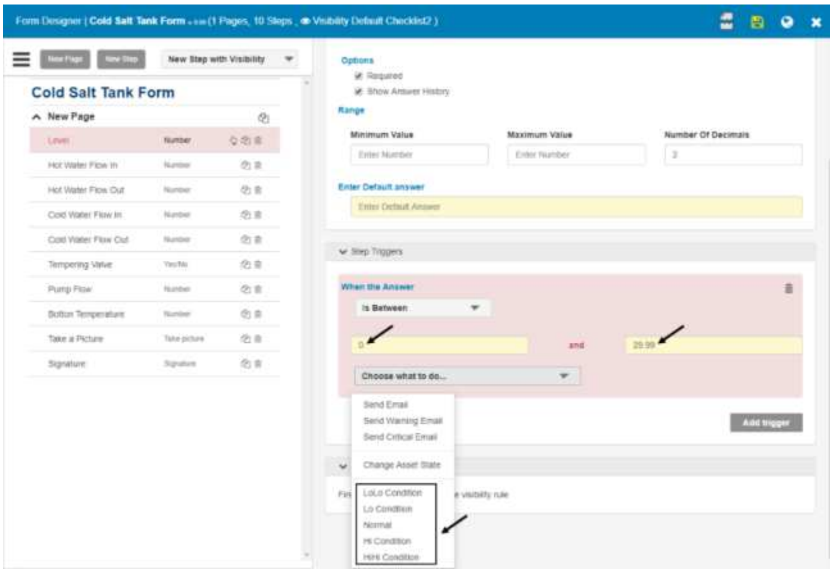



*Figure 85 Form Designer – The Step Trigger 'Is Between' has additional options*

- The *Is Between* option is the only logical criteria that will provide options for the actions of *LoLo*, *Lo*, *Normal*, *Hi* and *HiHi* conditions.

Use **Add trigger** to add further triggers for the remaining conditions, refer example below.

A pressure reading with an acceptable range of 40 – 60 psi, could have the following exceptions defined (where the pressure reading is a 2-digit, number step):

- *LoLo Condition Is Between* “0” and “29.99” (inclusive).
- *Lo Condition Is Between* “30” and “39.99” (inclusive).
- *Hi Condition Is Between* “60” and “79.99” (inclusive).
- *HiHi Condition Is Between* “80” and “99.99” (inclusive).

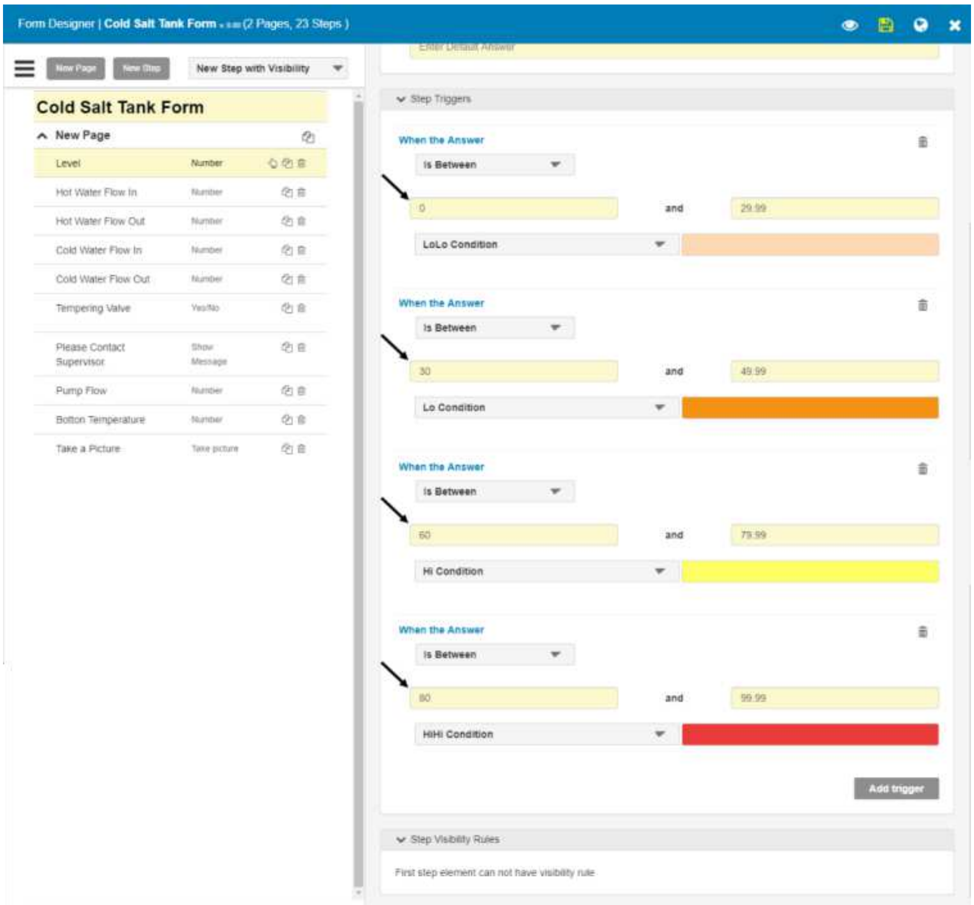



*Figure 86 Form Designer – Pressure reading, step triggers example*

➢ In the above example the *Normal* condition isn’t explicitly defined because it is anyway implicitly defined by the remaining conditions.

### 2. Yes/No Step Exception example

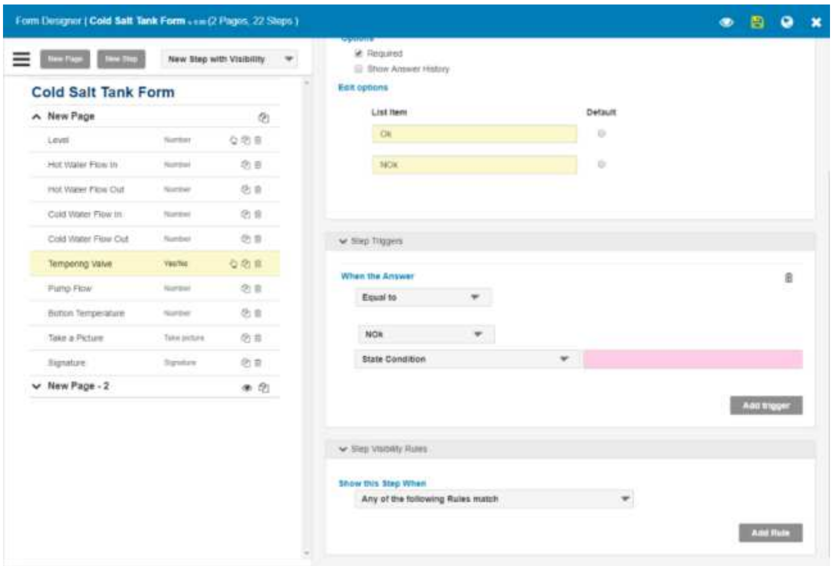


*Figure 87 Form Designer – Yes/No Step Exception example*

The example above uses a Yes/No step where the list items are Ok and NOK.

**When the Answer**: Use the drop-down to choose a criteria for the action.

- Exceptions can be defined in the Yes/No step using any logical criteria selected (*Equal to*, *Not equal to*, *Answered*, *Not Answered*).

**Choose**: From the drop-down select which of the Yes/No items will be the exception value (in this example *NOK* has been selected)

**Choose what to do…**: Select "State Condition" from this drop-down to set the exception.

In the finished example, when the answer is "*Equal to*" "*NOK*" then this triggers the *State Condition*.

### 2.2.11.3 Working with Visibility Rules in Form Designer

The Form Designer provides the ability to add visibility rules to a step or page within a form, allowing for more flexibility and action dependent upon another step answer.

- ➢ Visibility rules can only point to steps above or preceding the current step.
- ➢ The first step question and first page cannot by definition contain a visibility rule (as there are no preceding steps or pages).
- ➢ Visibility Rules can be defined within both Steps and Pages and must be defined below the step being referenced.

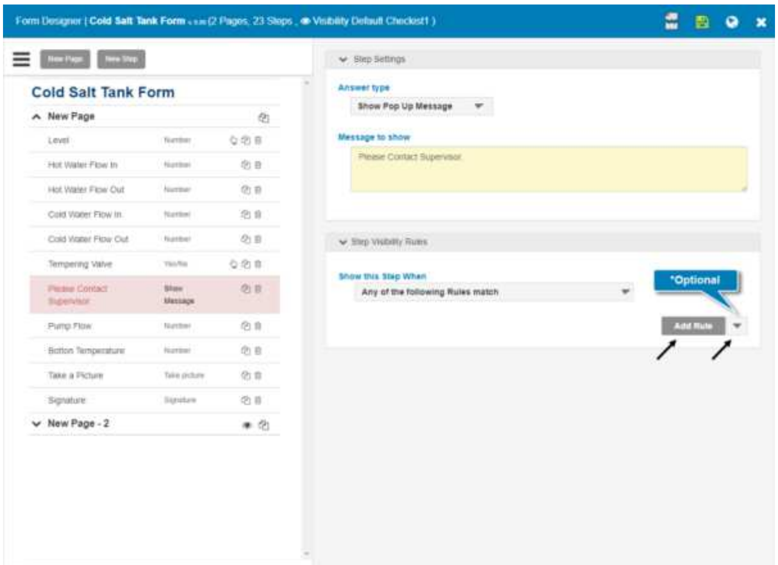



*Figure 88 Form Designer – Add visibility rule*

In the Step Visibility Rules area, select **Add Rule.**

- ➢ If there is a default visibility rule set in the Step Visibility Rules section in the Step/Page settings, then this button may have a drop-down offering also the possibility to add a default visibility rule.

Note that the background will initially be shaded red and the validation failure icon will appear. This indicates that not all required options/entries have been completed. By pressing the validation failure icon, the user can view details of the validation failure. Later, when all Visibility Rules options have been selected, the background will change to white and the validation icon will be replaced by the preview icon.

First select when the page or step is visible by selecting an appropriate expression in **Show this Step When**:

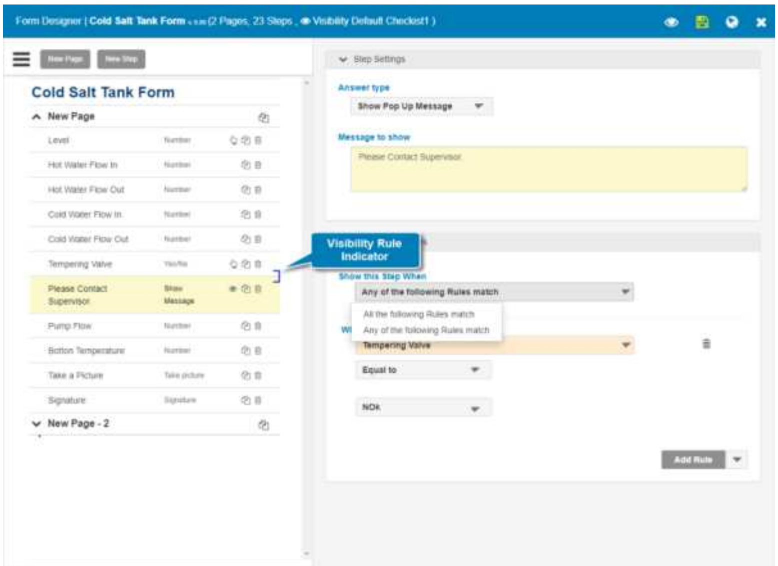



*Figure 89 Form Designer – Visibility rule Indicator*

The available options *All the following Rules match* or *Any of the following Rules match* allow for the logical "AND" or "OR" conditions.

Select a step to reference in the **When the answer to** drop-down.

- This drop-down will list all steps defined above the step/page with the defined visibility rule.

Select the logical condition (for example, *Equal to*) and enter the corresponding values to define when the step/page will display.

- The criteria will update based upon the selected step type for **When the Answer to** is selected. Various options will be available based upon referencing to a Number, List, Yes/No or other step type.

As illustrated above (and below), where there is a Visibility rule on a page, a blue line on the right side will be displayed indicating the dependency.

Another type of dependency line will be shown if the step type has been chosen as **Previous**. In this case it will be shown as a green line on the left side:

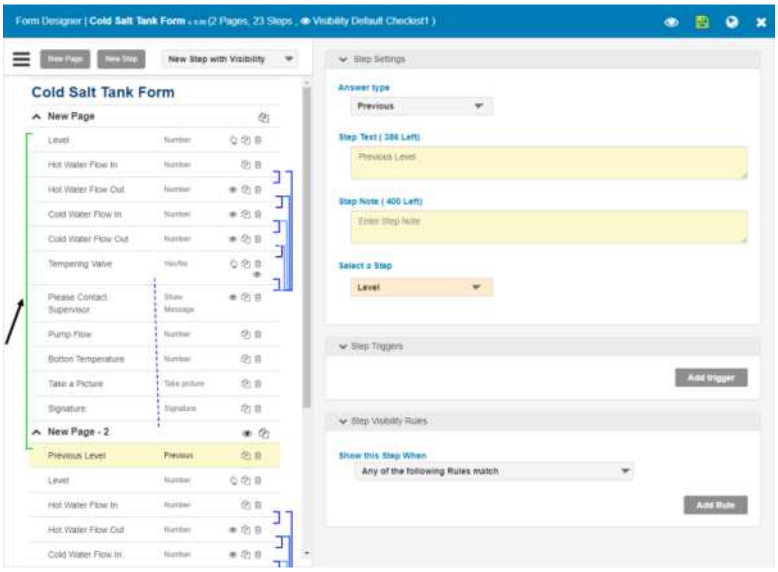



*Figure 90 Form Designer – Visibility rule indicator for Previous step type*

Additional options for the form are available by selecting the options icon:

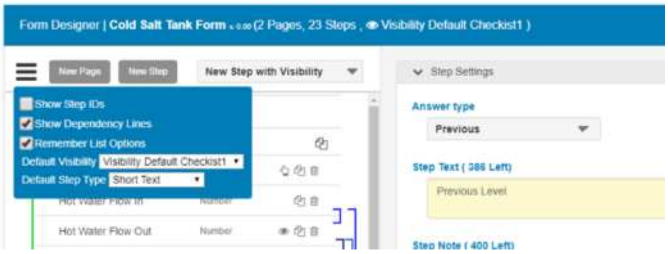



*Figure 91 Form Designer – Form options drop-down*

- **Show Step IDs** - Shows unique IDs for each Step question. This assists identification of specific Step questions (in case of validation messages, configure visibility rules and triggers) despite that multiple may contain the same Step Text.
- **Show Dependency Lines** - Each element configured with visibility rules, Picture Triggers or Previous Step will show a line with the dependency, to hide the dependency lines the option **Show Dependency Lines** must unchecked.
- **Remember List Options** - When adding a new Yes/No or List Step Question, the list options (Radio, Drop-down and Checkbox), will be remembered.
    - ➢ To reset the list options, simply uncheck the **Remember List Options**. When adding a list step again it will go back to the default.
- **Default Visibility** – Select a default visibility from the drop-down list.
- **Default Step Type** – Select here the default step type to be used when adding a New Step.

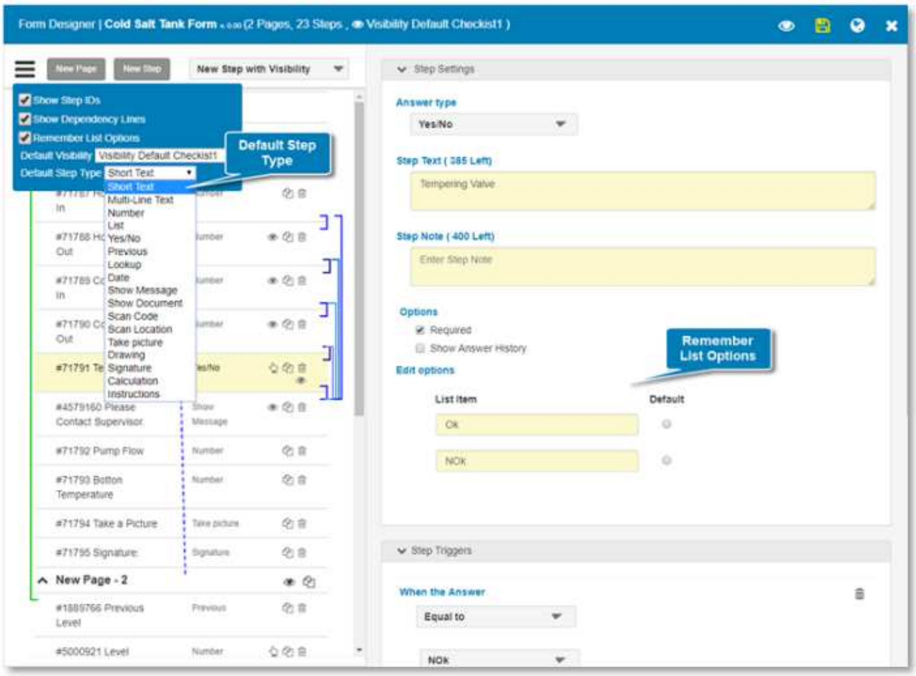



*Figure 92 Form Designer – Form options enabled*

The illustration above shows the appearance of forms designer with the various options enabled.

### 2.2.11.4 Create a Form using Default Visibility Rules

To create a form using Default Visibility Rules, select **New Form** on the Forms tab to launch the Forms Designer and then from the Form options menu select a **Default Visibility** from the drop-down list. In the example below, the selected *Visibility Default Checklist2* has five associated rules:

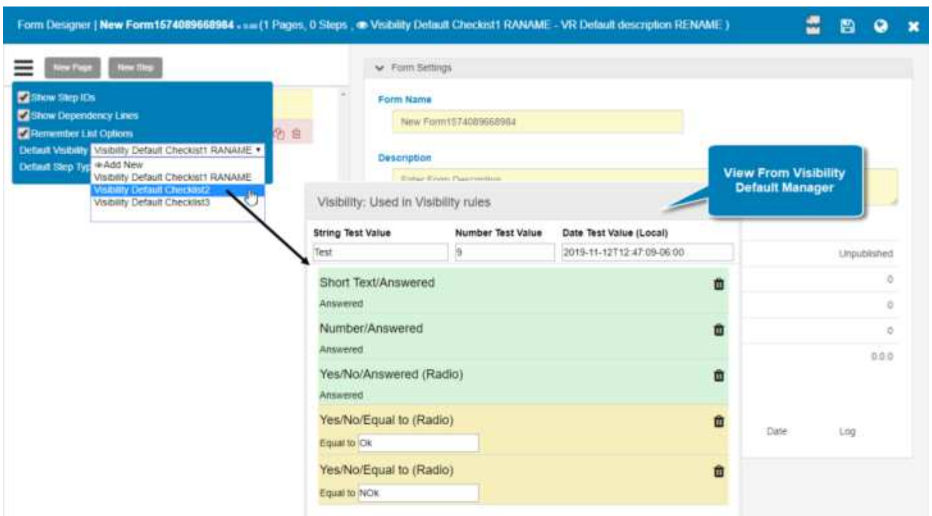



*Figure 93 Form Designer – Select a Default Visibility rule*

Click on **New Step**:


*Figure 94 Form Designer – New Step*

Note that a **New Step with Visibility** drop-down now appears. It will try to match any existing default visibility with the current step type and display them in the drop-down.

The text at top of the Form Designer will show which Visibility Default is currently selected. If necessary, click on this text to open the editor to edit the selected default:

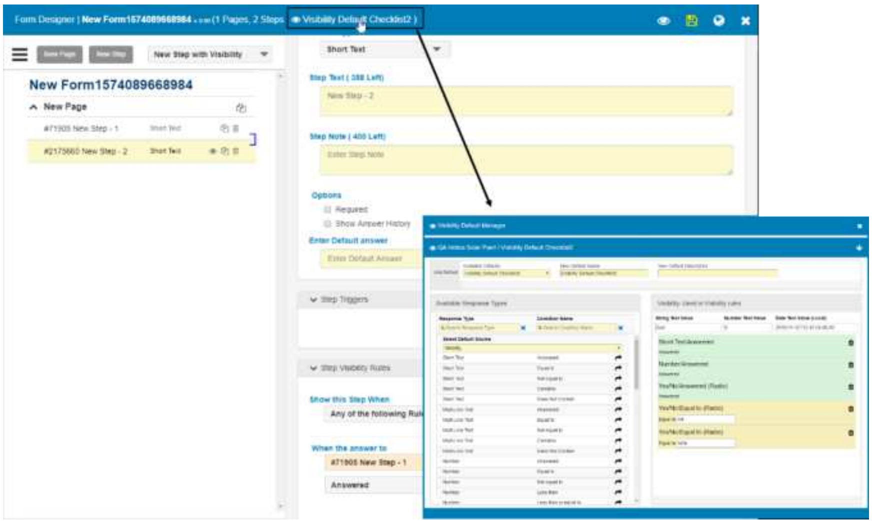



*Figure 95 Form Designer – Link to Edit Visibility Default*

Click on **New Step with Visibility** and select one rule condition from the drop-down:

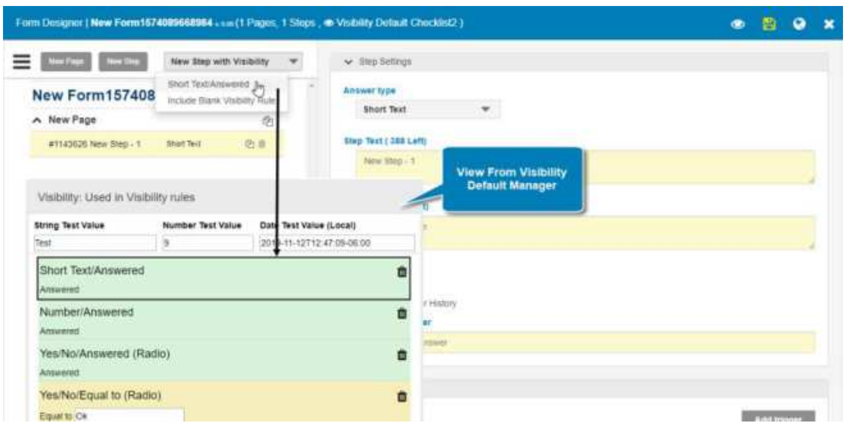



*Figure 96 Form Designer – New Step with Visibility*

The Visibility Rule will be created automatically in the new step:

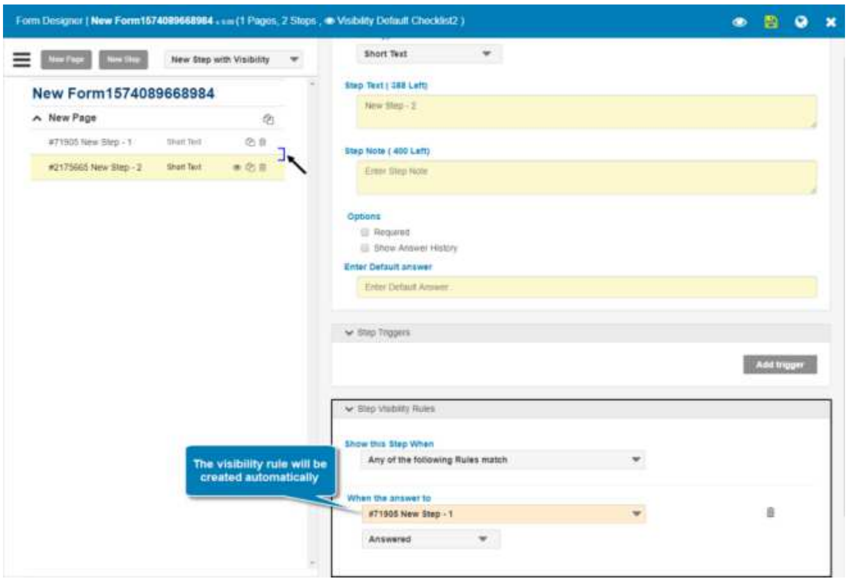



*Figure 97 Form Designer – New Step with Visibility rule created automatically*

The **New Step with Visibility** drop-down will always have the option *Include Blank Visibility Rule*. This is used when there is no rule created for the selected step question. Selecting this option will create a new step and add a blank visibility rule.

If the previous step has a visibility default, the **Add Rule** control will also incorporate a drop-down where the options are populated based on that previous step:

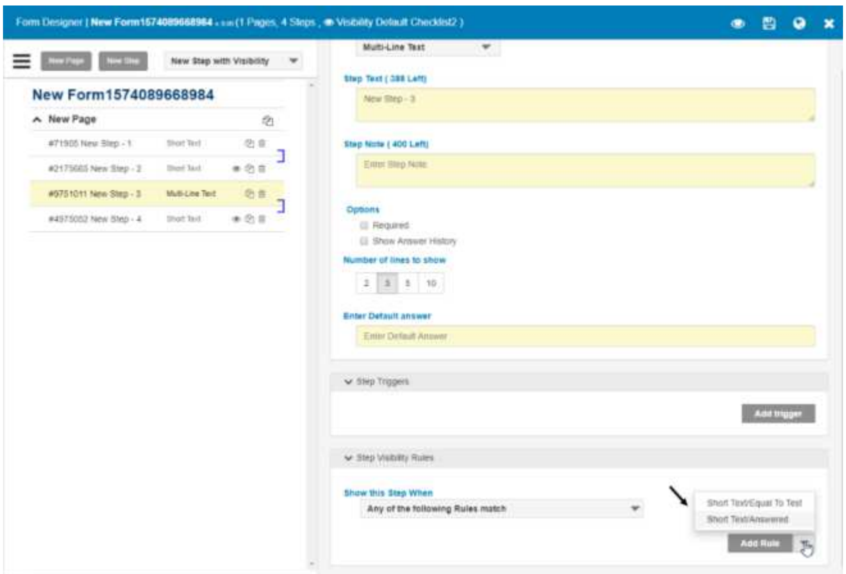


*Figure 98 Form Designer – Add Rule with drop-down*

The user can then configure the visibility rule and the validation will check for a matching default visibility rule. If one cannot be found, an add visibility rule condition icon will appear:

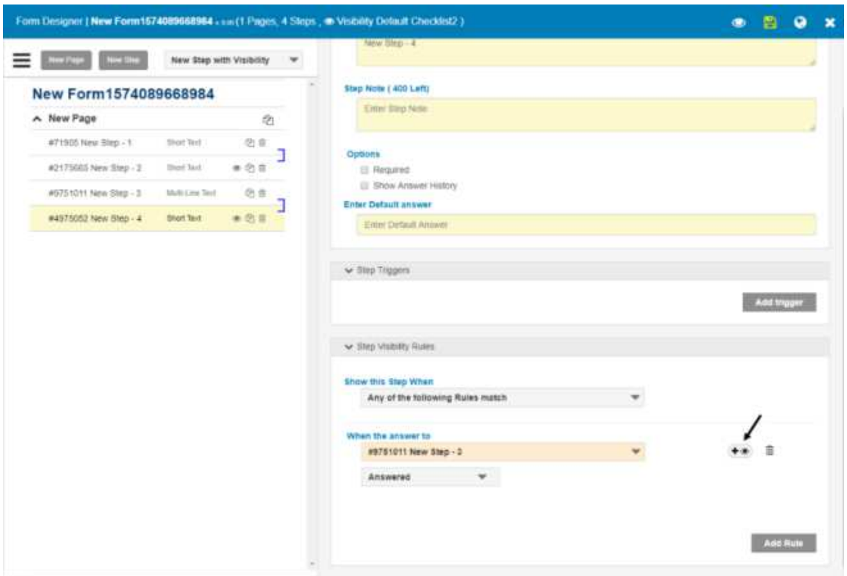


*Figure 99 Form Designer – add visibility rule condition*

Selecting this icon/control will add the visibility rule condition to the currently selected visibility default. Once added, validation will find a match and the icon will no longer be displayed.

When the user selects the "Condition" drop-down, it will show the normal allowed visibility rule conditions plus any default conditions that exist. In the example shown, the user sees a new *Multi-Line Text/Answered* condition that was recently added:

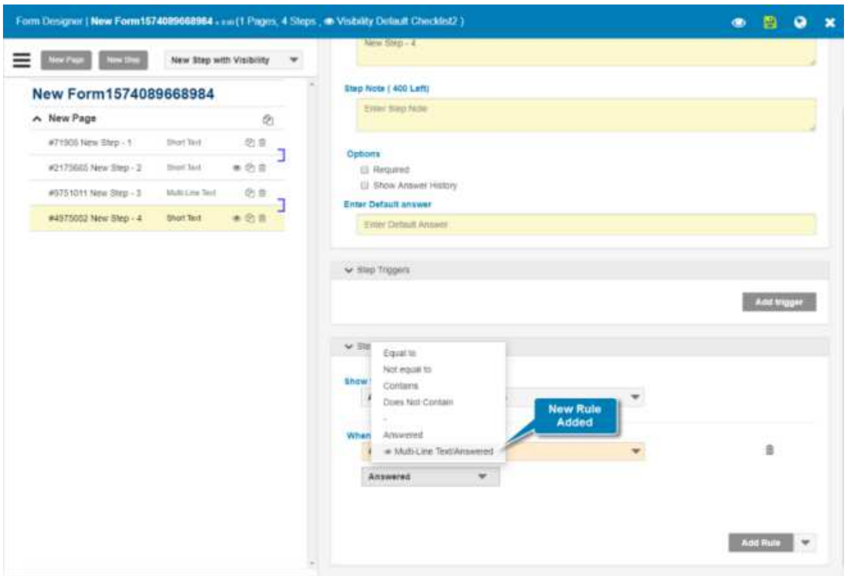



*Figure 100 Form Designer – drop-down includes new Visibility Rule*

By clicking on the **New Step with Visibility** drop-down the user can confirm the addition to the Visibility Rule Defaults:

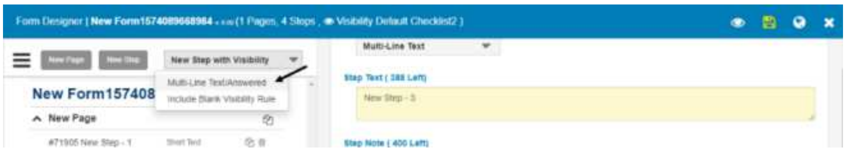



*Figure 101 Form Designer – drop-down includes new Visibility Rule*

### 2.2.11.5 Import Forms

The GoPlant Form Import allows users to import basic form elements or “Importable Steps”, to rapidly create the framework required for new form creation.

The Form import functionality allows users to import and create a form from a CSV file created from a CSV template or Excel spreadsheet template. After import of basic form data further configuration may be added in the Form Designer such as Email, Asset status and Exception triggers or Page visibility and other business logic. In many cases all required information can be imported and the form published from the Form Designer.

From the Forms tab click on the **Import Forms** button and the Form Import window will appear:

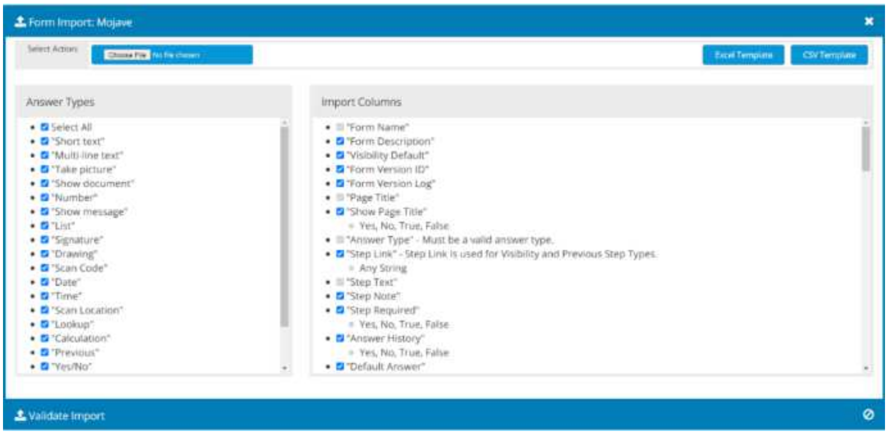



*Figure 102 Import Forms: Form Import window*

Two types of template files may be used for Form Import:

- A macro enabled spreadsheet is available from the '**Excel Template**' button. The Excel template contains macros that help guide the user with information as well as drop-down menus for appropriate cells.
- A comma delimited file is available from the '**CSV Template**' button. The CSV template is a simple file format that contains help information above the column headers. Use this format if macro enabled spreadsheets are not allowed.

Both methods allow the user to enter form information and use the file for loading into GoPlant. Either starting file may be used to create the appropriate CSV import file to load to Forms. Column header labels cannot be modified and must remain in English though columns can be moved or their order rearranged if the header label remains the same.

On the left side (**Answer Types**) the user can select the type of answers that will be included in the created template:

- When loading simple forms uncheck any **Answer Types** that will not be used in order to create a custom CSV Template. By unchecking **Answer Types** in the window, the exported CSV Template will only contain the required columns to satisfy the input steps that are required on the form.

On the right side (**Import Columns**) the user can select which columns will be included in the template.

➢ As illustrated above, the controls for any required fields will be disabled and will not allow deselection.

### Working with an Excel Template for import

After appropriately selecting the **Answer types** and the **Import Column** items that are needed, click on **Excel Template** to generate new Excel template file (notification appears in the lower area of window):

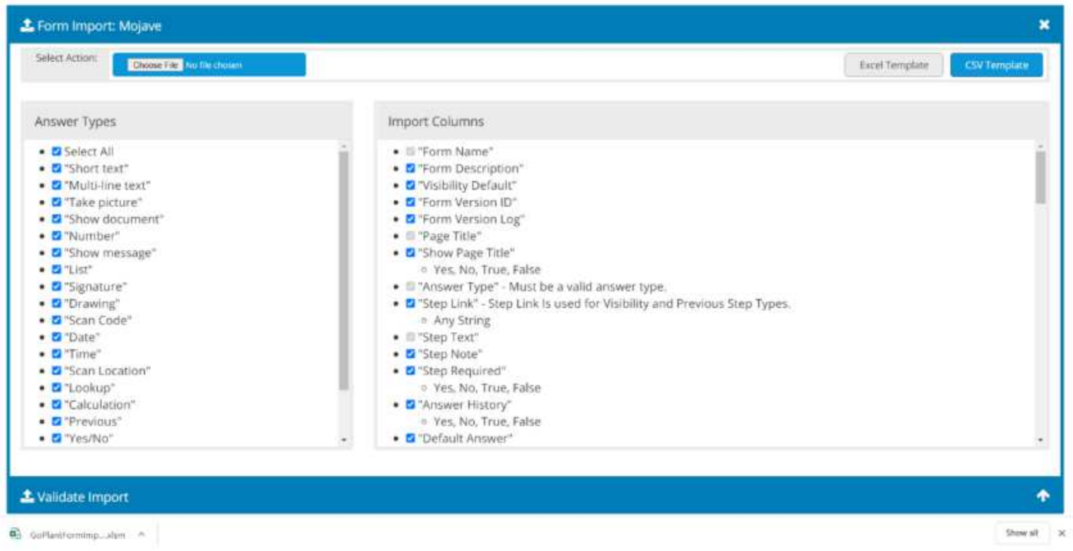



*Figure 103 Import Forms: Excel Template (.xlsm)*

- ➢ IT department or company security rules may not allow a macro-enabled spreadsheet to be downloaded. Please contact your IT department if errors or warnings occur.

To begin, open the Excel file and click on **Enable Editing**:

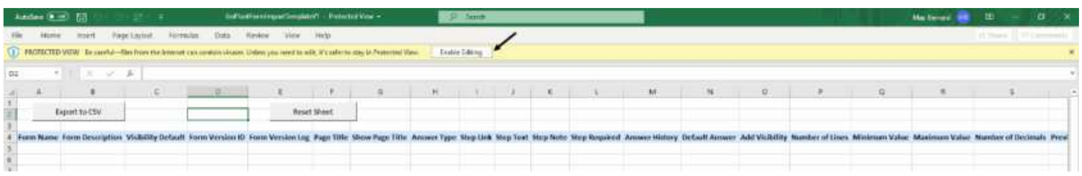


*Figure 104 Import Forms: Excel Template – Enable Editing*

Fill out the spreadsheet as required:

- Clicking on each cell will indicate by validation text on a yellow background what value the user must enter in that column, it may be a text name, an entry selected from a drop-down list etc.
- When the user selects the Answer Type, cells that do not correspond to the selection will change to gray. Cells that have the gray color do not need to be filled out for that specific step type:

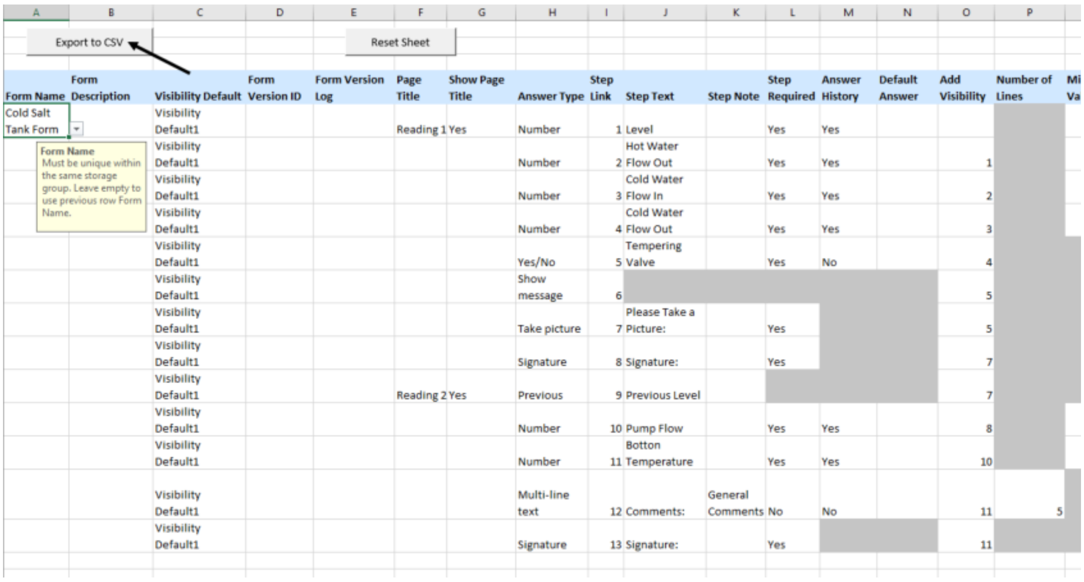



*Figure 105 Import Forms: Excel Template – Entering data for the form*

Complete all steps and press **Export to CSV** button to create the file to be imported. In the dialog that shows, enter the file name for this export and press **OK**.

The new CSV file will be created in the same directory as the original, downloaded Excel file. The output CSV file can now be chosen and imported using the Form Import window.

**Working with a CSV Template**

As an alternative to the Excel Template method, the '**CSV Template**' button can also be used to launch a template that will provide a CSV file for import. After appropriately selecting the **Answer types** and the **Import Column** items that are needed, click on **CSV Template** to generate a new CSV template file (notification appears in the lower area of window):

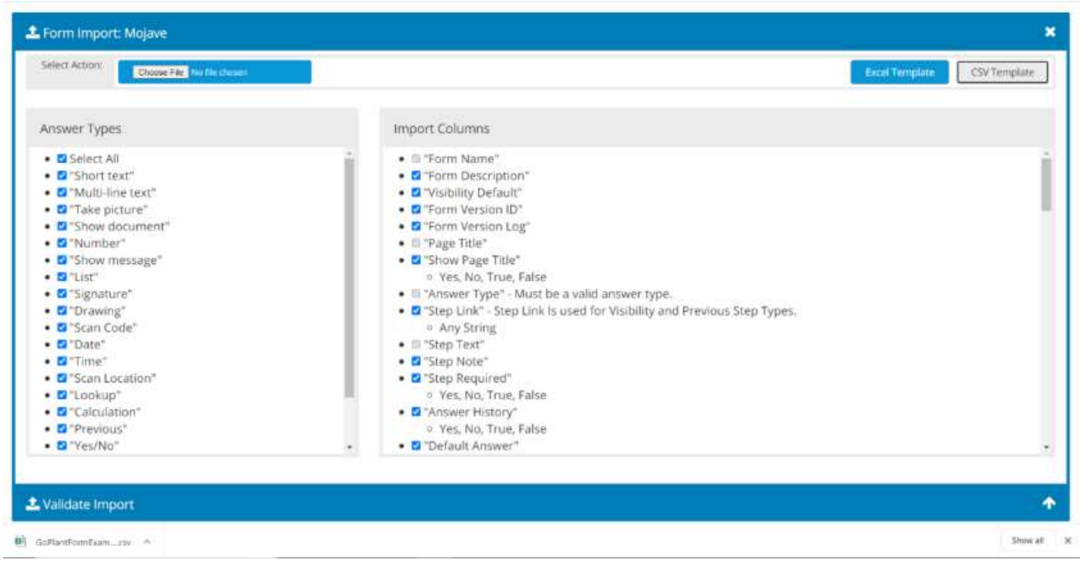


*Figure 106 Import Forms: CSV Template (.csv)*

Open the CSV file:

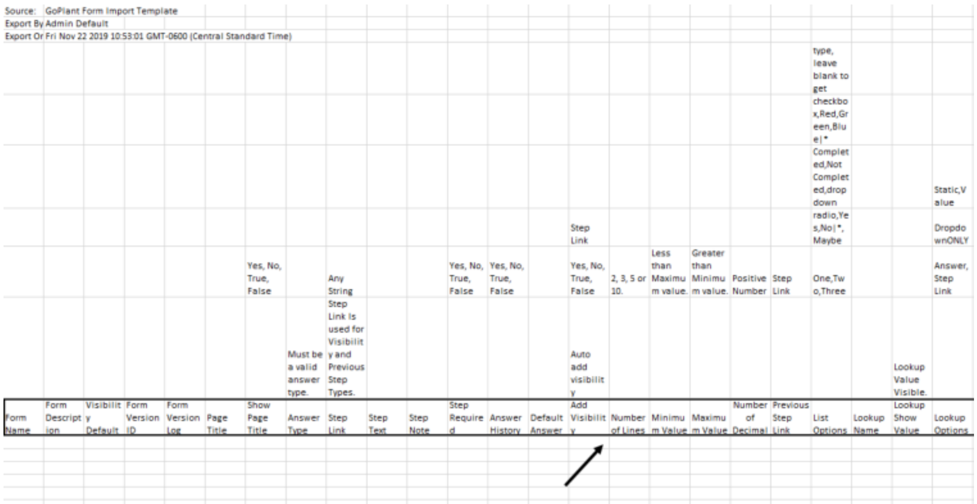


*Figure 107 Import Forms: CSV Template (.csv)*

Note particularly the differences to the Excel file method:

- Not being a macro-enabled file, the help information and instructions are placed in the first 9 rows. These contain complementary information for the user and examples of responses. These extra/information rows will be ignored when importing to GoPlant.
- Row 10 shows all fields selected in the form import options and is the start of the template proper. Add data only on these lower rows.

Complete the CSV file and save it in CSV format UTF-8 (comma delimited) and named with a .CSV extension.

- Note that if UTF-8 format is not used special characters and double-byte language text will not work properly.
- All Column header labels must remain in the English Language.

The output CSV file can now be chosen and imported.

**Import CSV file created by either Excel or CSV methods**

Returning to GoPlant Select, select **Choose File** at the top of the Form Import window and browse to/select the CSV file. A validation window will open with all the configuration of the form imported from the CSV file:

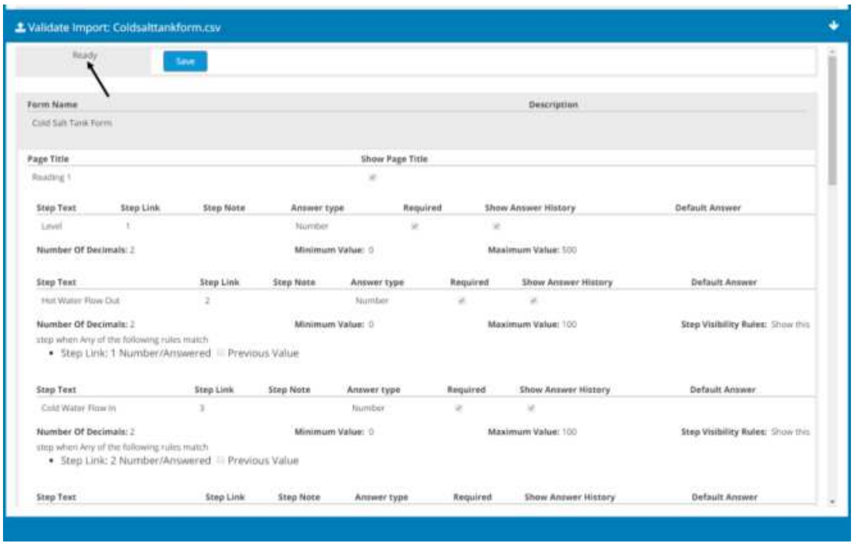



*Figure 108 Import Tools: Validate Import*

- The upper left corner would indicate **Ready** if the form passed the (critical) form validations.
- If the CSV file has validation problems a pop-up window will appear indicating the errors found. It is possible for both the pop-up window and the Ready indication to appear concurrently.
- If the errors appear at the top of the validation window, this means that they are critical errors and the form cannot be imported until they are fixed.

If the CSV file has validation problems and a pop-up window appears, each listed error will also display the row number within the file so that they can easily be corrected. Make a note or take a screenshot to remember all errors and ideally fix them before attempting to import.

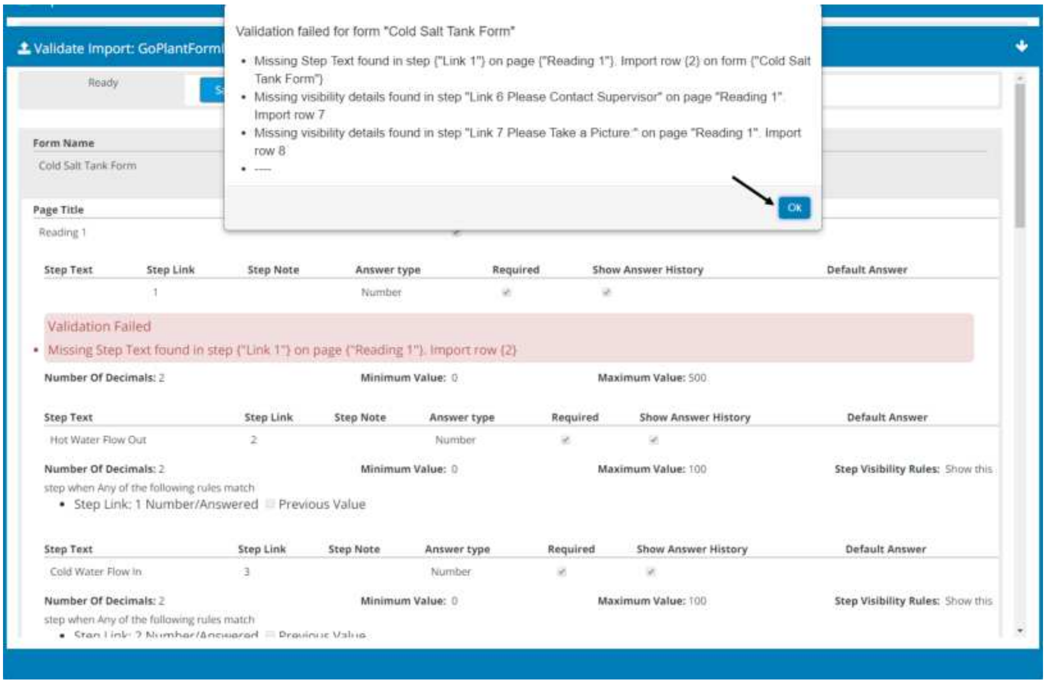



*Figure 109  Import Tools: Validate Import failure*

By clicking **Ok** the user can see the location of each error shown in the pop-up window. These errors are highlighted in the Validate Import window as the user scrolls up and down through all steps in the import file.

If the status is **Ready** at the top of the Form Import window the errors that are shown do not inhibit the Import.

- Whilst the form can still be imported the user must fix these errors in the Form Designer before publishing.

Many errors are not critical and adding information with the Form Designer will clear them before publishing the form.

Press the adjacent **Save** button to create the new form in the selected storage group:


*Figure 110  Import Tools: Saving Imported form*

The status …**Saving** and then …**Saved** will be indicated.

- ➢ The time it takes to save the form will depend on the number of steps added.

When the Form Import design window is closed, the new form should be visible in the list of forms of the selected storage group:

- ➢ Verify that the form was saved successfully by checking for it in the list of forms of the selected storage group.
- ➢ The user must solve any validation errors before publishing. Locate the imported form and click to open it in the Form Designer to fix the errors.
- ➢ The form must be published before it can be used.

**Critical Errors**

If the errors appear at the top, this means that they are critical errors and the form cannot be imported. They must be corrected in the CSV file and then the process of loading the CSV file repeated.


*Figure 111 Import Forms: Critical errors*

### Column names

The only valid entries are listed in the table below:

*Table 3 Valid column names*

| **Valid Column Names** | | |
|---|---|---|
| Form Name | Answer History | Date Default |
| Form Description | Default Answer | Show Message |
| Visibility Default | Add Visibility | Document Name |
| Form Version ID | Number of Lines | Alias |
| Form Version Log | Minimum Value | Formula |
| Page Title | Maximum Value | Instruction Message |
| Show Page Title | Number of Decimals | Scan Enter Manually |
| Answer Type | Previous Step Link | Scan Visible |
| Step Link | List Options | Scan Location Code |
| Step Text | Lookup Name | Scan Type |
| Step Note | Lookup Show Value | |
| Step Required | Lookup Options | |

Any deviations from the above list will cause column naming related errors:

- **Empty column name** – The column name cannot be empty and all column titles must match with the names shown in import columns in the form import windows. All column titles must remain in the English Language.
- **Invalid column name** – The column name cannot be different from the default names in the template. Do not change the column title names.
- **Duplicate Column name** – There cannot be duplicate column names.

### Visibility Default column

Names in this column must match with existing Visibility Defaults in the storage group. Blank entries are permitted and will automatically use the previous row's Visibility Default.

- **Invalid Visibility Default Name** - Default Visibility template names must match with Default Visibility names created in the Form Tools area within the storage group.

**Answer Type column**

The only valid entries are listed in the table below:

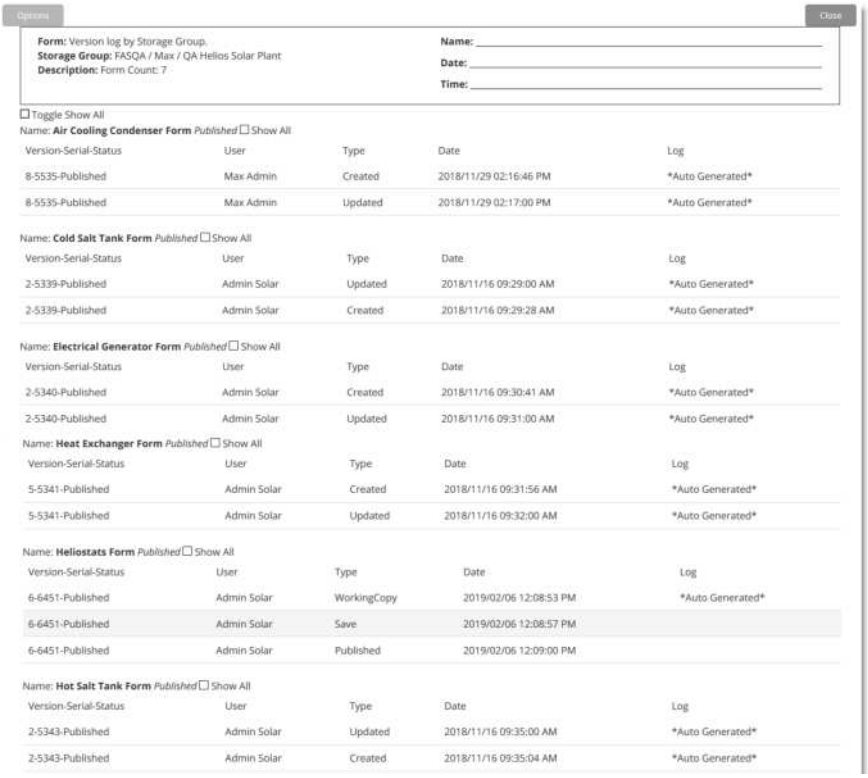
*Table 4 Valid answer types*

| Valid Answer Types | | |
|---|---|---|
| Short text | List | Scan Location |
| Multi-line text | Signature | Lookup |
| Take picture | Drawing | Calculation |
| Show document | Scan Code | Previous |
| Number | Time | Yes/No |
| Show message | Date | Instructions |

- Invalid Answer Type – The Response Type names must match with valid response types (shown in the table above).

### 2.2.11.6 Forms tab – Version tracking

The Forms tab has two controls relating to the display of version information for forms. Select **Show Versions**, to view all forms and their versions. It will display the version information in a print-out type format, for all forms in the storage group (Version log by Storage Group):



Options Close

**Form:** Version log by Storage Group.
**Storage Group:** FASQA / Max / QA Helios Solar Plant
**Description:** Form Count: 7

**Name:** ______
**Date:** ______
**Time:** ______

Toggle Show All

Name: **Air Cooling Condenser Form** *Published* Show All

| Version-Serial-Status | User | Type | Date | Log |
|---|---|---|---|---|
| 8-5535-Published | Max Admin | Created | 2018/11/29 02:16:46 PM | *Auto Generated* |
| 8-5535-Published | Max Admin | Updated | 2018/11/29 02:17:00 PM | *Auto Generated* |

Name: **Cold Salt Tank Form** *Published* Show All

| Version-Serial-Status | User | Type | Date | Log |
|---|---|---|---|---|
| 2-5339-Published | Admin Solar | Updated | 2018/11/16 09:29:00 AM | *Auto Generated* |
| 2-5339-Published | Admin Solar | Created | 2018/11/16 09:29:28 AM | *Auto Generated* |

Name: **Electrical Generator Form** *Published* Show All

| Version-Serial-Status | User | Type | Date | Log |
|---|---|---|---|---|
| 2-5340-Published | Admin Solar | Created | 2018/11/16 09:30:41 AM | *Auto Generated* |
| 2-5340-Published | Admin Solar | Updated | 2018/11/16 09:31:00 AM | *Auto Generated* |

Name: **Heat Exchanger Form** *Published* Show All

| Version-Serial-Status | User | Type | Date | Log |
|---|---|---|---|---|
| 5-5341-Published | Admin Solar | Created | 2018/11/16 09:31:56 AM | *Auto Generated* |
| 5-5341-Published | Admin Solar | Updated | 2018/11/16 09:32:00 AM | *Auto Generated* |

Name: **Heliostats Form** *Published* Show All

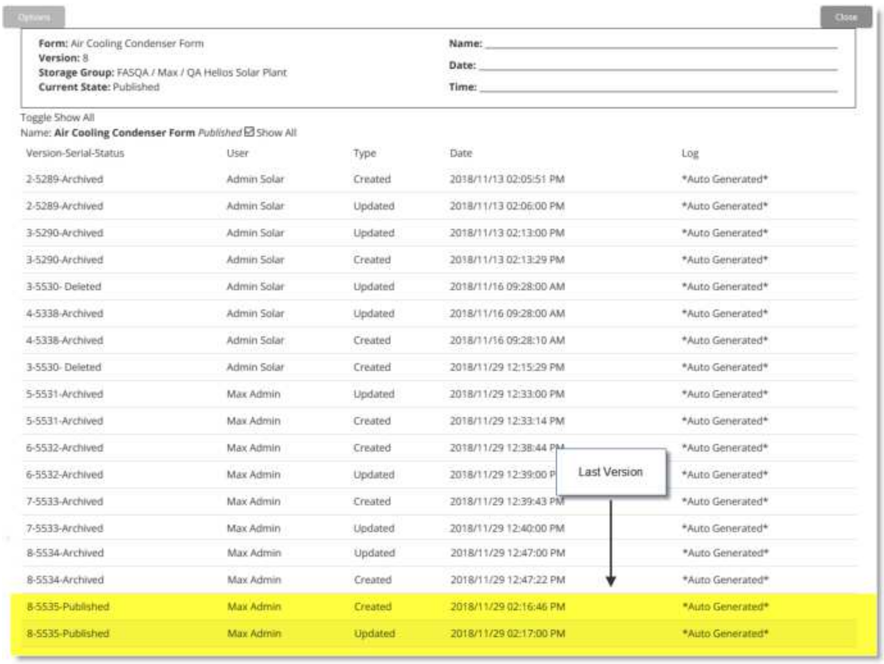
| Version-Serial-Status | User | Type | Date | Log |
|---|---|---|---|---|
| 6-6451-Published | Admin Solar | WorkingCopy | 2019/02/06 12:08:53 PM | *Auto Generated* |
| 6-6451-Published | Admin Solar | Save | 2019/02/06 12:08:57 PM | |
| 6-6451-Published | Admin Solar | Published | 2019/02/06 12:09:00 PM | |

Name: **Hot Salt Tank Form** *Published* Show All

| Version-Serial-Status | User | Type | Date | Log |
|---|---|---|---|---|
| 2-5343-Published | Admin Solar | Updated | 2018/11/16 09:35:00 AM | *Auto Generated* |
| 2-5343-Published | Admin Solar | Created | 2018/11/16 09:35:04 AM | *Auto Generated* |

*Figure 112 Forms: Version log by Storage Group*

To generate a similar output but for only a specific individual form, click instead on the blue **Version** name/hyperlink of the required form.



Options Close

**Form:** Air Cooling Condenser Form
**Version:** 8
**Storage Group:** FASQA / Max / QA Helios Solar Plant
**Current State:** Published

**Name:** ______
**Date:** ______
**Time:** ______

Toggle Show All

Name: **Air Cooling Condenser Form** *Published* Show All

| Version-Serial-Status | User | Type | Date | Log |
|---|---|---|---|---|
| 2-5289-Archived | Admin Solar | Created | 2018/11/13 02:05:51 PM | *Auto Generated* |
| 2-5289-Archived | Admin Solar | Updated | 2018/11/13 02:06:00 PM | *Auto Generated* |
| 3-5290-Archived | Admin Solar | Updated | 2018/11/13 02:13:00 PM | *Auto Generated* |
| 3-5290-Archived | Admin Solar | Created | 2018/11/13 02:13:29 PM | *Auto Generated* |
| 3-5530- Deleted | Admin Solar | Updated | 2018/11/16 09:28:00 AM | *Auto Generated* |
| 4-5338-Archived | Admin Solar | Updated | 2018/11/16 09:28:00 AM | *Auto Generated* |
| 4-5338-Archived | Admin Solar | Created | 2018/11/16 09:28:10 AM | *Auto Generated* |
| 3-5530- Deleted | Admin Solar | Created | 2018/11/29 12:15:29 PM | *Auto Generated* |
| 5-5531-Archived | Max Admin | Updated | 2018/11/29 12:33:00 PM | *Auto Generated* |
| 5-5531-Archived | Max Admin | Created | 2018/11/29 12:33:14 PM | *Auto Generated* |
| 6-5532-Archived | Max Admin | Created | 2018/11/29 12:38:44 PM | *Auto Generated* |
| 6-5532-Archived | Max Admin | Updated | 2018/11/29 12:39:00 PM | *Auto Generated* |
| 7-5533-Archived | Max Admin | Created | 2018/11/29 12:39:43 PM | *Auto Generated* |
| 7-5533-Archived | Max Admin | Updated | 2018/11/29 12:40:00 PM | *Auto Generated* |
| 8-5534-Archived | Max Admin | Updated | 2018/11/29 12:47:00 PM | *Auto Generated* |
| 8-5534-Archived | Max Admin | Created | 2018/11/29 12:47:22 PM | *Auto Generated* |
| 8-5535-Published | Max Admin | Created | 2018/11/29 02:16:46 PM | *Auto Generated* |
| 8-5535-Published | Max Admin | Updated | 2018/11/29 02:17:00 PM | *Auto Generated* |



*Figure 113 Task: Version log for an individual task*

Both styles of output show the form version history and status including columns for displaying the **User**, **Date** and **Log** entry text for the change as well as its **Type** classification.

# 3 Printing

The print feature allows for Admin and Editor users to print forms, assets, rounds and tasks so that when needed, information can be gathered via a paper format. Printing a form allows the operator to review form design, work during a mobile device failure or similar issue. The operator can be guided through data collection on paper along with the visibility rules and the design of the questions that would be shown in the GoPlant Mobile application.

The print feature is accessed from the Manager Interface at the tab relevant to the printing required (Forms, Forms by Asset, Rounds or Tasks). Ensure therefore that the proper sub-group in the hierarchy has been selected.

At each tab, the print function is accessed by way of the print icons available at the individual form, asset, round or task:

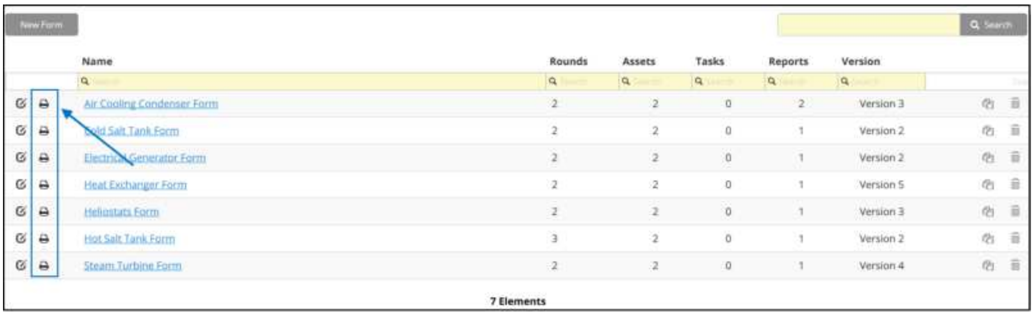



*Figure 114 Print icon examples*

## 3.1 Print Blank Forms

After ensuring that the proper sub-group in the hierarchy has been selected, in the Manager Interface select the Forms tab and then press the print icon for the desired form:

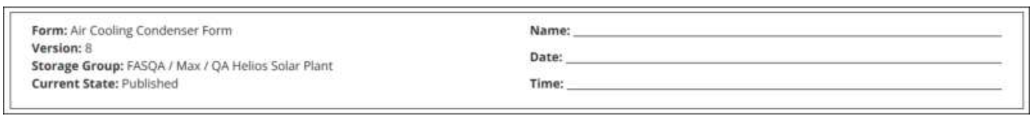



*Figure 115 Print form header*

After a period of loading, the form header Information area will update with information such as form name, version, storage group and current status. On the right side will be three blank fields (Name, Date and Time) to be filled manually.

Below the header area, the default is for the Display Format to be loaded in Rows, the **Options** button, provides an alternative column template and further options to set what level of detail is to be shown:

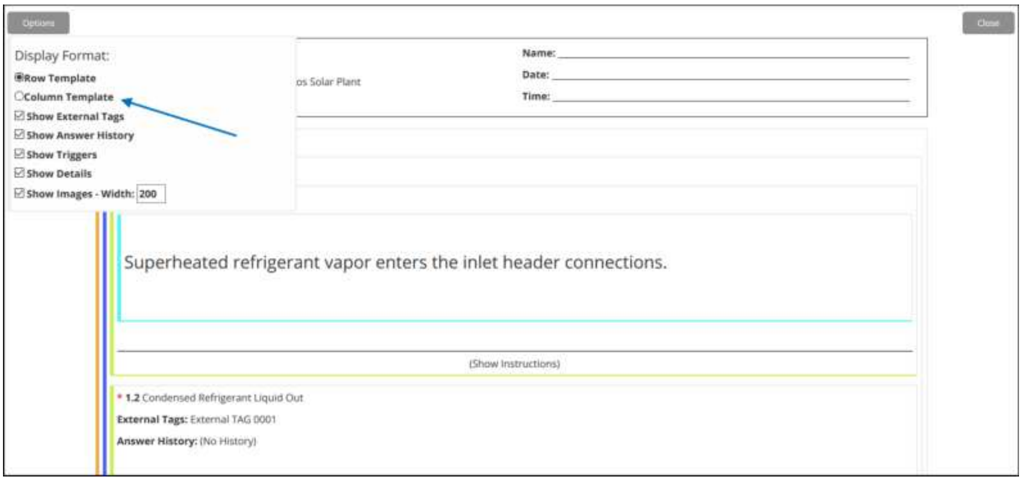



*Figure 116 Print form options*

**Options**:

**Row Template** or **Column Template** is a radio button choice.

**Show External Tags**: Show the Tag Name associated with the step question. If the step has multiple associated tags, it will show the selected one to be displayed in the form.

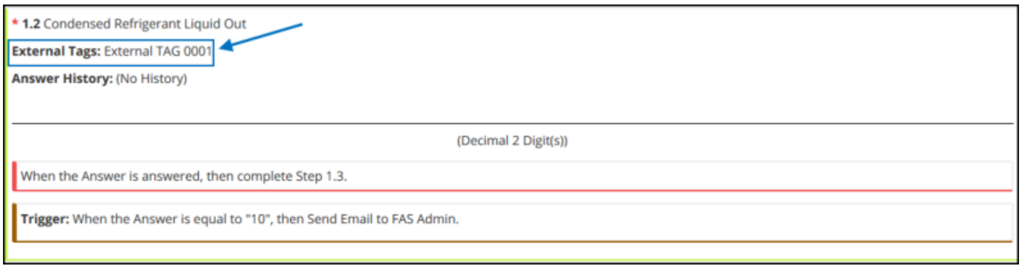



*Figure 117 Show optional content – Row Template example*


*Figure 118 Show optional content – Column Template example*

**Show Answer History**: This option will be available when the form is printed from the Assets tab, Tasks tab or Rounds tab. When the form does not have a relationship with an asset, **Answer History** will be displayed as shown above, with the text: (No History).

**Show Triggers**: As also illustrated above, this will show the triggers created by the user for each step question. These can be triggers for emails, asset state change or set Alarm conditions for Reporting and alerting purposes. This will display the exceptions that are generated in reports.

**Show Details**: Enabling this option will show different information depending upon the user's choice to print the form from the Forms tab, Assets tab, Tasks tab or Rounds tab.

When the blank form comes from Forms tab, **Show Details** will show the description of the form and the step comments:


*Figure 119 Show Details – Row Template example*

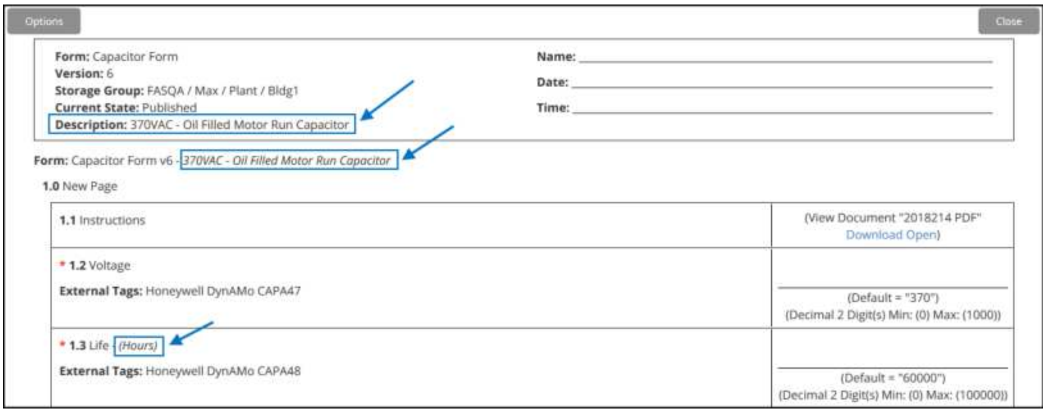



*Figure 120 Show Details – Column Template example*

**Show Images – Width**: If the form contains images, the user can customize the image size by setting a width in pixels:

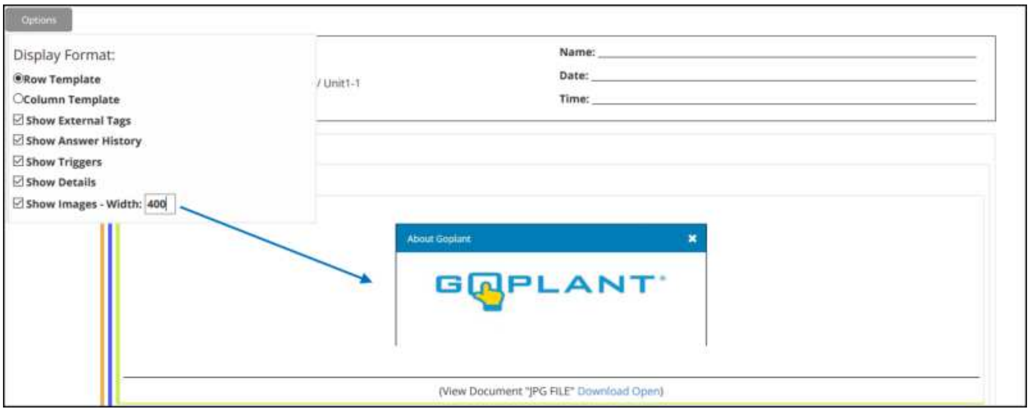



*Figure 121 Show Images - Width – Row Template example*

This options behaves similarly in either row or column formats and the user has the option to download or open the image, by clicking on the blue **Download** or **Open** links.

**Visibility Rules**: Not a selectable option but a standard feature that means each step created with a visibility rule, will show that rule, to know if it is necessary or not to complete it:

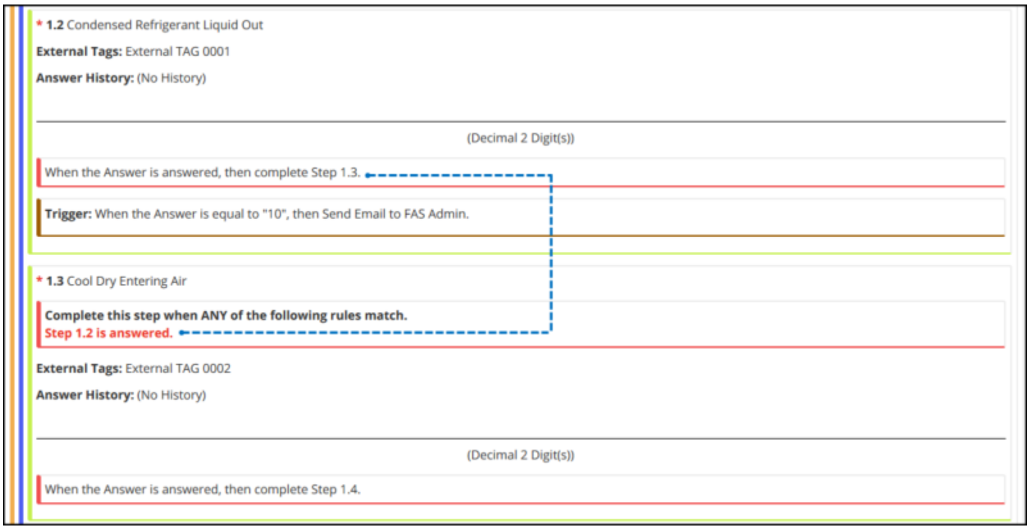



*Figure 122 Visibility Rules – Row Template example*

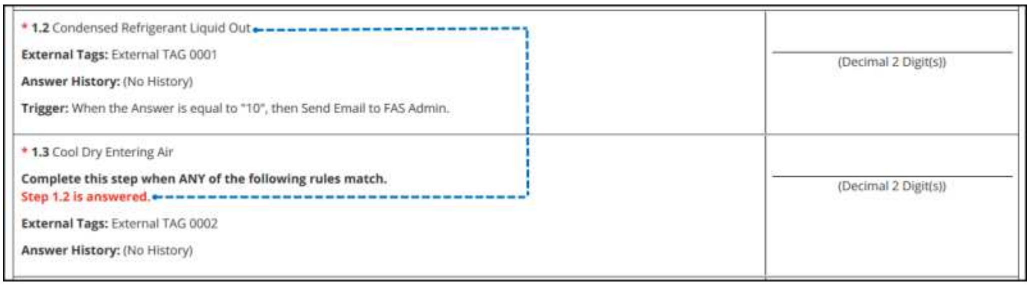



*Figure 123 Visibility Rules – Column Template example*

## 3.2 Print Blank Forms - By Asset

After ensuring that the proper sub-group in the hierarchy has been selected, in the Manager Interface select the Assets tab and then press the print icon for the desired asset. Asset information will be loaded and then the detail of the associated forms:


*Figure 124 Print Blank Forms – By Asset example*

The **Options** button has, as described earlier, controls for **Row** or **Column Template** formats, **Show External Tags**, **Show Answer History**, **Show Triggers**, **Show Details** and **Show Images - Width**.

## 3.3 Print Blank Rounds

After ensuring that the proper sub-group in the hierarchy has been selected, in the Manager Interface select the Rounds tab and then press the print icon for the desired round. Round information will be loaded and then the detail of the associated forms:

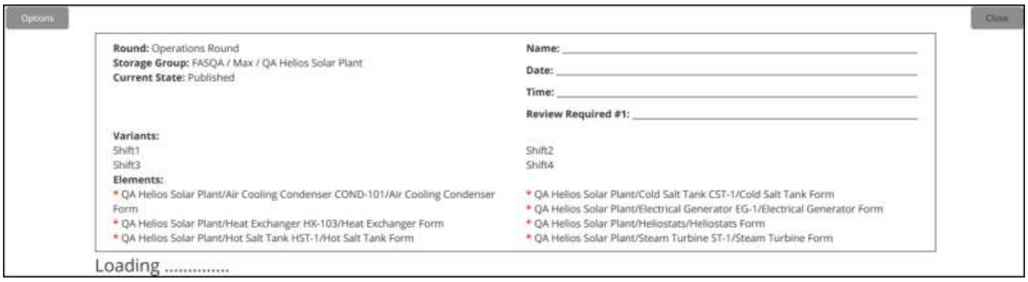



*Figure 125 Print Blank Rounds – Header example*

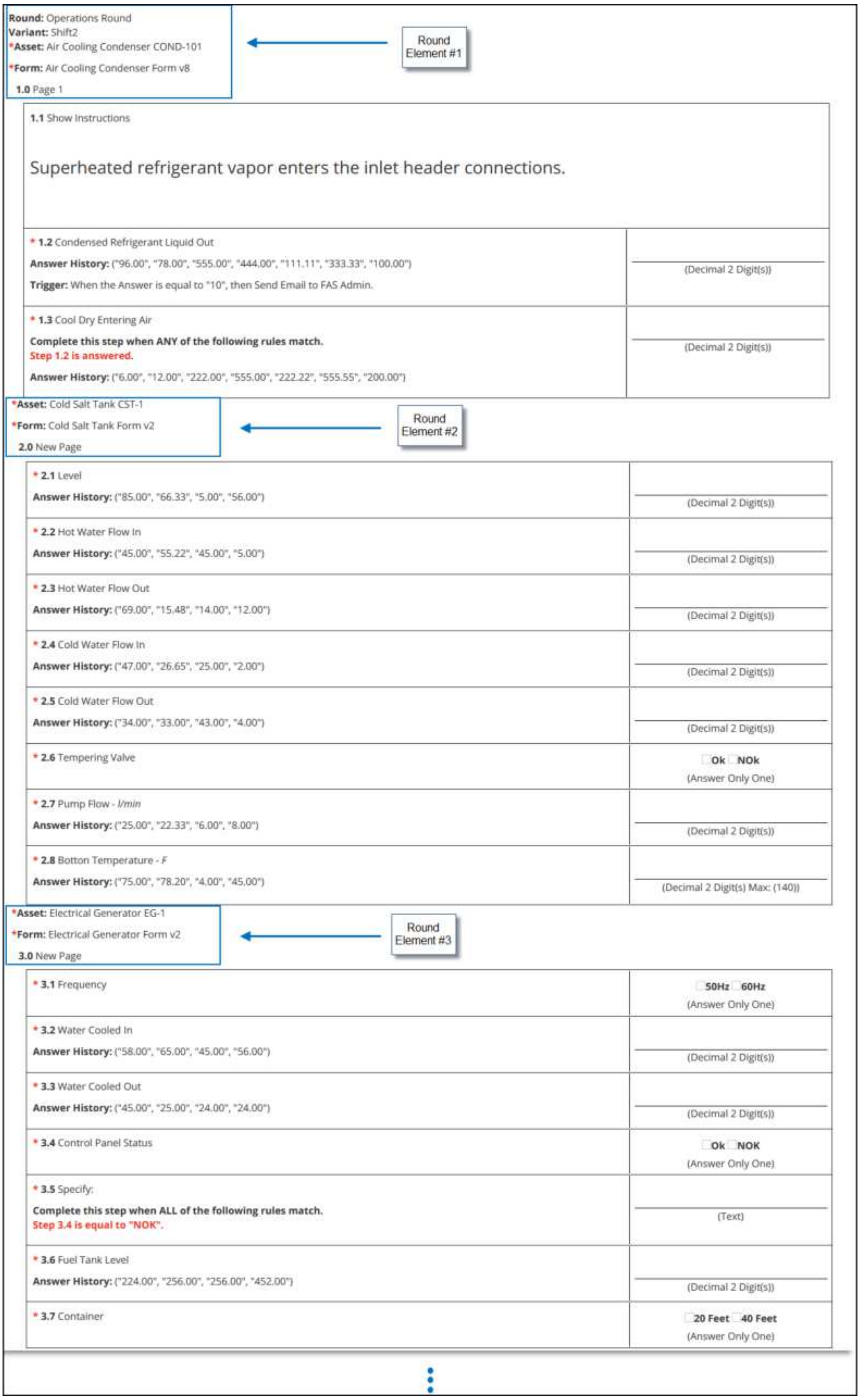
➢ The asterisk symbol (*) shown next to the elements indicates that they are required.

Here the **Options** button has, in addition to the controls described earlier, further controls related to variants where there is more than one associated variant:


*Figure 126 Print Blank Rounds – Variant options example*

If the round has more than one associated variant, the first one will be loaded by default, but the user can select another variant associated with the round. To select another variant, move the mouse over the button and select the variant to be displayed/printed.

The selected variant will be displayed with all forms or Asset forms associated with the round.



**Round:** Operations Round
**Variant:** Shift2
***Asset:** Air Cooling Condenser COND-101
***Form:** Air Cooling Condenser Form v8
**1.0** Page 1



**1.1** Show Instructions

Superheated refrigerant vapor enters the inlet header connections.

| | |
|---|---|
| * **1.2** Condensed Refrigerant Liquid Out<br>**Answer History:** ("96.00", "78.00", "555.00", "444.00", "111.11", "333.33", "100.00")<br>**Trigger:** When the Answer is equal to "10", then Send Email to FAS Admin. | (Decimal 2 Digit(s)) |
| * **1.3** Cool Dry Entering Air<br>**Complete this step when ANY of the following rules match.**<br>**Step 1.2 is answered.**<br>**Answer History:** ("6.00", "12.00", "222.00", "555.00", "222.22", "555.55", "200.00") | (Decimal 2 Digit(s)) |

***Asset:** Cold Salt Tank CST-1
***Form:** Cold Salt Tank Form v2
**2.0** New Page



| | |
|---|---|
| * **2.1** Level<br>**Answer History:** ("85.00", "66.33", "5.00", "56.00") | (Decimal 2 Digit(s)) |
| * **2.2** Hot Water Flow In<br>**Answer History:** ("45.00", "55.22", "45.00", "5.00") | (Decimal 2 Digit(s)) |
| * **2.3** Hot Water Flow Out<br>**Answer History:** ("69.00", "15.48", "14.00", "12.00") | (Decimal 2 Digit(s)) |
| * **2.4** Cold Water Flow In<br>**Answer History:** ("47.00", "26.65", "25.00", "2.00") | (Decimal 2 Digit(s)) |
| * **2.5** Cold Water Flow Out<br>**Answer History:** ("34.00", "33.00", "43.00", "4.00") | (Decimal 2 Digit(s)) |
| * **2.6** Tempering Valve | **Ok** **NOk**<br>(Answer Only One) |
| * **2.7** Pump Flow - *l/min*<br>**Answer History:** ("25.00", "22.33", "6.00", "8.00") | (Decimal 2 Digit(s)) |
| * **2.8** Botton Temperature - *F*<br>**Answer History:** ("75.00", "78.20", "4.00", "45.00") | (Decimal 2 Digit(s) Max: (140)) |

***Asset:** Electrical Generator EG-1
***Form:** Electrical Generator Form v2
**3.0** New Page



| | |
|---|---|
| * **3.1** Frequency | **50Hz** **60Hz**<br>(Answer Only One) |
| * **3.2** Water Cooled In<br>**Answer History:** ("58.00", "65.00", "45.00", "56.00") | (Decimal 2 Digit(s)) |
| * **3.3** Water Cooled Out<br>**Answer History:** ("45.00", "25.00", "24.00", "24.00") | (Decimal 2 Digit(s)) |
| * **3.4** Control Panel Status | **Ok** **NOK**<br>(Answer Only One) |
| * **3.5** Specify:<br>**Complete this step when ALL of the following rules match.**<br>**Step 3.4 is equal to "NOK".** | (Text) |
| * **3.6** Fuel Tank Level<br>**Answer History:** ("224.00", "256.00", "256.00", "452.00") | (Decimal 2 Digit(s)) |
| * **3.7** Container | **20 Feet** **40 Feet**<br>(Answer Only One) |

*Figure 127 Print Blank Rounds –Example*

## 3.4 Print Blank Tasks

After ensuring that the proper sub-group in the hierarchy has been selected, in the Manager Interface select the Tasks tab and then press the print icon for the desired task. Task information is loaded and then the detail of the associated Round Variants, Assets and Forms:

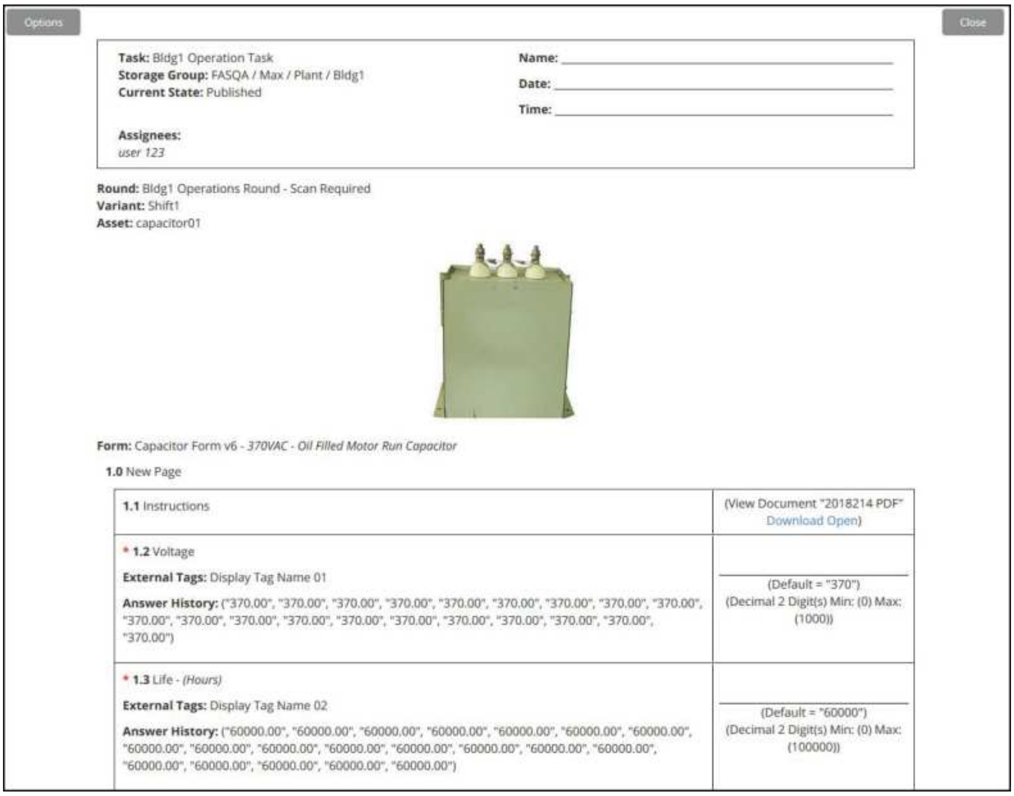



*Figure 128 Print Blank Tasks –Example*

The **Options** button has, as described earlier, controls for **Row** or **Column Template** formats, **Show External Tags**, **Show Answer History**, **Show Triggers**, **Show Details** and **Show Images - Width**.

# 4 Task management widgets

## 4.1 Introduction

In GoPlant tasks can be managed by Admin and Editor level users through the task management and task history widgets on the dashboard. These widgets give the user information about the tasks, including their status and percentage completeness.

GoPlant allows users to select tasks to see more details specific to the task (i.e., assignees, status, revoke/unrevoked, date completed, etc.). All tasks that have been synced with the server will show accurate details of status and completion of the task event.

➢ Tasks completed on a mobile device in off-network mode, will not display the current status until the device is in-network and synced with the server.

Task definitions:

- Tasks: Consist of round variant(s) that have a Deadline, Startline and expiration date. Tasks created in GoPlant contain Task Events.
- Task Events: Are individual deadlines for the task. Recurring tasks have multiple task events for each new deadline for the task. Task events within a task contain individual Task Assignments.
- Task Assignments: Are the individual assignments per assignee for each round variant(s) within the task event. If a task has 4 round variants and 2 assignees, there are 8 assignment records – 4 round variants for assignee #1 and 4 round variants for assignee #2.

**Task events** are defined by the following status levels:

a. **In Progress**: A task will show this status at the start line (defined in task).
b. **Completed**: Completed tasks are those completed by at least one of the assignees.
c. **Late**: Tasks are considered late when the task is incomplete and the task deadline has passed (any task that has been started will remain in the late status until it is either deleted or completed by one of the assignees).
d. **Expired**: Expired tasks are incomplete (never started) tasks that have passed the expiration time (defined in task).
e. **Revoked**: Admin users have the ability to revoke a task that has not yet expired.
    ➢ Admin role users have the ability to unrevoke a revoked task from the task management widget.

Task management widgets (Task Management, Task History and Completed Rounds for task review) can be added to the dashboard by selecting the Manage Widgets icon.

## 4.2 Task Management widget

The task management widget allows the user to view a list of task events and provides the user with the time to the Deadline and the current status.

The widget displays one row per task event with a query for the current day from 12:00:00AM to 11:59:59PM for all task events with a start line <= today AND deadline >= today.

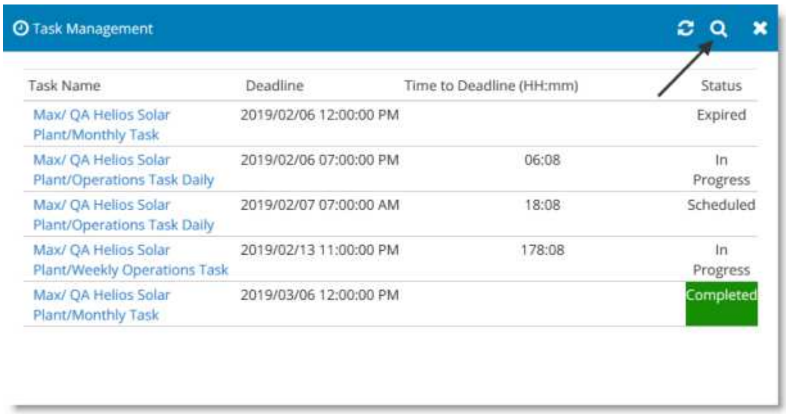



*Figure 129 Task Management widget – Example*

The columns shown are as follows:

a. **Task Name**: The task name for each task event.

b. **Deadline**: Displays the date/time stamp of the task event deadline (as defined in task).

c. **Time to Deadline**: The time in hours/minutes until the deadline. Time is displayed in HH:mm format with "-" displayed prior to time to deadline when the task event deadline has passed. Time to deadline should display a time unless the task event has been completed, at which time there should be no value displayed.

d. **Status**: The current status of the task event.

If required, select a specific task event row on the task management widget to view the details for only that task.

To see a list of all task event records for the current day. Select the search/browse icon to open the Task Event Browser:

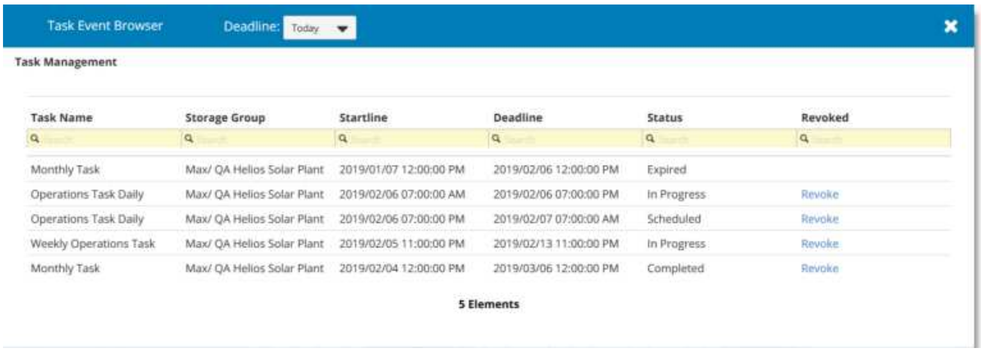



*Figure 130 Task Management widget – Task Event Browser example*

Multiple search/filter options are available:

- Filter on **Task Name**, **Storage Group**, **Startline**, **Deadline**, **Status** or **Revoked** columns.
- Use the **Deadline** drop-down in the top window bar to view tasks for a specific date range (*Today*, *7 Days*, *14 days*, *30 Days*, *From – To*).

A scheduled task event can be revoked by selecting **Revoke**. The user may also “Unrevoke” a previously revoked task.

Select a task from the list of **Task Names** to view the details for that specific task event. The Task Event Details page will appear:

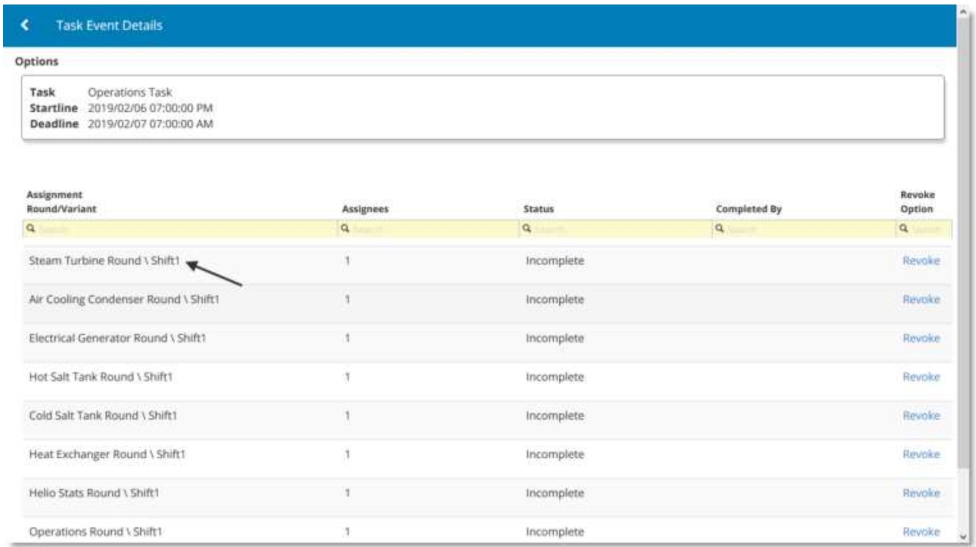



*Figure 131 Task Management widget – Task Event Details example*

Select a task **Assignment Round/Variant** to view the task assignment details. The task assignment details page will appear:

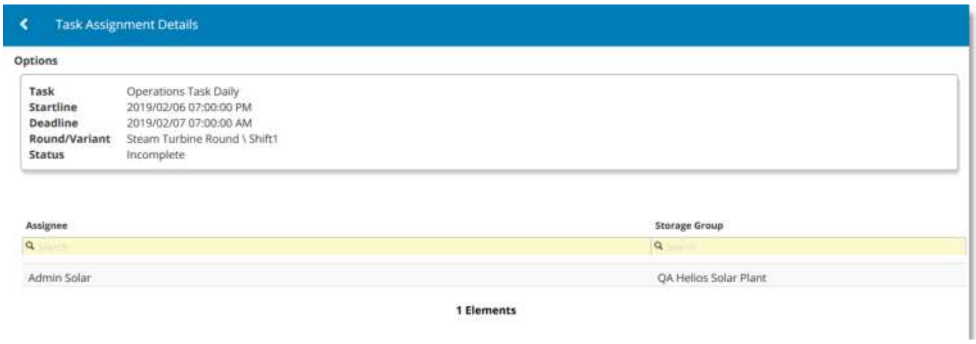



*Figure 132 Task Management widget – Task Assignment Details example*

## 4.3 Task History widget

The task history widget allows the user to view a list of combined task events and provides the user with a percentage of tasks completed and/or late. The widget displays one row per task event name (combines all task events with the same name) with a query from “Today” at 11:59:59 PM including the last 2 weeks.

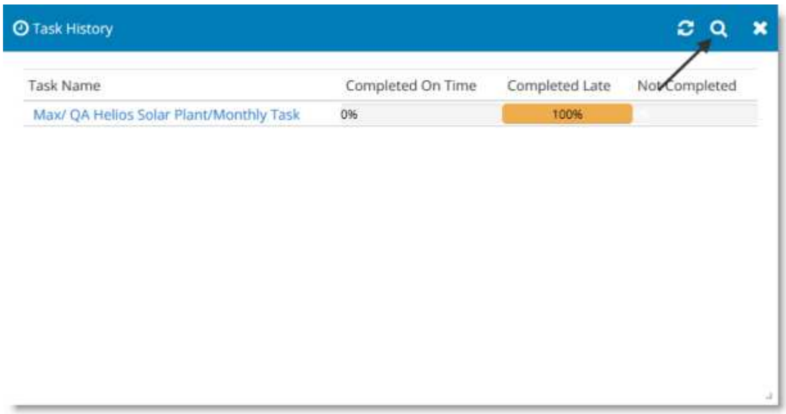



*Figure 133 Task History widget – Example*

The columns shown are as follows:

a. **Task Name**: Displays task name for each task (combines the task events of the same name).

b. **Completed on Time**: Shows percent of tasks for past 2 weeks completed prior to the deadline (percent is number of completed on time over past 2 weeks divided by the number of total tasks). Color is green if over 0%, otherwise no color is displayed.

c. **Completed Late**: Displays percent of tasks for past 2 weeks completed after deadline and/or expired time (percent is number of completed late divided by the number of total tasks). Color is yellow if over 0%, otherwise no color is displayed.

d. **Not Completed**: Shows percent of tasks for past 2 weeks that are still in progress, never started, revoked or expired (percent is number of not completed divided by the number of total tasks). Color is red if over 0%, otherwise no color is displayed.

Then just as in the Task management widget:

- Select the search/browse icon to go open the Task Event Browser. In this case it will open with a default **Deadline** setting to show a list of all task event records for the past 2 weeks. Multiple search/filter options remain available.
- Select a task from the list of **Task Names** to view the details for that specific task event. The Task Event Details page will appear.
- Select a task **Assignment Round/Variant** to view the task assignment details.

## 4.4 Completed Rounds widget

The Completed Rounds widget is the means by which any user that has been defined as a “Reviewer” will have the ability to review and accept rounds marked as *To be reviewed*.

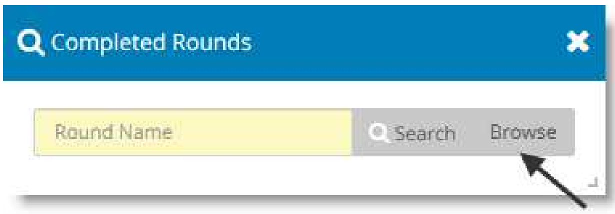
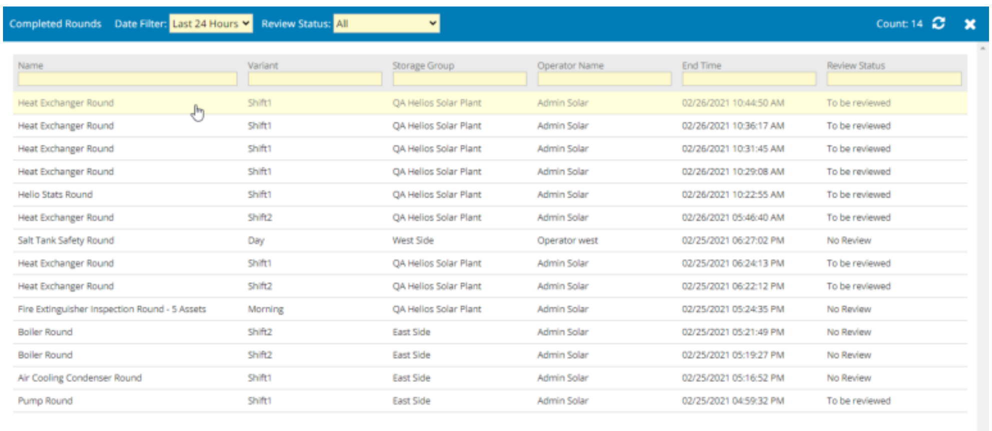



*Figure 134 Completed Rounds widget*

Select **Browse** and the list of completed rounds will appear:


Completed Rounds Date Filter: Last 24 Hours Review Status: All Count: 14

| Name | Variant | Storage Group | Operator Name | End Time | Review Status |
|---|---|---|---|---|---|
| Heat Exchanger Round | Shift1 | QA Helios Solar Plant | Admin Solar | 02/26/2021 10:44:50 AM | To be reviewed |
| Heat Exchanger Round | Shift1 | QA Helios Solar Plant | Admin Solar | 02/26/2021 10:36:17 AM | To be reviewed |
| Heat Exchanger Round | Shift1 | QA Helios Solar Plant | Admin Solar | 02/26/2021 10:31:45 AM | To be reviewed |
| Heat Exchanger Round | Shift1 | QA Helios Solar Plant | Admin Solar | 02/26/2021 10:29:08 AM | To be reviewed |
| Helio Stats Round | Shift1 | QA Helios Solar Plant | Admin Solar | 02/26/2021 10:22:55 AM | To be reviewed |
| Heat Exchanger Round | Shift2 | QA Helios Solar Plant | Admin Solar | 02/26/2021 05:46:40 AM | To be reviewed |
| Salt Tank Safety Round | Day | West Side | Operator west | 02/25/2021 06:27:02 PM | No Review |
| Heat Exchanger Round | Shift1 | QA Helios Solar Plant | Admin Solar | 02/25/2021 06:24:13 PM | To be reviewed |
| Heat Exchanger Round | Shift2 | QA Helios Solar Plant | Admin Solar | 02/25/2021 06:22:12 PM | To be reviewed |
| Fire Extinguisher Inspection Round - 5 Assets | Morning | QA Helios Solar Plant | Admin Solar | 02/25/2021 05:24:35 PM | No Review |
| Boiler Round | Shift2 | East Side | Admin Solar | 02/25/2021 05:21:49 PM | No Review |
| Boiler Round | Shift2 | East Side | Admin Solar | 02/25/2021 05:19:27 PM | No Review |
| Air Cooling Condenser Round | Shift1 | East Side | Admin Solar | 02/25/2021 05:16:52 PM | No Review |
| Pump Round | Shift1 | East Side | Admin Solar | 02/25/2021 04:59:32 PM | To be reviewed |

*Figure 135 Completed Rounds widget – List of completed rounds*

By default, all rounds completed within the last 24 hours will be listed.

➢ The **Date Filter** selection will remember the last choice from this window so that it defaults to that selection the next time the **Browse** button is selected. Options available are: *Last 24 hours*, *Last 7 days*, *Last 30 days* and *From – To*.

By default, the **Review Status** control is set to *All*. Alternatively set this to *To be reviewed* to view only those rounds in need of review. Remaining options are *Review in progress* and *Review Completed*.

➢ If dual step review is enabled, the first reviewer has the option to filter on *To be reviewed.* Once the first reviewer has completed the primary review, the Round will be marked with a status of *In Progress*. Reviewers performing secondary reviews can use the option to filter on the *In Progress* status to select those reviews awaiting second review.

Select a round from the list to display the Round Viewer:

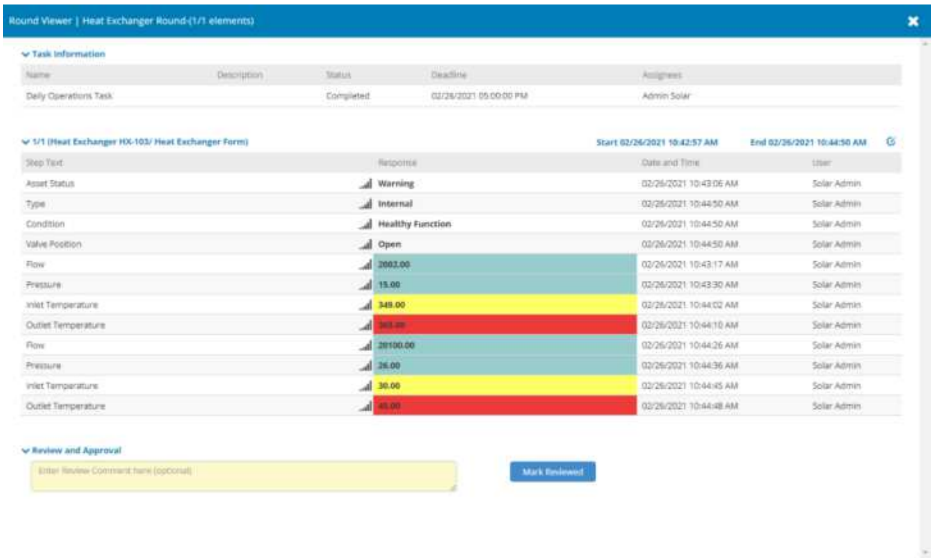



*Figure 136 Completed Rounds widget – Round Viewer*

- If the round was within a task, then the **Task Information** appears at the top of the page.
- Each round element completed, will appear in the view. On the right side of the form header is an edit icon for that form.
- To the bottom is the **Review and Approval** comment area and the **Mark Reviewed** button.

An on-demand Answer History chart is available for each response, by clicking on the adjacent chart icon:

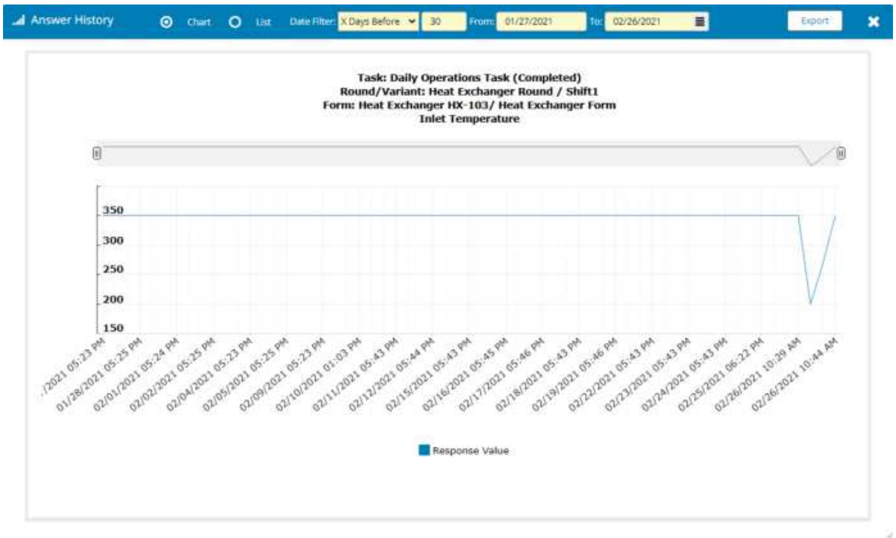
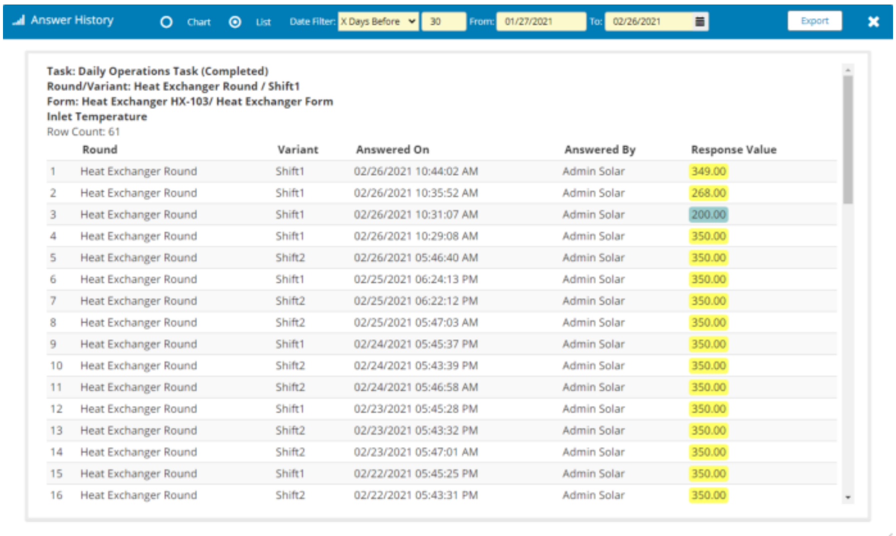



*Figure 137 Answer History - Chart*

The answer history data can be viewed in list mode by checking, instead, the **List** option:




| | Round | Variant | Answered On | Answered By | Response Value |
|---|---|---|---|---|---|
| 1 | Heat Exchanger Round | Shift1 | 02/26/2021 10:44:02 AM | Admin Solar | 349.00 |
| 2 | Heat Exchanger Round | Shift1 | 02/26/2021 10:35:52 AM | Admin Solar | 268.00 |
| 3 | Heat Exchanger Round | Shift1 | 02/26/2021 10:31:07 AM | Admin Solar | 200.00 |
| 4 | Heat Exchanger Round | Shift1 | 02/26/2021 10:29:08 AM | Admin Solar | 350.00 |
| 5 | Heat Exchanger Round | Shift2 | 02/26/2021 05:46:40 AM | Admin Solar | 350.00 |
| 6 | Heat Exchanger Round | Shift1 | 02/25/2021 06:24:13 PM | Admin Solar | 350.00 |
| 7 | Heat Exchanger Round | Shift2 | 02/25/2021 06:22:12 PM | Admin Solar | 350.00 |
| 8 | Heat Exchanger Round | Shift2 | 02/25/2021 05:47:03 AM | Admin Solar | 350.00 |
| 9 | Heat Exchanger Round | Shift1 | 02/24/2021 05:45:37 PM | Admin Solar | 350.00 |
| 10 | Heat Exchanger Round | Shift2 | 02/24/2021 05:43:39 PM | Admin Solar | 350.00 |
| 11 | Heat Exchanger Round | Shift2 | 02/24/2021 05:46:58 AM | Admin Solar | 350.00 |
| 12 | Heat Exchanger Round | Shift1 | 02/23/2021 05:45:28 PM | Admin Solar | 350.00 |
| 13 | Heat Exchanger Round | Shift2 | 02/23/2021 05:43:32 PM | Admin Solar | 350.00 |
| 14 | Heat Exchanger Round | Shift2 | 02/23/2021 05:47:01 AM | Admin Solar | 350.00 |
| 15 | Heat Exchanger Round | Shift1 | 02/22/2021 05:45:25 PM | Admin Solar | 350.00 |
| 16 | Heat Exchanger Round | Shift2 | 02/22/2021 05:43:31 PM | Admin Solar | 350.00 |

*Figure 138 Answer History - List*

The **Export** button will export the information shown on the Answer History screen, including the applied filters, in CSV format:

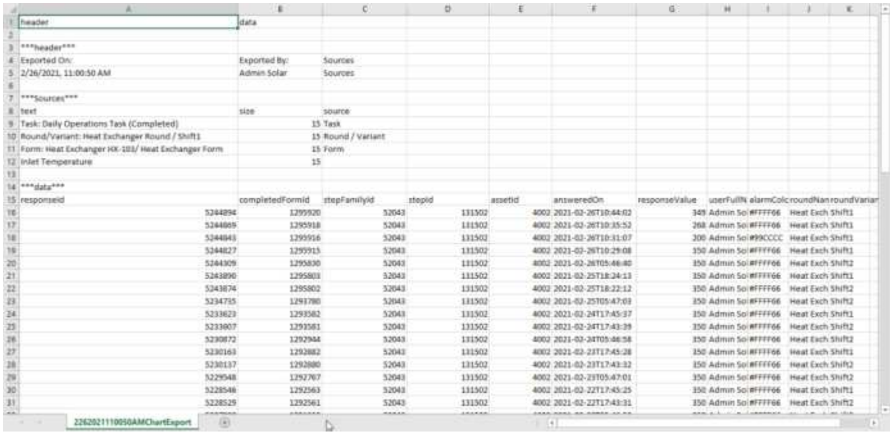


*Figure 139 Answer History – Exported to .csv file format*

If needed, select the edit icon on the Round Viewer to edit the round element form, collected data. This opens the Form Viewer:

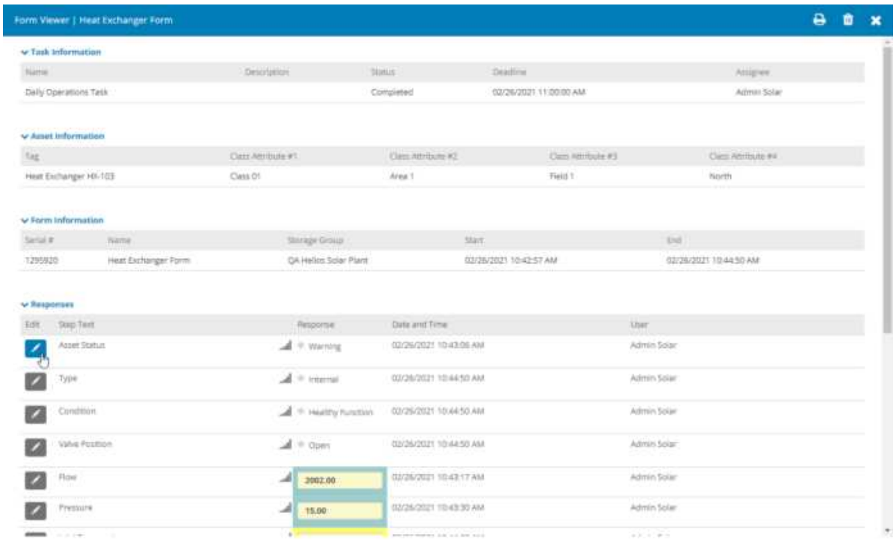


*Figure 140 Completed Rounds widget – Form Viewer*

- Only Admin and Editor role users will have the ability to edit a completed form.

Now also select the edit icon in the **Responses** area to change the collected response data.

- GoPlant will update the response and retain the previous data for auditing purposes. The response value will update with a new date time stamp and the editor's username.

Select "X" to close the form viewer to return to the Round Viewer, open at the round under review.

At the bottom enter a comment and select **Mark Reviewed** to accept the round.

- If the round requires a password for authentication, the reviewer will be required to re-enter their password for round approval.

# 5 Reports

GoPlant provides over 65 standard preconfigured reports for forms, rounds, tasks, assets and exception reporting. Along with the standard reports, custom reports may be configured with the report designer. Custom reports pull information on a form basis and are created within the storage group where the required assets and forms reside.

Reports are potentially available to all users, all reports (available to the user) may be accessed and run via the Reports widget on the dashboard.

For Admin and Editor level users, accessing from the reports tab from the Manager Interface in GoPlant limits the storage group criteria within the standard report. It provides a quick way to run a standard report against a single storage group.

Reports run through either the Reports tab or the dashboard along with edited reports get added to the “Recently used” listing on the Reports widget. This allows for quick access to the last 20 reports used in GoPlant.

## 5.1 Using the Reports widget

If not already added, add the reports widget to the dashboard through the Manage Widgets icon. The reports widget will appear:

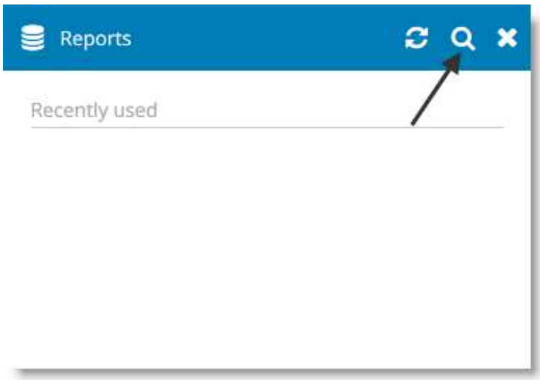



*Figure 141 Reports widget*

When applicable, any **Recently used** reports will automatically appear on the widget.

Select the search icon at the top right of the reports widget to select from the full list of reports or to narrow the search, **Filter Results** by some filter text:

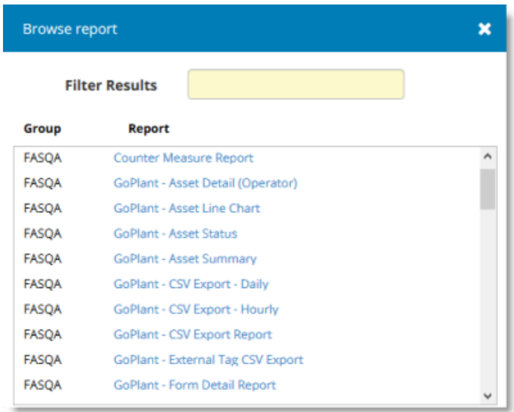



*Figure 142 Reports widget: search*

From the list, click on a report and it will open:

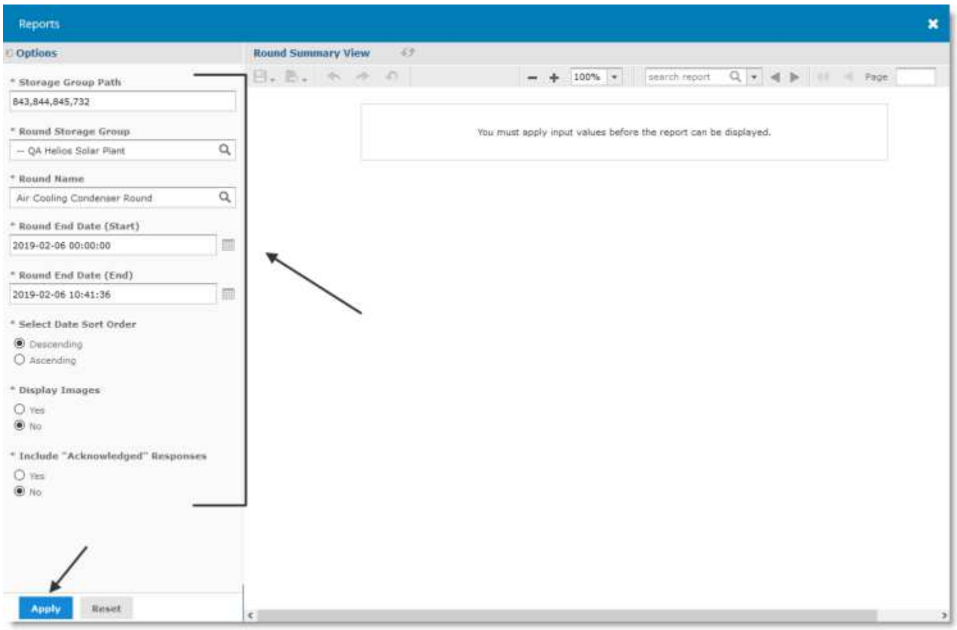



*Figure 143 Reports: apply input values*

Now enter the appropriate input data, based on the report type (i.e., Round Storage Group, Round Name, Date Range) and when complete select **Apply**. The report appears on the right hand side of the window:

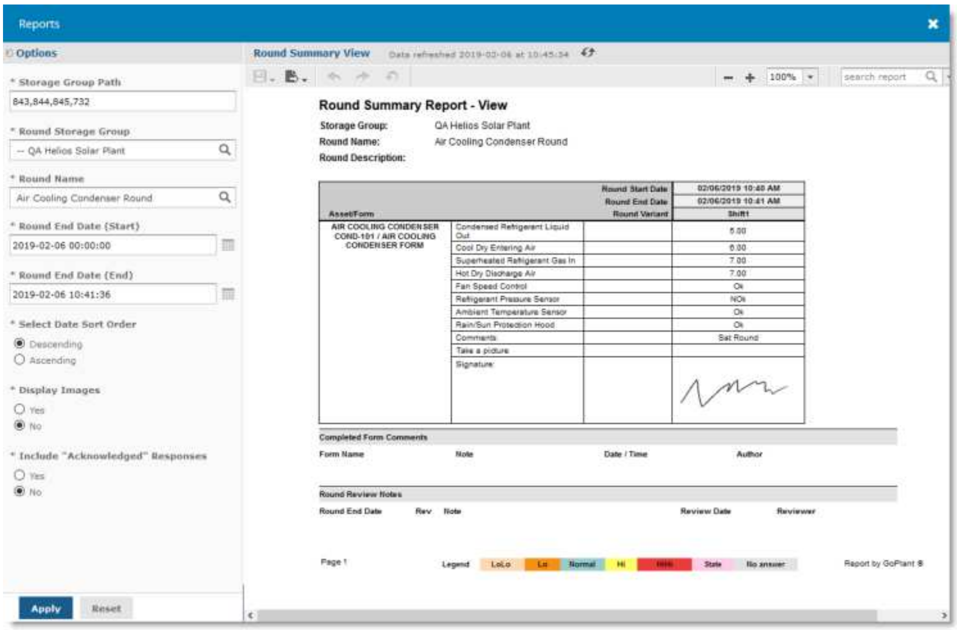



*Figure 144 Reports: view report example*

Reports formatted for printing (Print Reports), can be successfully exported to CVS, Excel or PDF format by selecting an option from the export drop-down, shown at the top of the view.

## 5.2 GoPlant standard report types

Note that:

- Standard report names all start with “GoPlant – “.
- Reports with both a View and Print version only differ in their output style. View reports are designed to be viewed on screen while the Print version is paged for PDF or printable output.

The following GoPlant standard report types are available:

a. **Alert Status** (View and Print): Detailed information for each alert notification sent by GoPlant as defined in the Form Triggers section for each form.

b. **Alert Summary**: A summary view of all alerts sent out via email triggers within forms.

c. **Asset Detail**: Detailed information for each asset including the Forms Associated.

d. **Asset Line Chart**: Create a chart of up to 6 numerical data points that are associated with an asset.

e. **Asset Status** (View and Print): Lists the current state for assets or filter for assets in a specific state.

f. **Asset Summary**: Summary report of all assets within selected storage groups showing the status and categories in a table format.

g. **CSV External Tag Export**: CSV output for various fields based upon External Tag selections.

h. **CSV Historian Export**: CSV output for various fields based upon external tags and output fields typically used in historian software.

i. **CSV Response Export**: CSV file output for all responses within a date range for the selected storage group. Pulls all responses entered across the storage group. Data fields may be selected to customize the output file.

j. **CSV Round Response Export**: CSV file output for all responses for specific rounds chosen within a date range. Data fields may be selected to customize the output file.

k. **CSV Task Response Export**: CSV file output for all responses for specific tasks chosen within a date range. Data fields may be selected to customize the output file.

l. **Form Detail**: Report for data collected on a specific form for a date range.

m. **Form Exception**: Displays exceptions noted from completed forms across any completed rounds. This report filters output to only responses that meet the triggered exception criteria.

n. **Form Line Chart**: Create a chart for up to 6 numerical data points that are collected on a form.

o. **Form Response Total**: Allows summation on weekly or monthly range for specific numerical responses within a form.

p. **License Usage**: Displays number of logins for a date range by storage group.

q. **Round Detail**: Displays round details for each round selected during the date range. Each round lists the operator responses, date/time stamp for each response and the operator’s name.

r. **Round Detail by User**: Displays round details for each round selected by date range and user filters.

s. **Round Element Detail**: Detail report just like the ‘Round Detail’ but with the ability to limit the report to specific elements within the selected round.

t. **Round Element Summary** (View and Print): View a summary of multiple round elements in a columnar format across the filter date range.

u. **Round Exception** (View and Print): Details only the response exceptions generated in the round within the date range.

v. **Round Review Status**: Report on the status of rounds that are flagged for review.

w. **Round Summary** (View and Print): Summary of round variants and elements completed in the given date range. Exceptions are highlighted in the appropriate color.

x. **Round Tag Source Print**: Round details that only lists answers that have been specifically tagged with the External Tags. Requires tag set up, but once tagged answers from any form and any round can be combined in one report.

y. **Round Tag Source Print w/Options**: Same as the Round Tag Source Print but allows for selection of output items to display on the report.

z. **Round Tag Source View**: Round details that only lists answers that have been specifically tagged with the External Tags. Requires tag set up, but once tagged answers from any form and any round can be combined in one report.

aa. **Round Variant Detail**: Round Variant print that also includes the date time stamps and operator information for each response.

bb. **Round Variant Summary** (View and Print): Similar to the Round Summary but allows filtering for specific variants. Displays all round data within the date range and limited by selected variant.

cc. **SG Exception** (View and Print): Lists only exceptions defined within forms for all rounds that were completed within the selected storage groups. Lists all exceptions within the storage group.

dd. **Status Reports**- Ten status reports for Rounds and Tasks: Status reports are given for rounds and tasks at various levels and details to enable viewing specific counts of items completed in a storage group.

ee. **Tag Summary**: Prints out external tag information for a storage group.

ff. **Task Detail**: Details a specific task (one-time occurrence) listing the task completion status, deadlines, operator responses, date/time stamp for each response and the operator’s name that completed each specific response.

gg. **Task Summary** (View and Print): Summary of the specific task for a given date range.

hh. **Task Tag Source** (View and Print): External tag details for task rounds that contain external tags.

ii. **User Detail**: Displays detail user information for users defined within the storage group.

jj. **User Login**: Displays report of all users accessing the system over a time period.

kk. **User Summary**: Displays lists of users with summary information by storage group.

ll. **Asset Vibration Measurement Details**: Report displays all assets that have measurement points configured for vibration. It lists the bearing, orientation and bore size for each point configured for vibration analysis.

mm. **Asset Vibration Report**: Displays vibration reading data in tabular form for each asset and measurement point chosen for a date range. Values are color coded for warning or critical values.

nn. **Asset Vibration Spectrum**: Displays the detailed spectrum data for vibration readings per asset. Acceleration and velocity charts may be displayed.

oo. **Asset Vibration Trend** and **Trend Rpt**: View and print reports for the velocity, acceleration, and temperature trends for asset vibration readings.

pp. **Round Count by User**: Displays Round names and count of completed items by user.

# 6 The Exception widget

The Exception widget provides an overview of the alert notifications, asset status, exception conditions, vibration or acceleration alarms, and state conditions generated in GoPlant.

## 6.1 Using an Exception widget

If not already added, add an Exception widget to the dashboard through the Manage Widgets icon and from the Manage Dashboard Widgets dialog that opens, click on the plus sign next to **Exception**. An Exceptions window will appear:


*Figure 145 Exception widget*

- A user can add up to 10 Exception widgets.

Newly created windows such as the example shown above will default to:

- Grouping exceptions by Normal, Warning and Critical severity as determined by the following table:

| **Severity:** | **Normal** | **Warning** | **Critical** |
|---|---|---|---|
| Triggers Emails | Send Normal Email | Send Warning Email | Send Critical Email |
| Triggers Number Conditions | Condition Normal | Condition Lo<br>Condition LoLo | Condition Hi<br>Condition HiHi |
| Change Asset State | Nominal | Non Nominal | Disabled |
| Vibration Points | Temperature<br>gE<br>Velocity | Temperature<br>gE<br>Velocity | Temperature<br>gE<br>Velocity |

- Only the user's login storage group is selected.
- No exception types are selected.
- New and Follow Up status only.
- Last 30-days of exception data shown.

Click on the settings icon (gear wheel) to configure options for the Exceptions:

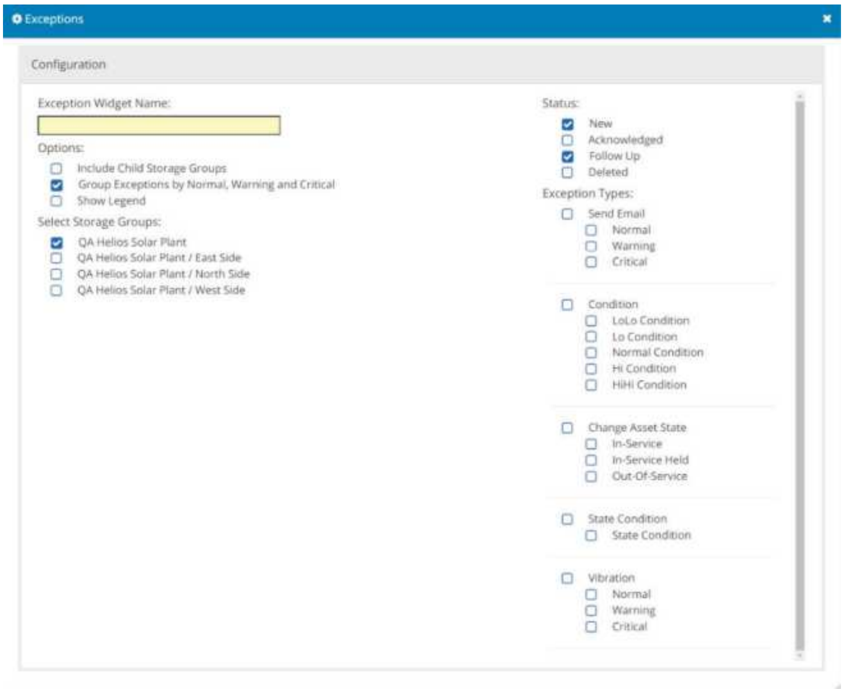



*Figure 146 Exceptions: settings*

Now configure as required, noting the following guidance:

- Optionally the user can enter a specific **Exception Widget Name**, if this field is left empty, a default name will be assigned.
- **Options**:
  - **Include Child Storage Groups**, is unchecked by default. Enable it to include the exceptions of the child storage groups.
  - Enabling **Group Exception by Normal, Warning and Critical** shows the grouped exceptions, unchecking this option will show the detailed exceptions by type.
  - **Show Legend** will display the exception type, legend:

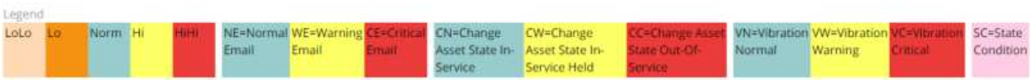



*Figure 147 Exception type, legend*

- **Status**: Exceptions can have 4 status types (**New**, **Acknowledged**, **Follow Up**, and **Deleted**), individual enable controls are provided for each.
- **Exception Types**: Provides enable controls for all Alarms and Exceptions available in GoPlant.

➢ Pressing the window close control (X-icon) will close the configuration window, saving all the changes made by the user.

Depending on the choices made in the configuration dialog described above, the user can have different views of the widget:

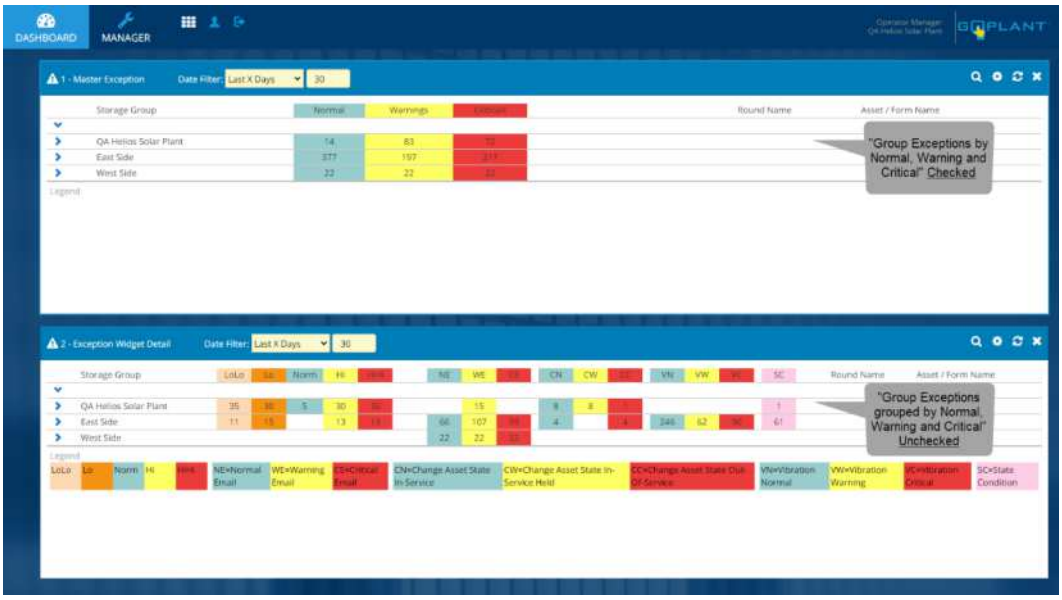



*Figure 148 Comparison of how configuration choices affect the exception widget view*

By clicking on the arrow on each Storage Group, the Storage Groups can be expanded to show the exception counts for each Round:

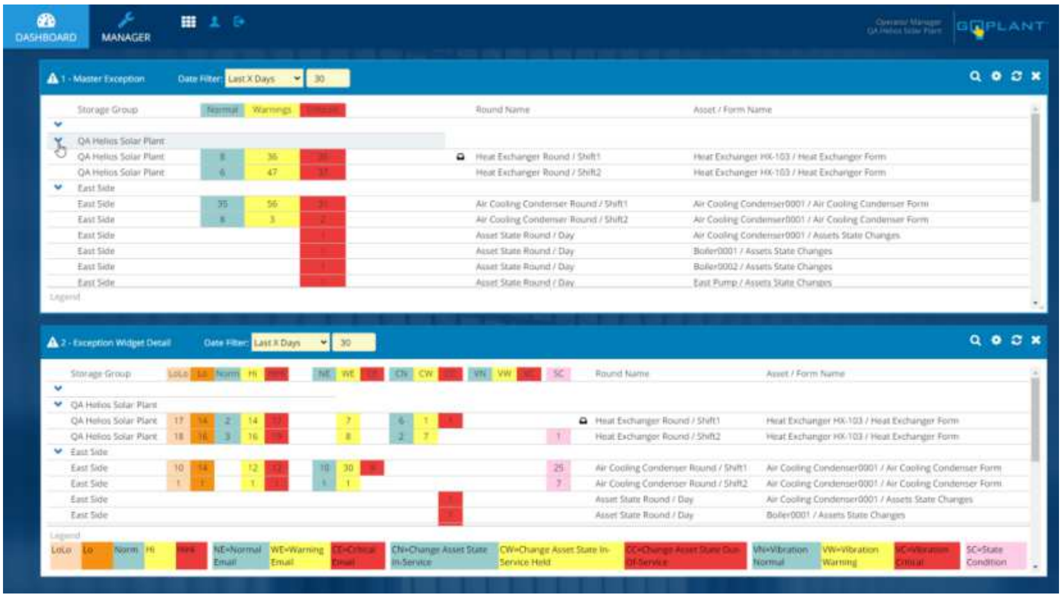



*Figure 149 Expanding Storage Groups to show the exception counts for each Round*

The user can filter the data, by selecting a suitable date criteria using the drop-down and associated number field provided in the top bar of the window:

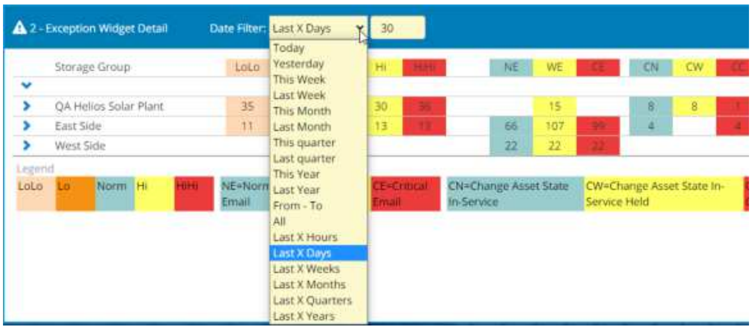



*Figure 150 Filtering exception data based on a date criteria selection*

- Note: The selected filter criteria is persistent and will be applied in the user's future sessions.

## 6.2 Exception Viewer

If no Exception widget has been created then the Exception Viewer can still be accessed directly from the Reports tab. Otherwise, by clicking on a storage group name in the widget, the exception viewer will be displayed. It will show only the storage groups that contain the selected exception types based on the date and data filters:


*Figure 151 Exception viewer: filtering based on date and data filter criteria selection*

Now, clicking on a Round Name (right pane) will cause the Exception Details panel to scroll up from the bottom of the screen (where it was previously docked):

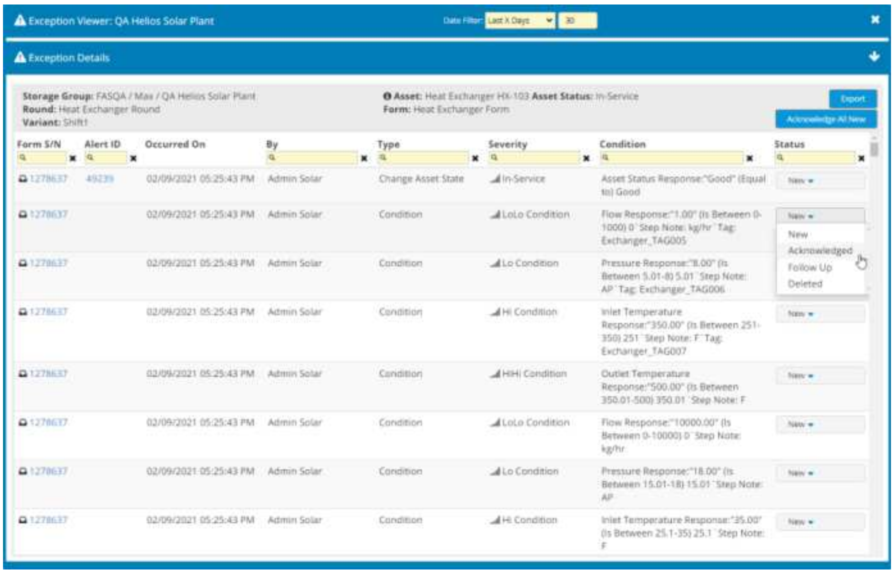



*Figure 152 Exception Details for a selected Round*

As shown above, in the details viewer, the user can change the status of each exception using the drop-downs in the **Status** column.

From the main tabulated area of the panel, the **Form S/N, Alert ID** and **Severity** columns provide links to view the related resources:

- **Form S/N**, task icon: If the exception generated is associated with a task, a task icon will be visible. By clicking on it the user can see the Task Event Details:

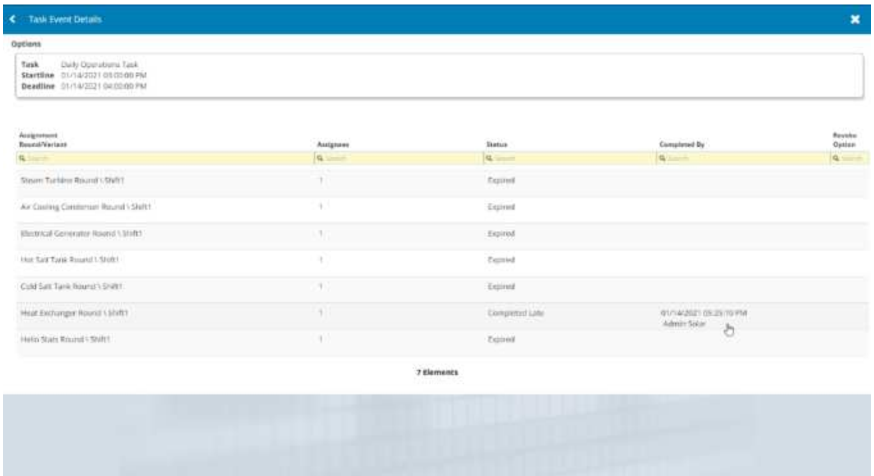



*Figure 153 Task Event Details*

➢ Close the Task Event Details viewer using the window's X control to return to the Exception Detail Viewer.

- **Form S/N**: Each record (line entry) in the column will have a numeric reference which is also a link. By clicking on it the user can see the Completed Form with the exception highlighted in a gray color:

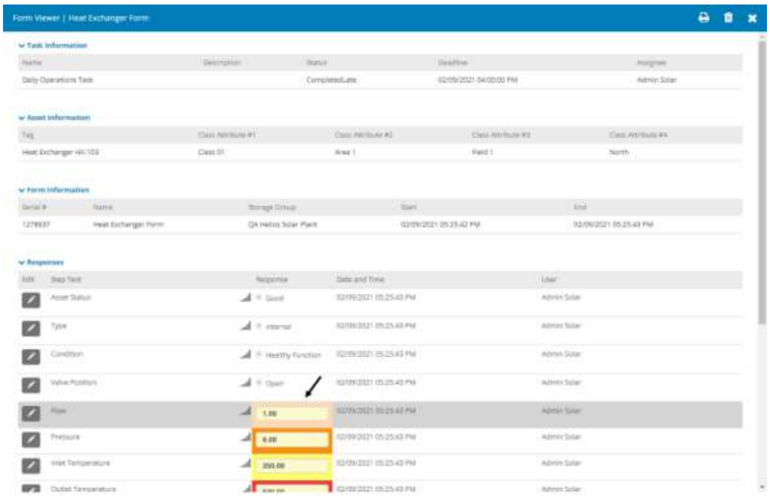



*Figure 154 Form Viewer*

➢ Close the Form Viewer using the window's X control to return to the Exception Detail Viewer.

- **Alert ID**: For exceptions generated by **Triggers Emails** and **Vibration Points**, there will be a numeric reference/link in the **Alert Id** column. By clicking on it the user can see the detail of the generated alert in a pop-up dialog:

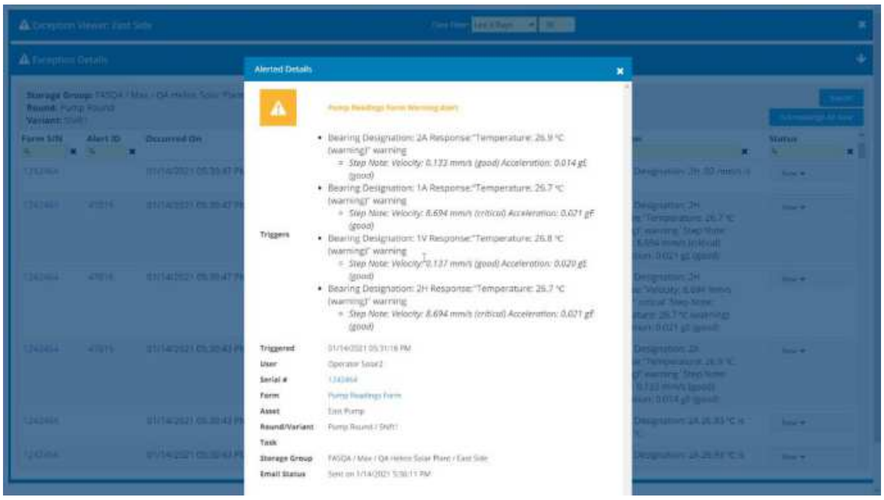



*Figure 155 Alerted Details pop-up*

➢ Close the Alerted Details viewer using the window's X control to return to the Exception Detail Viewer.

- **Severity**: The chart icons in this column (as also those in the **Form Viewer**, **Response** column) provide access to an **Answer History** chart/list for each response. If at least one answer is not numerical then the results are displayed in a pie chart:

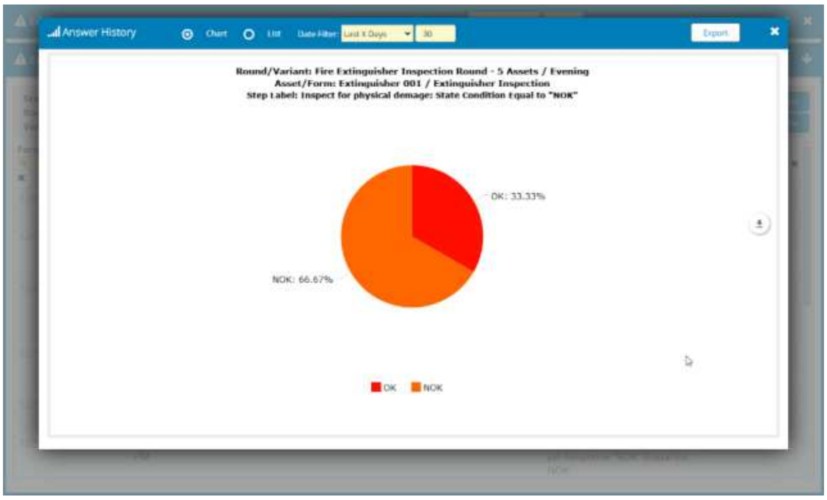



*Figure 156 Answer History pie chart*

For wholly numerical answers the data values will be plotted on a chart together with the step trigger values. The latter will be shown as one or two red lines depending on whether the condition was defined by a range or a single value:

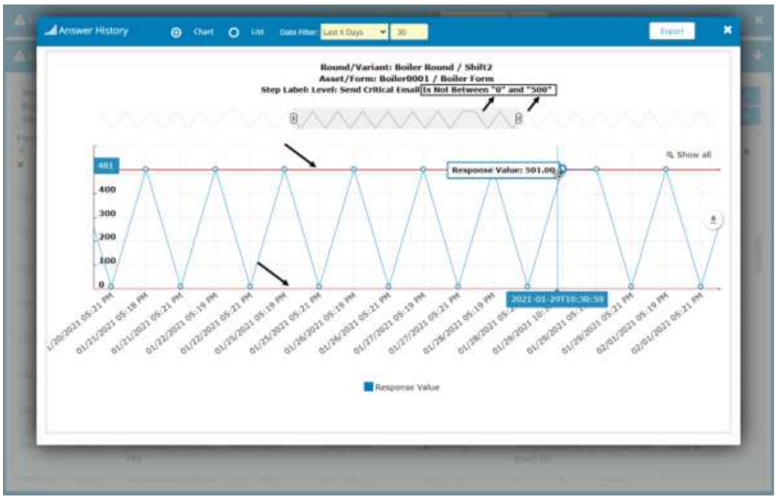



*Figure 157 Answer History – numerical data chart with a value range condition*

In either case (non-numerical or numerical data) to view a tabulated **Answer History**, select instead the **List** radio button:

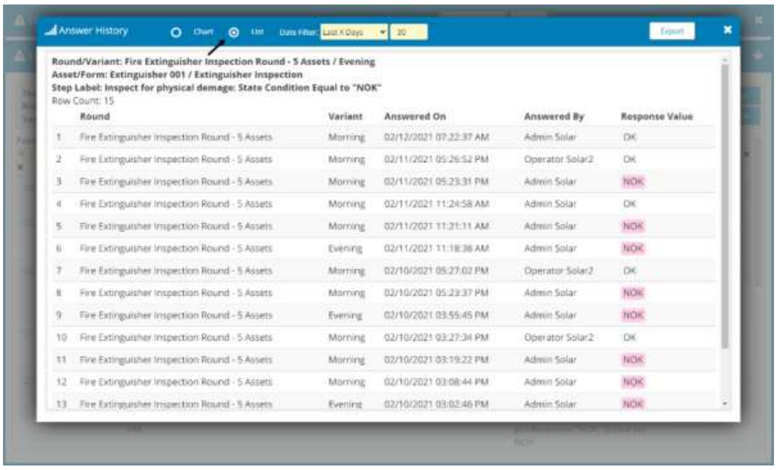



*Figure 158 Answer History – List format*

Just as described for the Completed Rounds widget, the Answer History, **Export** button can be used to export the information shown on the screen, including the applied filters, to a CSV file format.

In the header of the Exception Details panel, above the data columns, clicking on the '**i**' information icon next to the **Asset** name will trigger a pop-up window showing a breakdown of the total exception counts:

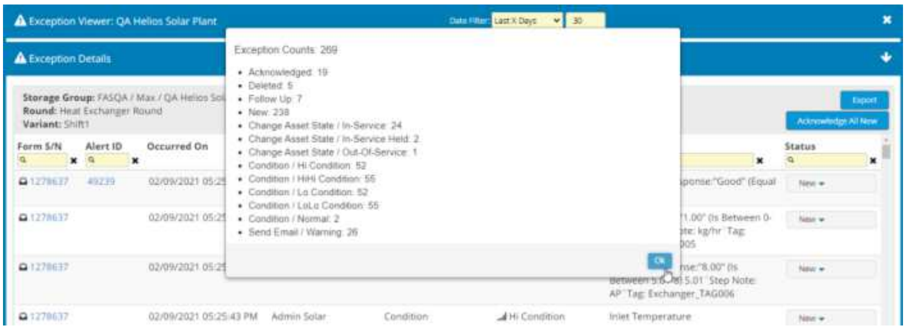



*Figure 159 Total exception counts pop-up*

Also shown in the image above and earlier images, in the Exception Details view there are two or three further button controls:

- **Acknowledge All New**: Pressing this will change the status of any of the last 100 records having status New, to the status Acknowledged.
    - Where a filter on any column is active, rather than an **Acknowledge All New** button, there will be an **Acknowledge All New Filtered** button. This performs a similar function but applies the action only to the filtered records.
    - With a filter active, there will also be a **Reset Filter** button. The '**i**' information icon next to this button will provide more information about the filters.
- The **Export** button will export the information shown on the screen, including the applied filters, in CSV format:

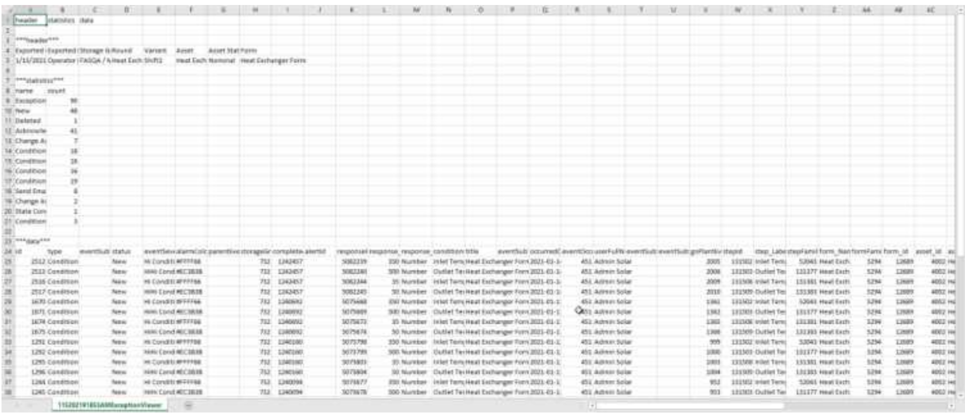


*Figure 160 Exception Details: exported as a .csv file*