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# SLM 2.4.1 Release Notes CORE

These release notes for SLM 2.4.1 provide an overview of the release and document new features, improvements and known issues with SLM 2.4.1.

## New Features

### Operate and Maintain Module

- Add HIPS table to Tier 3 Scorecard for enterprise, site, unit: HIPS Object has been included in Tier 3 Scorecard table.

## Improvements

### AIT Module

- Add “other” as an option: Recommendation source field has now “other” as an option in the dropdown menu.

### LOPA Module

- LOPA results color coding: Color coding and wording has been updated to improve customer’s experience.
- UI Enhancements on LOPA Sheet applicable values table: Standard column widths have been modified on LOPA Sheet applicable values table.

### HAZOP module

- UI Enhancements on HAZOP facilitation tables: Default column widths have been modified on all HAZOP facilitation tables.

- Rename “Barrier” column: “Barrier” column has been renamed to “Safeguard” for consistency.

## Adapters

- Smart Import Adapter can now handle multiple files: Allows multiple files to be imported at once with the smart importer.

Adapters Menu

Smart Import v2 Settings

Queue Import Task

Import Adapters Smart Import

### Smart Import Settings

The Smart Import adapter imports data into SLM using the format of the exported data sets that can be extracted using the Smart Export adapter. Retrieve data set file either using the Smart Export adapter or by downloading the data set at any point in the modules with the appropriate Admin Tools option. Click the Browse button to select files or “drag and drop” files from your system’s file explorer to the box below. The Channel selection may be used to set the importer to focus on data importing to a single site, allowing concurrent import of separate site data.

Channel \* master

Finalize Approval

Select files... Done

CSV	01_dat_unit.csv	0.32 KB	100%	✕
CSV	02_dat_system.csv	0.25 KB	100%	✕
CSV	03_dat_test_group.csv	0.93 KB	100%	✕
CSV	04_dat_test_event.csv	1.55 KB	100%	✕

## Fixes

### LOPA Module

- Syntax: “Lopa” is now capitalized as “LOPA” in the LOPA Study Report and LOPA Sheet Report.

### AIT

- Assignee is not being recorded: After selecting an assignee from the dropdown and clicking save the assignee was not saved. This is now fixed.

## General

- Select all checkboxes: The select all checkboxes feature on a multi-select control wasn't working as expected. This is now fixed.

# SLM 2.4.2 Release Notes CORE

These release notes for SLM 2.4.2 provide an overview of the release and document new features, improvements and known issues with SLM 2.4.2.

## New Features

### SIS Module

- Updates to LOPA Function Sync feature: 1.Add the LOPA Study Parameter  
2. Switch the display of the IPL Type and IPL Category parameters, since the category filters the type. 3. Order the IPL List and Function List result alpha-numerically by IPL ID and SIF ID, respectively.

### General

- Reset custom template: A button has been implemented to reset a custom template back to the original status (Reading the template from the FILE and not the DB).

## Improvements

### LOPA Module

- Update LOPA Template Library to meet current workflow: The LOPA Template available was outdated and is now up to date with the current workflow.
- Updates to LOPA Function Sync feature: Improvements have been added to the LOPA function Sync for a better user experience. This includes categorization menu and results visualization

## **Operate/Maintain Module**

- Add Hyperlinks to "Tests Overdue": Tests overdue field was not hyperlinked in the Test Summary view at the enterprise level. It is now hyperlinked to relevant information.

## **Adapters**

- Add Field Label on Export Files: Field label has been added for different rows. This refinement is available for Exporting Data Sets and Exporting Templates.

## **General**

- Upgrading Application Stack UI Libraries from jQuery v1.12.3 to jQuery v1.12.4 and Kendo UI from v2016.2.607 to v2018.1.221.

## Scheduled SSRS Reporting

Available in SLM: 2.4.3

Any SSRS Report in the system can be configured to Run on a Schedule, and the Report will be Emailed to a list of email addresses. To Schedule a Report, a user can navigate to any SSRS report defined in the system. A button next to the typical report [Generate] stating [Schedule Report] will be visible.

The screenshot shows the configuration page for the 'SOPL Setpoint Change Weekly SSRS Report'. On the left, the 'Reports' menu is expanded, showing various report types, with 'SOPL Setpoint Change Weekly SSRS Report' selected. The main content area has a breadcrumb trail: 'General > SOPL Setpoint Change ...'. Below the breadcrumb, there are two buttons: 'Generate' and 'Scheduled Report'. A note states: 'Fields marked with a red \* (asterisk) are required.' Below this, there are two dropdown menus: 'Site \*' with 'All Sites' selected, and 'Unit \*' with 'All Units' selected.

Pressing the [Schedule Report] button will take the current report parameters and generate an Add Scheduled Report settings dialog.

The screenshot shows the 'Add New Scheduled SSRS Report' dialog. At the top, there are navigation buttons: 'Back', 'Next', 'Save', and 'Cancel'. The title is 'Add New Scheduled SSRS Report'. Below the title, a note states: 'Fields marked with a red \* (asterisk) are required.' The form contains the following fields: 'Enable' with a checked checkbox, 'Frequency \*' with a dropdown menu set to 'Daily', 'At \*' with a time picker set to '19:00:00', and 'Email to \*' with a text input field containing 'Email to'. A note below the email field says: 'For more than one email addresses, separate them by comma'.



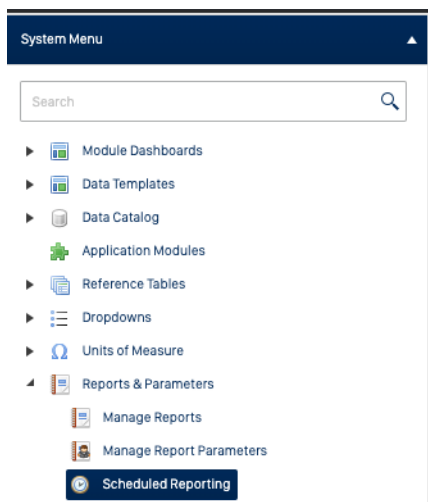
This dialog allows the user to specify the Frequency (Daily, Weekly, Monthly) and when the report needs to run. It also allows a list of email addresses that will be sent the report PDF.

### Managing Scheduled Reports

To Manage all Scheduled reports in the system you can navigate to..

[System] > [Scheduled Reporting]

This will provide a listing of all the reports that have been scheduled. Administrators can manually Run, Edit or Delete any report. The listing provides details on the Report Name, Frequency, Scheduled Run, Enabled?, Email List, Parameters, and Last Run Date.



The screenshot shows the 'Scheduled Reporting' interface. At the top, there is a 'Print' button and a breadcrumb trail: 'Reports & Parameters' > 'Scheduled Reporting'. Below this is a table titled 'Scheduled SSRS Reports' with two buttons: 'Add Scheduled SSRS Report' and 'Export to PDF'. The table has the following columns: Module, Report Name, Frequency, Scheduled Rule, Enable?, Email to, Run Parameters, and Last Run on. There is one row of data for a report named 'SOPL Setpoint Change Weekly SSRS Report'.

Module	Report Name	Frequency	Scheduled Rule	Enable?	Email to	Run Parameters	Last Run on
Point-to-Point Testing	SOPL Setpoint Change Weekly SSRS Report	Weekly	On Saturday at 01:00:00	Yes	jluucas@manganin...	Site: All Sites Unit: All Units	Apr-01-2019

At the bottom of the table, there is a pagination control showing '1' of 1 items per page and '10' items per page. The status bar at the bottom right indicates '1 - 1 of 1 Items' and a refresh icon.

### Run Scheduled Report Button



The Run Scheduled Report Button Manually Generates the selected Report and Emails the report to the email list of users defined.

### Edit Scheduled Report Button



The Edit Scheduled Report Button allows the user to change the Defined Report Parameters, Frequency, Enable/Disable, or Change the list of email recipients.

### Delete Scheduled Report Button



The Delete Scheduled Report Button deletes the report from the list of Scheduled Reports

### Add Scheduled SSRS Report Button



The Add Scheduled SSRS Report Button starts a new Scheduled Report Workflow allowing the user to Select the SLM Module, SSRS Report, Enter Parameters, and Set Frequency and Email Recipients.

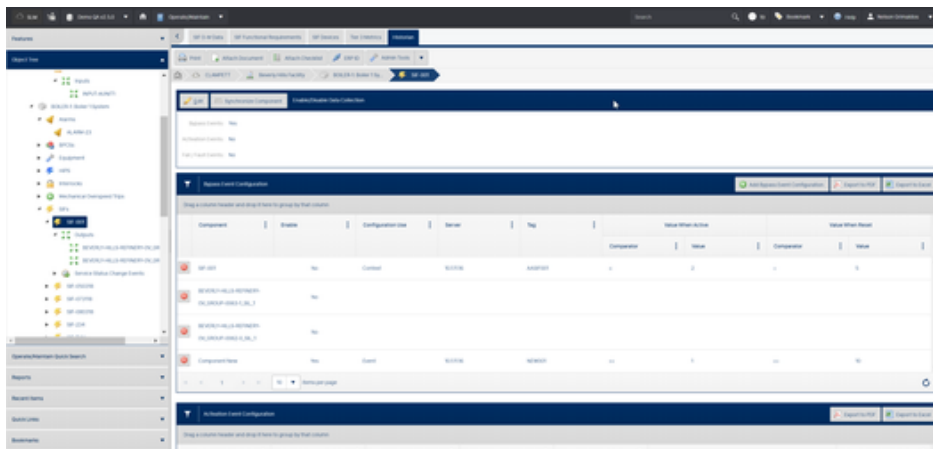
# 2.4s1 Release Notes

These release notes for SLM 2.4s1 provide an overview of the release and document new features, improvements and known issues.

## New Features

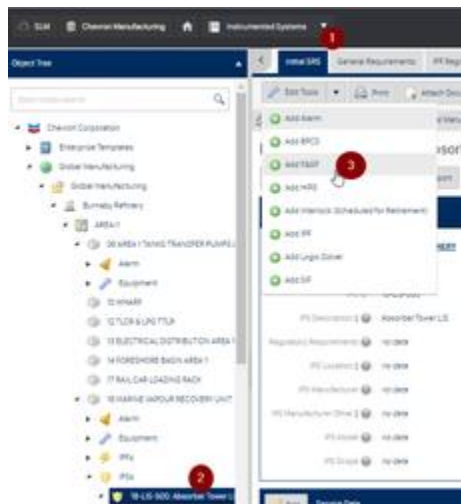
### Operate Maintain

- Create/manage component for CGI configuration on IPL functions (Alarm, BPCS, SIF, Interlock, and HIPS) using a new template called "Historian" for ALL Core.



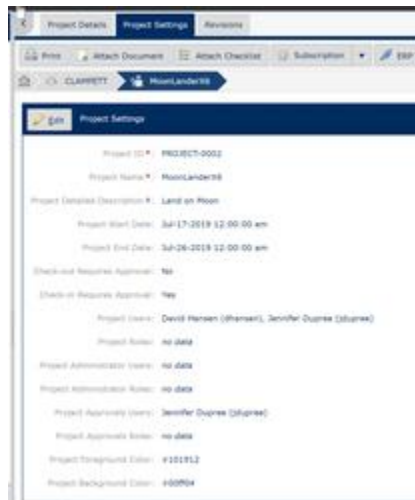
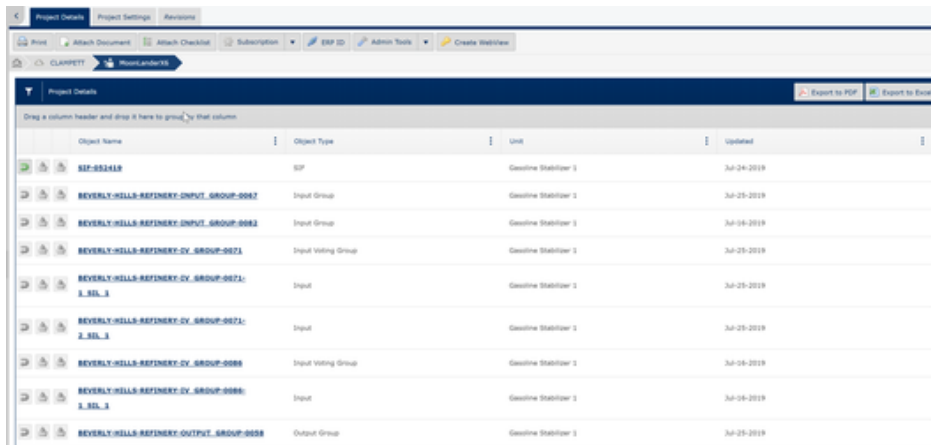
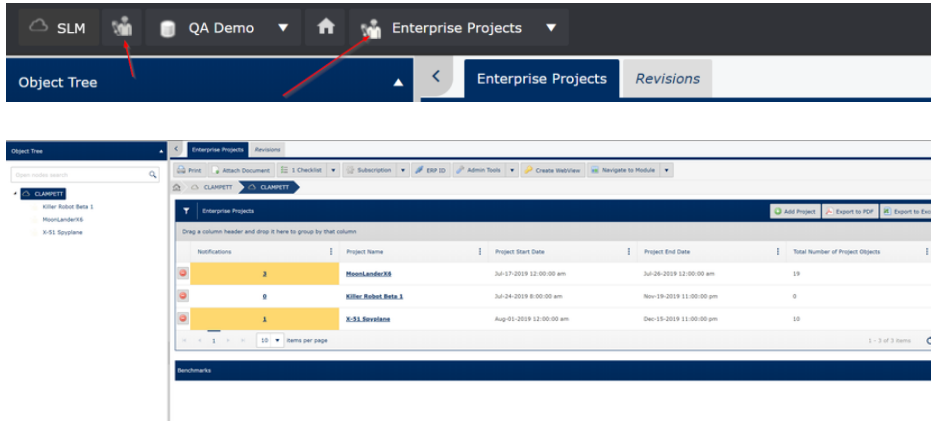
### Instrumented System

- Create Fire and Gas object and associated field, for ALL Core



# Enterprise Projects

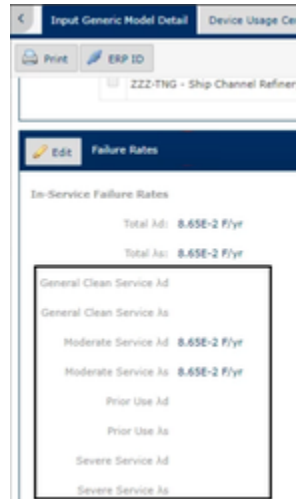
- New feature to provide customers with a means of using a single instance to allow project work. SIF Re-Design, Site Equipment Design, Capital Projects, Training, etc. While still being able to maintain their current assets and objects in (Production).



# Refinements

## Operate Maintain

- Change the existing concepts of Failure Rates by introducing the concept of Dangerous Failure Rates and Safe Failure Rates at the same time.



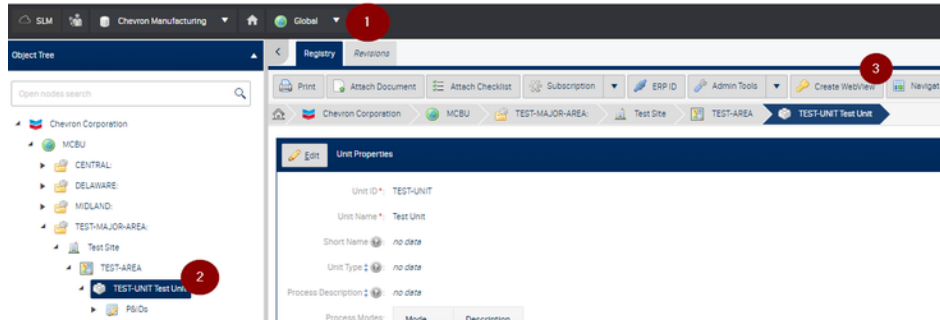
- IPL List report updated to show functions with "Asset Protection Category" value "IPL" synced or not synced to a LOPA Sheet.

Asset Protection Category: IPL

Function ID	Description	Asset Protection Category	Synced to LOPA Sheet
NARV-01		NARV-01	
NARV-02		NARV-02	
NARV-03		NARV-03	
NARV-04		NARV-04	

## General

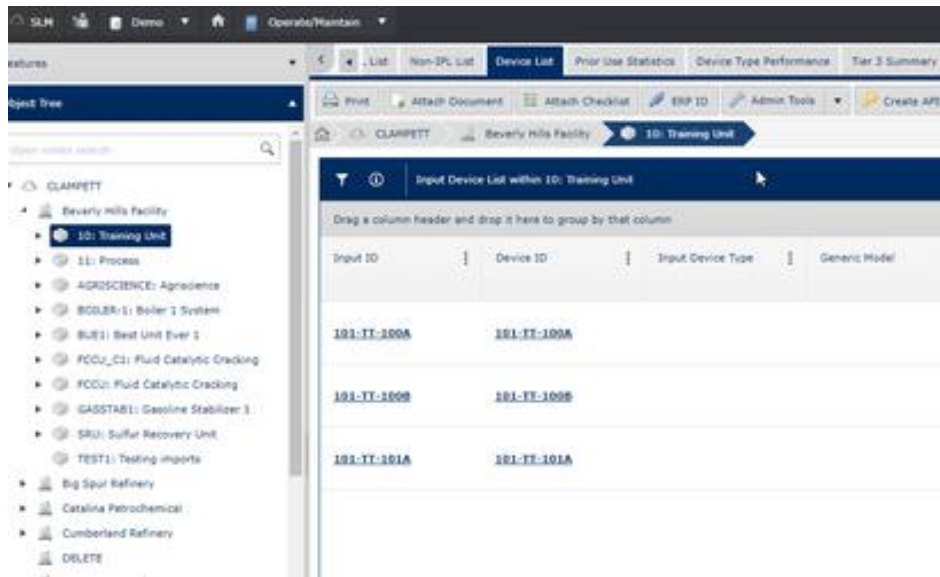
- Changed all Web APILink to WebView.



## Usability Gaps

### Operate Maintain

- Updated Device List, "Component Type" column was removed.



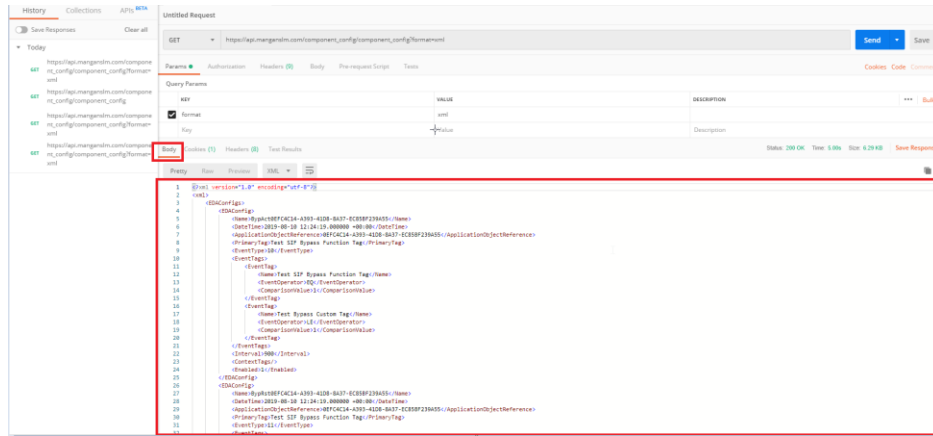
# 2.4s2 Release Notes

These release notes for SLM 2.4s2 provide an overview of the release and document new features, improvements and known issues.

## New Features

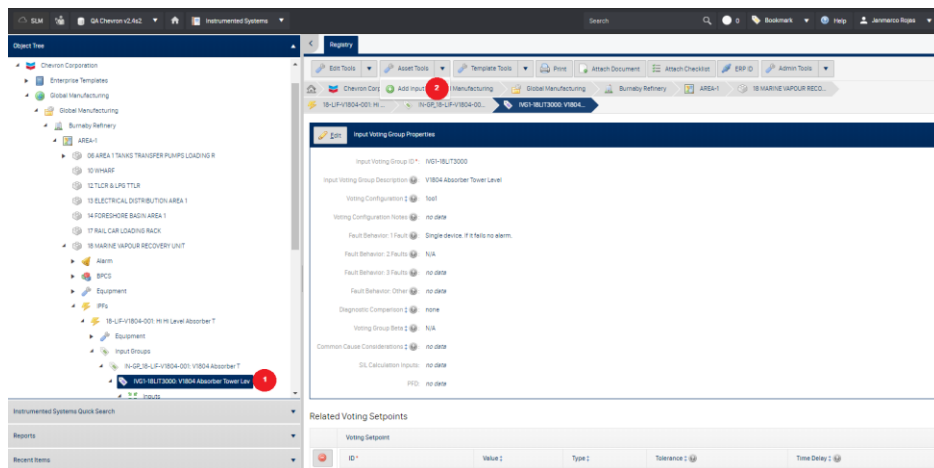
### Operate Maintain

- API CGI Configuration Endpoint

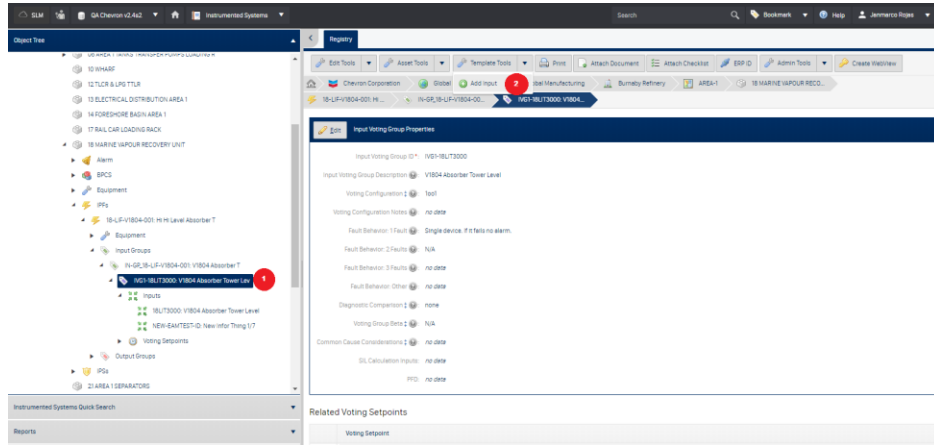


## General

- The SLM Toolbar will show 2 new buttons, for all clients:
  1. **Asset Tools**: Shows actions to add objects from assets.



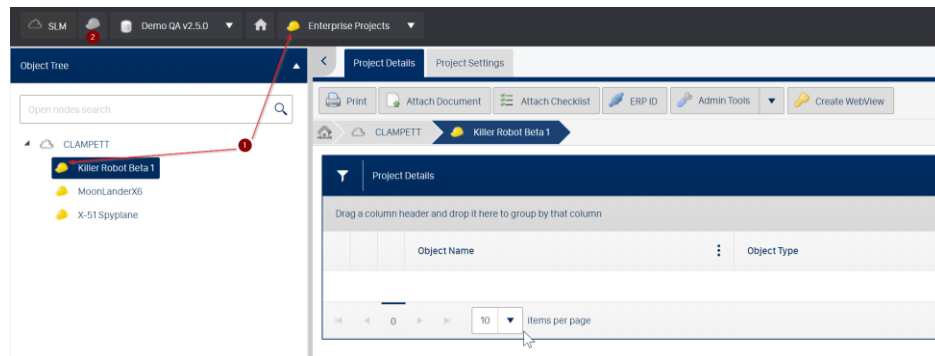
## 2. *Template Tools*: Shows actions to add objects from templates.



## Refinements

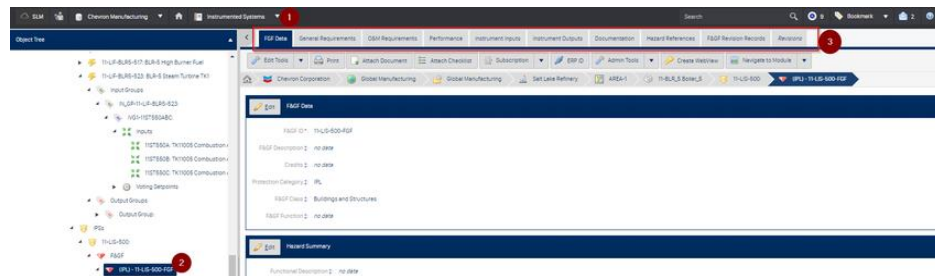
### Enterprise Projects

- Project Feature - Change of Icon for Projects, for ALL Core



### Instrumented System

- Create Instrumented System Templates for Fire & Gas Object.





- SIL Calculation Improvements:
  1. New changes should display an extra value for PFD, instead of the usual PIU, Custom Failure Rates and other common failure rates, is added a Design Basis result, which is being calculated from the Design Basis Failure Rate at the Generic Model Level

SIF Overhaul Interval		25 yr			
Input Groups					
Voting Configuration	Beta †	PFD	SIL Calculation	Input Group ID	Voting Configuration
1				RUBY-RIVER- INPUT_GROUP- 0001_C2	1 00

PIU PFD 5.22E-2  
 Custom PFD 3.15E-5  
 Design Basis PFD 5.09E-2

2. At the SIL Calculation **Total RRF Calculation Report** at the bottom of the SIL Calculation Tab, were added two new rows, one for the **Design Basis Failure Rates**, and another one for a **Manual PFD** set of values that are going to be input by the User directly on the Total RRF Calculation Report

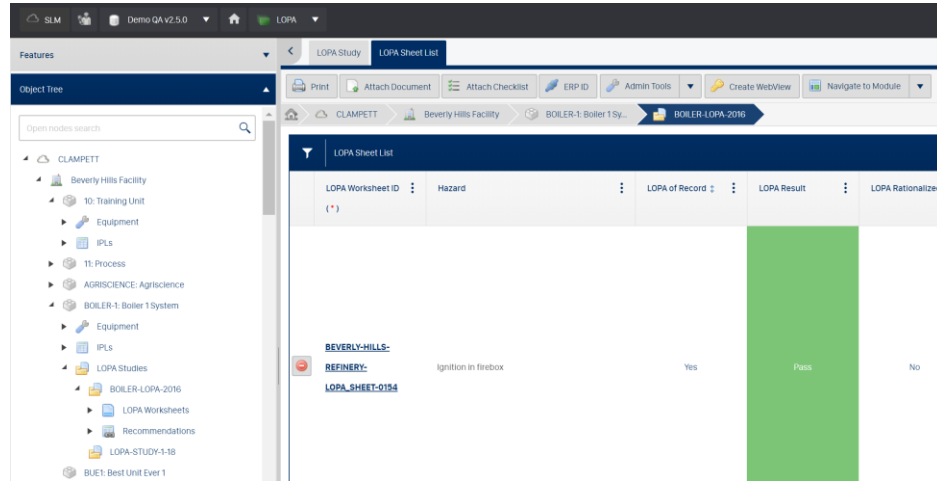
Failure Rate Source	Input Group PFD	Logic Solver PFD	UPS PFD	Output Group PFD	Total PFD	Total RRF
PIU	5.22E-2	5.74E-6	N/A	4.04E-2	9.26E-2	10
Custom Failure Rate	3.15E-5	5.74E-4	N/A	3.63E-4	9.69E-4	1032
Design Basis Failure Rate	5.09E-2	5.74E-4	N/A	7.93E-2	1.33E-1	7
External Result	3E-3	6E-3	1E-3	1.25E-2	2.16E-2	48

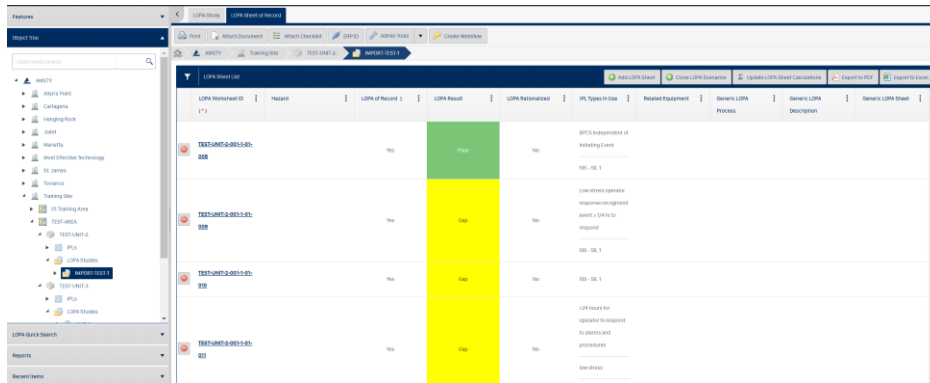
	% Input	% LS	% UPS	% Output
PIU	58.37%	0.06%	0.00%	43.63%
Custom Failure Rate	3.23%	89.30%	0.00%	37.50%
Design Basis Failure Rate	38.85%	0.44%	0.00%	60.53%
External Result	13.95%	23.28%	4.89%	58.14%

# LOPA

- LOPA of Record Template renamed



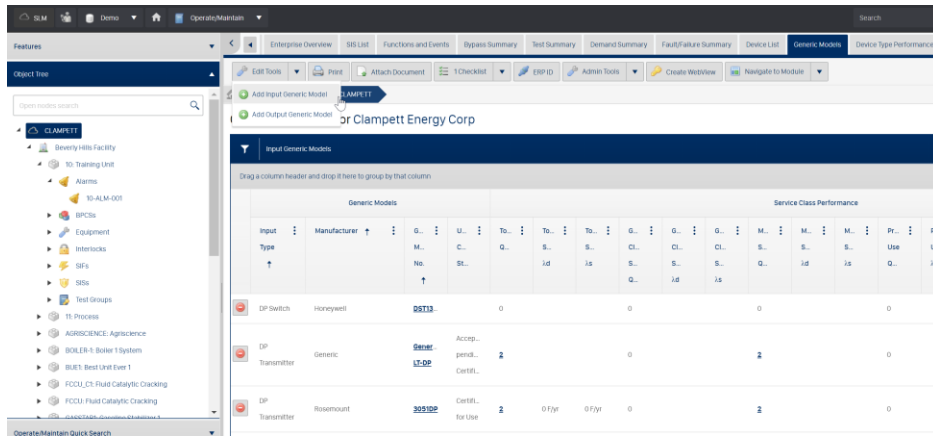
- LOPA Result color changes based on following logic
  - All scenarios passed: **Green**
  - Highest Required RRF from LOPA Scenarios
    - Greater or Equal than 100: **Red**
    - Greater than 9: **Orange**
    - Greater or Equal than 2: **Yellow**



## Usability Gaps

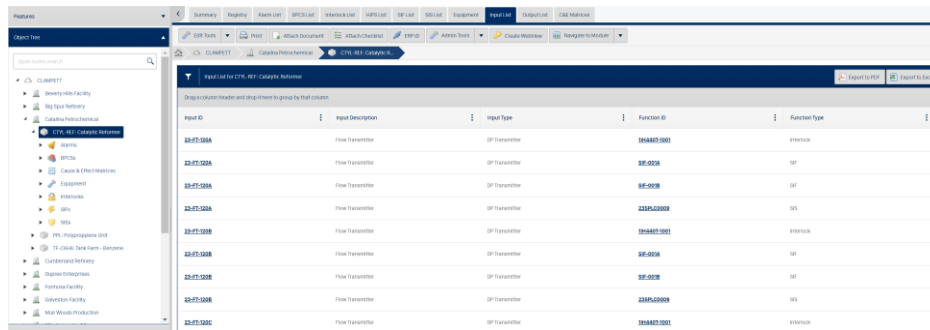
### Operate Maintain

- Enhancement to GM Add Functionality, "Add Generic Model" functionality split in two buttons, one button to *Add Input Generic Models* and another one to *Add Output Generic Models*



## Instrumented System

- Updated Input List and Output List template tables at Unit and Site levels to display only the parent function objects of the inputs/outputs



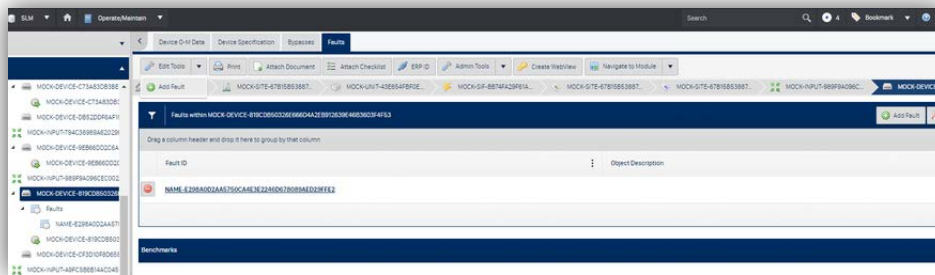
# 2.4s3 Release Notes

These release notes for SLM 2.4s3 provide an overview of the release and document new features, improvements and known issues.

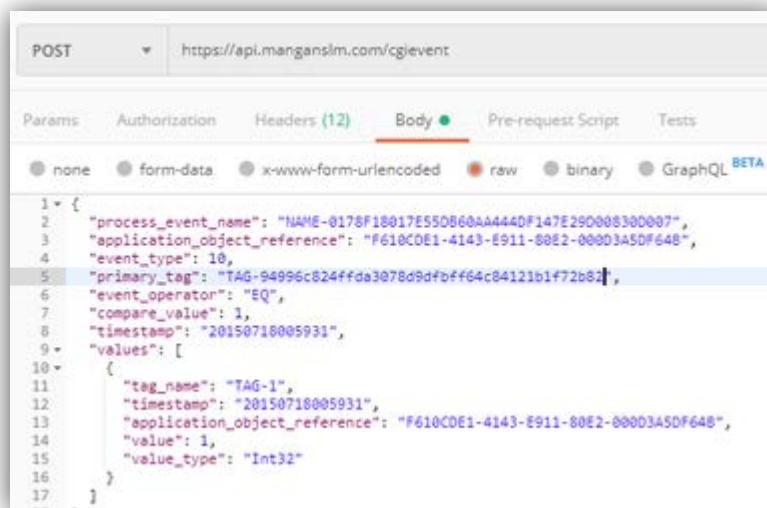
## New Features

### Operate Maintain

- Historian Integration
  - Fault Definition



- Bypass and Fault Endpoint



```

Body  Cookies (2)  Headers (8)  Test Results
Body  Raw  Preview  JSON
1
2
3 "events": {
4   "activated_start_date": null,
5   "pop_emergency_pop": null,
6   "pop_override_hazard": null,
7   "pop_override_safeguard": null,
8   "pop_override_start_date": "2018-07-18 00:00:00 +00:00",
9   "pop_override_start_time": null,
10  "pop_override_start": "001",
11  "pop_override_by": null,
12  "pop_override_start": null,
13  "pop_override": null,
14  "pop_override": null,
15  "pop_override": {
16   "id": null,
17   "name": null
18  },
19  "pop_override": null,
20  "pop_override": "NAME-0178F06E7E53086044402F147E25008E180887",
21  "pop_override_conditions": null,
22  "pop_override_return_to_service_by": null,
23  "pop_override_return_to_service_date": null,
24  "pop_override_return_to_service_notes": null,
25  "pop_override_scope": "DUPLEX",
26  "pop_override_time_in_service": {
27   "id": null,
28   "name": null
29  },
30  "pop_override": "NAME-0A3339C6-1203-0913-06A5-080C38346A4"
31 }
32 }
33 }
34 }

```

o Activation Endpoint (Demands)

```

POST http://api.here.com/.../activation
Form-data  Authentication  Headers (2)  Body  Raw  Preview  Script  Tests
Body  Raw  Preview  Script  Tests
1
2 "process_event_name": "NAME-0F5264608047020505434832004F0304A2",
3 "activation_object_reference": "NAME-0913-0913-06A5-080C38346A4",
4 "event_type": "01",
5 "pop_override": "NAME-0A3339C6-1203-0913-06A5-080C38346A4",
6 "pop_override": "001",
7 "pop_override": "001",
8 "pop_override": "001",
9 "pop_override": "001",
10 "pop_override": "001",
11 "pop_override": "001",
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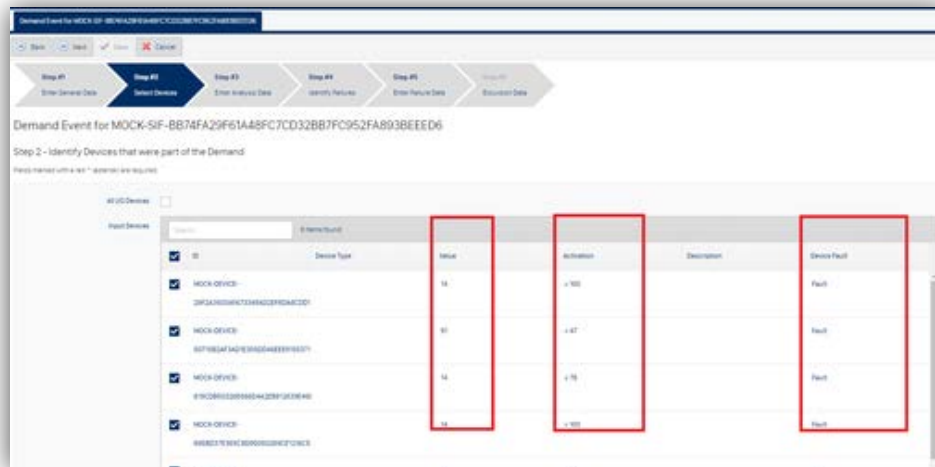
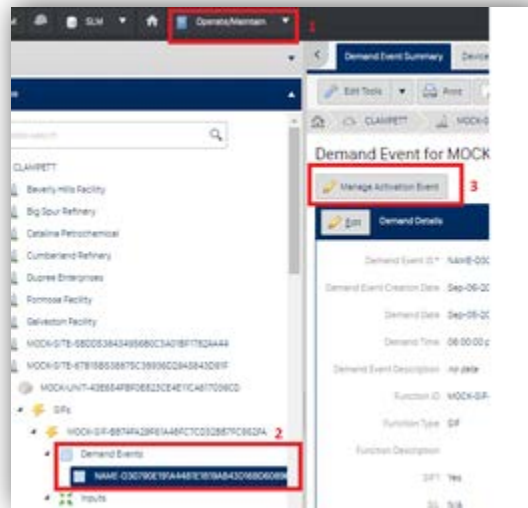
```

```

Body  Raw  Preview  JSON
1
2 "events": {
3   "activation_completed": null,
4   "activation_start_date": null,
5   "activation_notes": null,
6   "activation_type": null,
7   "activation": null,
8   "activation": null,
9   "activation": null,
10  "activation": null,
11  "activation": null,
12  "activation": null,
13  "activation": "2018-07-18 00:00:00 +00:00",
14  "activation": "2018-07-18 00:00:00 +00:00",
15  "activation": null,
16  "activation": null,
17  "activation": null,
18  "activation": null,
19  "activation": null,
20  "activation": null,
21  "activation": null,
22  "activation": null,
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74  "activation": null,
75  "activation": null,
76  "activation": null,
77  "activation": null,
78  "activation": null,
79  "activation": null,
80  "activation": null,
81  "activation": null,
82  "activation": null,
83  "activation": null,
84  "activation": null,
85  "activation": null,
86  "activation": null,
87  "activation": null,
88  "activation": null,
89  "activation": null,
90  "activation": null,
91  "activation": null,
92  "activation": null,
93  "activation": null,
94  "activation": null,
95  "activation": null,
96  "activation": null,
97  "activation": null,
98  "activation": null,
99  "activation": null,
100 "activation": null,

```

- Activation Workflow

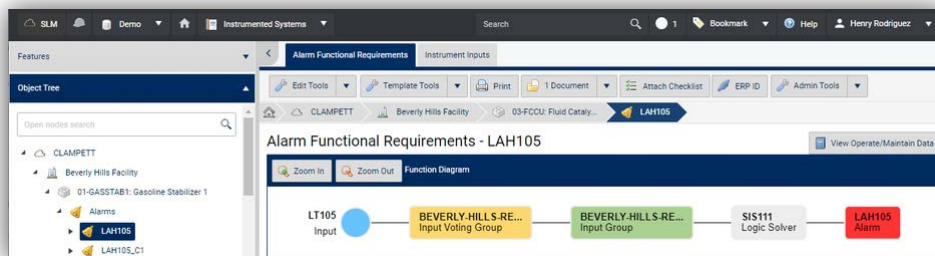
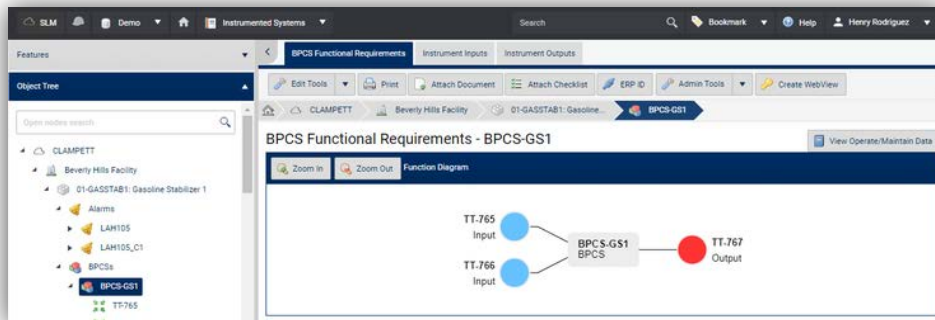


- OMI Templates Fire & Gas Function
  - F&G Data
  - General Requirements
  - Bypasses
  - O&M Requirements
  - Performance
  - Instrumented Inputs
  - Instrumented Outputs
  - Documentation
  - Hazard References



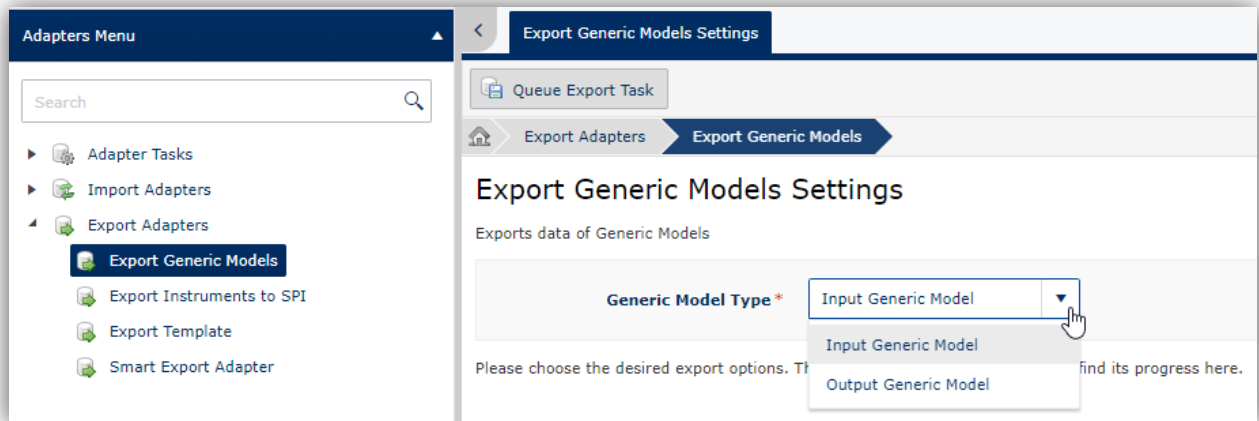
## Instrumented System

- Displaying Function Diagrams for BPCSs and Alarms.



## Adapters

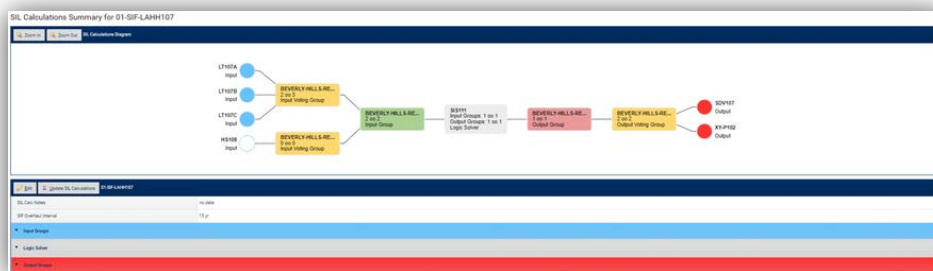
- Generic Model Export Adapter



## Refinements

### Instrumented System

- SIF SIL Calc Summary table Refinements
  - Collapsible headers on Input, Logic Solver and Output sections.
  - Table section displaying same colors as the diagram.





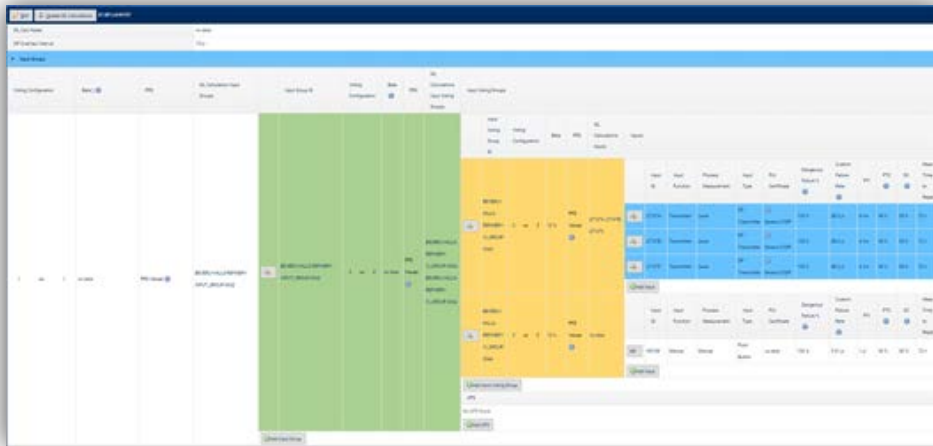
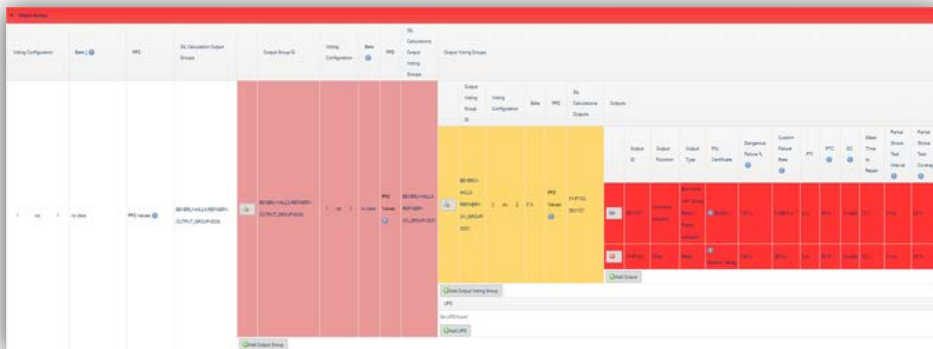


Table with 6 columns: App Name, Area, Progress Rate, Release, and two columns for metrics (PTC, SC, etc.).

App Name	Area	Progress Rate	Release	PTC	SC	Max	Min
1011	1000	95%	Custom Release 101	95%	95%	101	101



- Logic Calculation for SIF Response Time Field.

*SIF Response Time = Sensor Detection Time + Trip Point Time Delay + Logic Solver Processing Time + Final Element and Actuation Time.*

The screenshot shows a software interface for 'Instrumented Systems'. The 'Performance' tab is active, displaying various time-related parameters. The 'SIF Response Time' field is highlighted with a red box and shows a value of 7.25 s. Below it, several other parameters are listed with red arrows pointing to their values: Sensor Detection Time (3 s), Trip Point Time Delay (3 s), Logic Solver Processing Time (250 ms), and Final Element and Actuation Time (1 s). The 'Achieved System Response Time' is also shown as 1 s. The 'Process Safety Time' is 54 ms, and 'Process Safety Time Notes' and 'SIF Response Time Note' are both 'no data'.

Parameter	Value
Process Safety Time	54 ms
Process Safety Time Notes	no data
<b>SIF Response Time</b>	<b>7.25 s</b>
SIF Response Time Note	no data
Sensor Detection Time	3 s
Trip Point Time Delay	3 s
Logic Solver Processing Time	250 ms
Final Element and Actuation Time	1 s
Achieved System Response Time	1 s

- New column called "Applied in LOPA", added to the LOPA Reference grid in Instrumental Systems module for IPL functions. This column indicates whether or not the related LOPA IPL has been applied to a LOPA Sheet in the LOPA Module.

LOPA ID	LOPA Description	Applied in LOPA
SP_LAM105	T101-GRS-STABILIZER PLUMBING	Yes
SP_LAM106	REVERSE-THRU-HEATERS LOPA_SHEET_1118	No
SP_LAM107	T101-GRS-STABILIZER PLUMBING	Yes

Short Description	Cause Source	Cause Type	L	Applicable IPLs	MEF	Appl Mod
L101 Fail Closed T101 Gasoline stabilizer tower level	Equipment Error	BPCS Instrument loop failure	0.1	LAM105 PSD101 SP_LAM107	1 3 1	S 3e-07 E 1e-08 C 3e-07

Short Description	Cause Source	Cause Type	L	Applicable IPLs	MEF	Appl Mod
Failed antirange system	Equipment Error	BPCS instrument loop failure	0.01	SP_LAM107	No	1 1e-2 1e-2

Short Description	Cause Source	Cause Type	L	Applicable IPLs	MEF	Appl Mod
L101 T101 tower level control fails closed	Equipment Error		0.1	LAM105 LAM106 SP_LAM107	1 3 1	S 1e-4 E 1e-4 C 1e-4

- C&E Matrix Refinements
  1. Input description added to Y Axis
  2. Alpha-numeric ordering applied to Functions, Inputs and Outputs.

The screenshot shows a software interface for a Cause & Effect Matrix. On the left, there is a 'New Description' dialog box. In the center, a legend lists various input types: 1. Input, 2. Output, 3. Description, 4. Storage, 5. Signal, 6. No Applicable, 7. Stop, 8. Parameter, 9. Run Stop, and 10. Transfer. Below the legend is a table with columns for Function, Description, Input Group, Group, and Input. A red box highlights the 'Description' column. The table contains several rows of data, including 'High Level' and 'Accumulator'.

Function	Description	Input Group	Group	Input
EL-SP-LAMP102	Control Tower High Level	REVERL-F-HLLS-2nd	REVERL-F-HLLS-2nd	REVERL-F-HLLS-2nd
SP-RECV10	Low Refuel Drum level	REVERL-F-HLLS-1st	REVERL-F-HLLS-1st	REVERL-F-HLLS-1st
SP-LAMP102	Low Refuel Drum level	REVERL-F-HLLS-1st	REVERL-F-HLLS-1st	REVERL-F-HLLS-1st

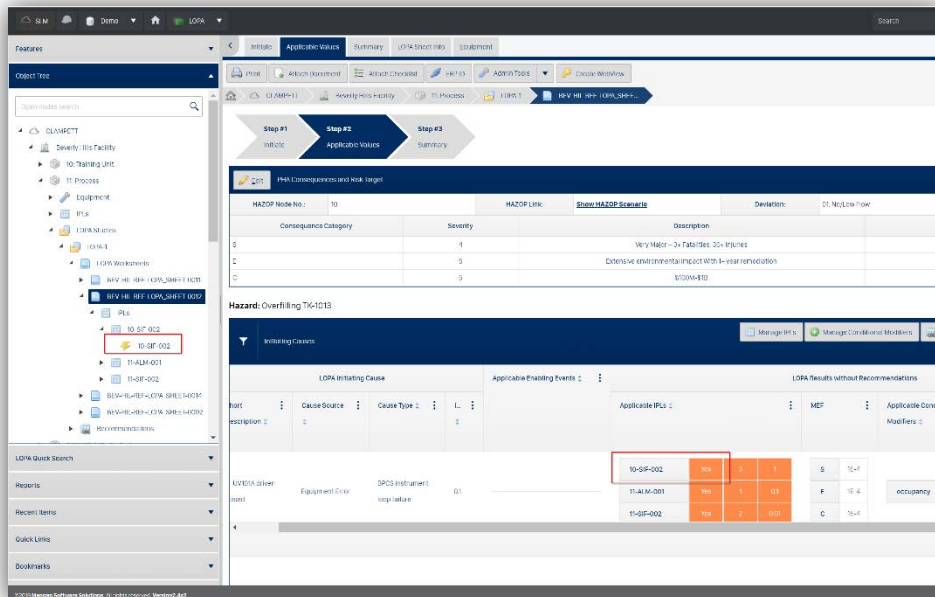
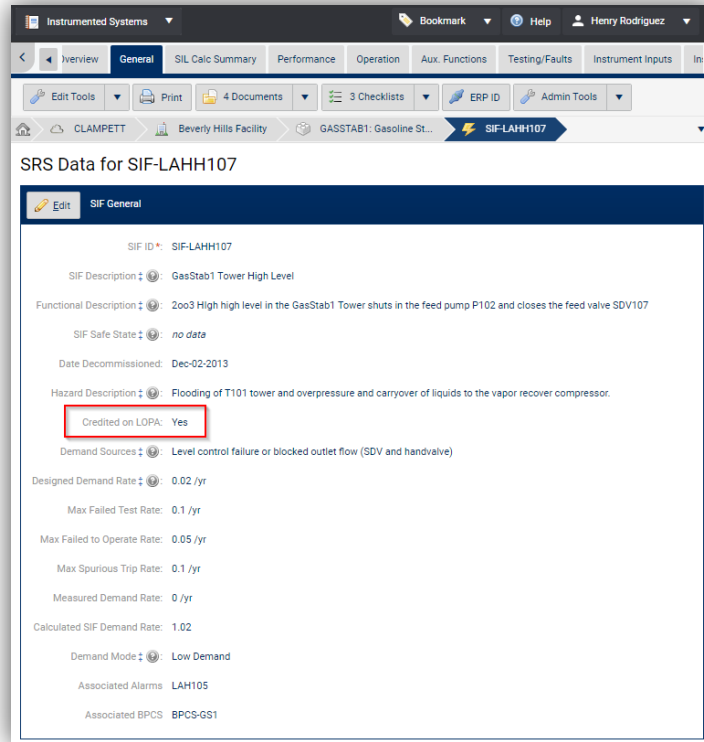
The screenshot shows a Cause & Effect Matrix for 12345. It includes a legend with the same input types as the first screenshot. The table below has columns for Function, Description, Input Group, Group, and Input. A red box highlights the 'Description' column. The table contains several rows of data, including 'High Level' and 'Accumulator'.

Function	Description	Input Group	Group	Input
EL-SP-LAMP102	Control Tower High Level	REVERL-F-HLLS-2nd	REVERL-F-HLLS-2nd	REVERL-F-HLLS-2nd
SP-RECV10	Low Refuel Drum level	REVERL-F-HLLS-1st	REVERL-F-HLLS-1st	REVERL-F-HLLS-1st
SP-LAMP102	Low Refuel Drum level	REVERL-F-HLLS-1st	REVERL-F-HLLS-1st	REVERL-F-HLLS-1st

The screenshot shows a software interface with a project tree on the left, a central workspace, and a table on the right. The central workspace contains a diagram with nodes and arrows, and a text box that reads: "Position, Head Group and Head columns are being worked by @ user's identity". A green arrow points from this text to a specific node in the diagram. The table on the right has columns labeled 'PQ 2018', 'PQ 2019', 'PQ 2020', 'PQ 2021', 'PQ 2022', 'PQ 2023', 'PQ 2024', and 'PQ 2025'. The table contains data for various project phases, with some cells highlighted in green.

The screenshot shows a spreadsheet titled "Cause & Effect Matrix for C&P-CU-GIP". The spreadsheet has a header row with columns for "Cause", "Effect", "Head Group", "Head", "Type", "Status", and "Date". The matrix contains numerous rows of data, with some cells highlighted in green. A green box highlights a section of the matrix, and a green arrow points from the text "Position, Head Group and Head columns are being worked by @ user's identity" to a specific cell in the matrix.

- "Credited on LOPA" field value calculation based on related LOPA IPL applied in the LOPA Sheet Module.
  - Value changes to Yes, when a related IPL is applied to a LOPA Sheet.
  - If above condition is not meet, then the field is enabled to be edited by the user.



# LOPA

- Column name changes in the Initiating Causes grid
  - Required RRF to LOPA Gap
  - REQUEST RRF Recommendation to LOPA Gap w/Recs

The screenshot shows a software interface for LOPA analysis. It features a table with columns for 'LOPA Gap', 'LOPA Result', and 'LOPA Gap w/Recs'. The 'LOPA Gap' column contains values like 1000 and 0. The 'LOPA Result' column contains 'Gap' and 'Pass'. The 'LOPA Gap w/Recs' column contains values like 1000 and 0. The interface also includes various filters and controls at the top.

# Operate/Maintain

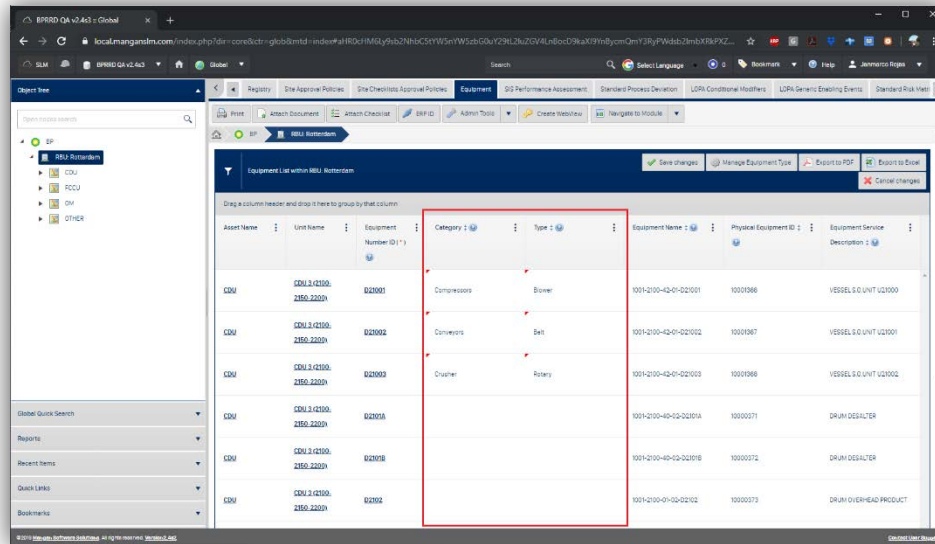
- Re-order the change event general data field positions.

The screenshot shows a 'Change Event Basic Data' form. It includes a progress bar with steps: Step #0 (Select Function), Step #1 (Enter General Data), Step #2 (Select Devices), and Step #3 (Enter Device Data). The form title is 'Change Event for SIF-LAHH107 GasStab1 Tower High Level'. Below the title, it says 'Step 1 - Change Event Basic Data' and 'Fields marked with a red \* (asterisk) are required.' The form contains the following fields:

- Change Event ID \* SIF-LAHH107-CHANGE-010
- Change Event Description
- Change Type \* Functional Change
- Change Event Date \* Sep-09-2019
- Function ID SIF-LAHH107
- Function Description GasStab1 Tower High Level
- Function Type SIF
- MOC Reference MOC Ref
- Change Notes

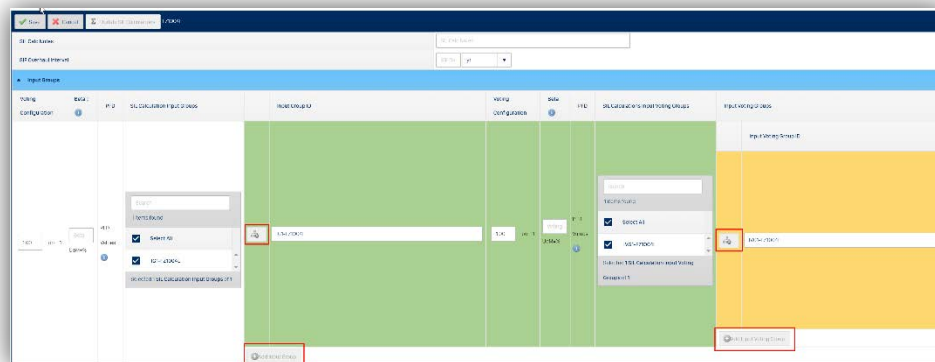
# Global

- Cascading dropdowns: Category and Type are being populated from the equipment types reference table. (Rotterdam)



# General

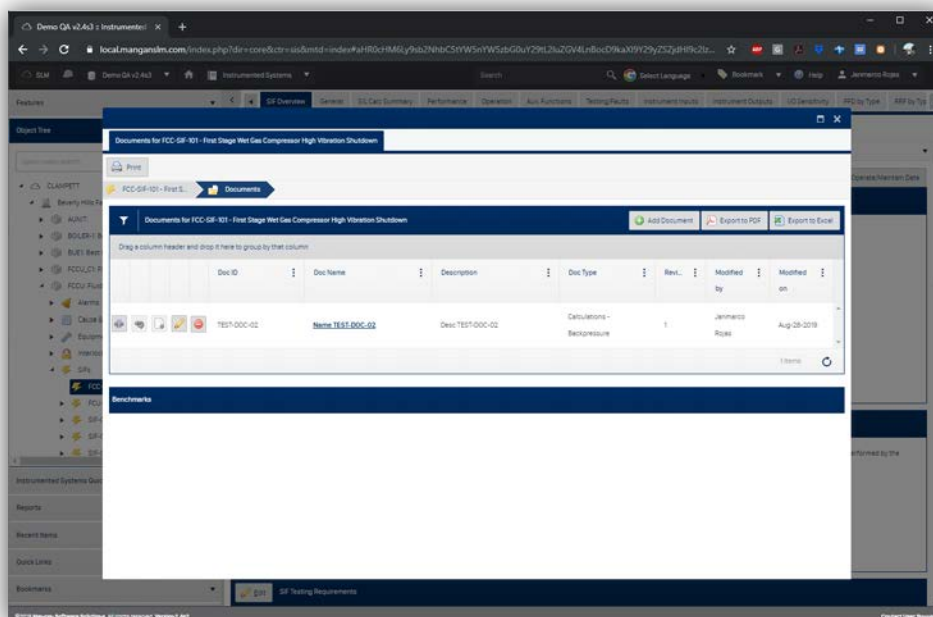
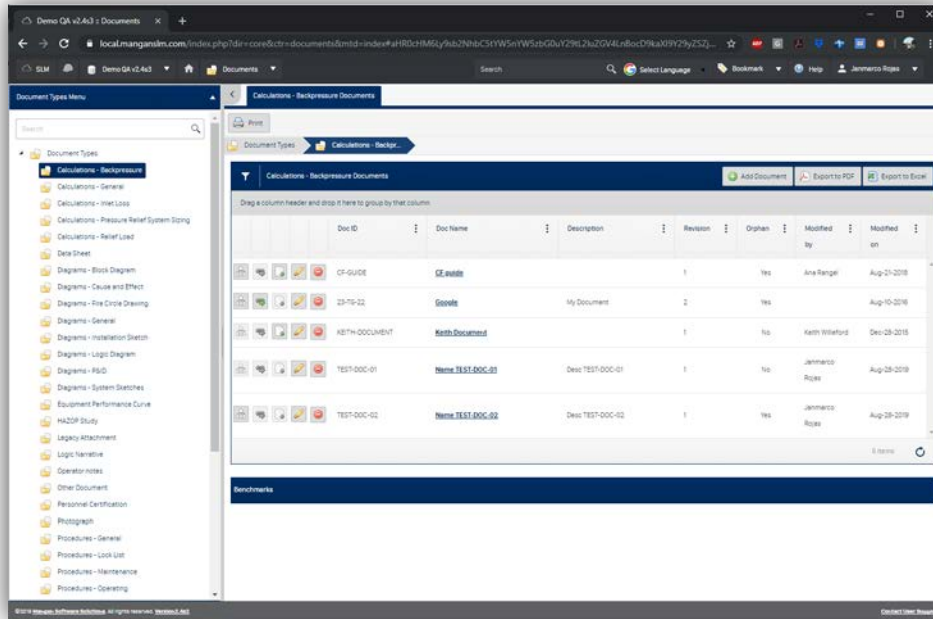
- Action buttons on editable sections are disable when editor is open.





## Documents

- The Description column has been added to the Document List table.



ID	Name	Doc System	Type
10371000-01	Doc: HAZOP-01	Doc: HAZOP-01	Documents - Backpressure

ID	Name	Doc System	Type	Doc System	Doc System	Doc System	Doc System	Doc System	Doc System
10371000-01	Doc: HAZOP-01	Doc: HAZOP-01	Documents - Backpressure						
10371000-02	Doc: HAZOP-02	Doc: HAZOP-02	Documents - Backpressure						
10371000-03	Doc: HAZOP-03	Doc: HAZOP-03	Documents - Backpressure						
10371000-04	Doc: HAZOP-04	Doc: HAZOP-04	Documents - Backpressure						
10371000-05	Doc: HAZOP-05	Doc: HAZOP-05	Documents - Backpressure						
10371000-06	Doc: HAZOP-06	Doc: HAZOP-06	Documents - Backpressure						
10371000-07	Doc: HAZOP-07	Doc: HAZOP-07	Documents - Backpressure						
10371000-08	Doc: HAZOP-08	Doc: HAZOP-08	Documents - Backpressure						
10371000-09	Doc: HAZOP-09	Doc: HAZOP-09	Documents - Backpressure						
10371000-10	Doc: HAZOP-10	Doc: HAZOP-10	Documents - Backpressure						

## Fixes

### General

- When ctrl+click on modules dropdown, to open another module in another browser tab, the original tab doesn't reload automatically.

The screenshot shows a software interface with a dropdown menu open for 'HAZOP'. A tooltip 'Ctrl+Click' is visible over the 'HAZOP' option. The main window displays a table with the following data:

HAZOP Study ID	Study Type	Study Status
2017-HAZOP-STUDY	HAZOP-01 Backpress	Complete
2017-HAZOP-STUDY	HAZOP-02 Backpress	Complete

- Fixes on Widget Grid, it wasn't sorting columns with UOM time values

The screenshot shows a web application interface with a table titled "SIFs for Unit". The table has the following columns: SIF ID, SIF Description, Required RRF, Process Safety Time, and SIF Response Time. A red box highlights the "Process Safety Time" column, which contains values such as "1q", "2mo", "2d", "3h", "1min", "1s", "10s", "1ms", and "2min". The table is sorted by Process Safety Time in descending order.

SIF ID (*)	SIF Description	Required RRF	Process Safety Time	SIF Response Time
LSL-3018-D	Flux Oil Heater #2 (NBK-300) ISI	100	1q	
TSL-2411C	Hobokeno Subsea Boarding Valve (2471) ISL	100	2mo	
TSL-2221D	Oregano Subsea Boarding Valve (2227) ISL	100	2d	2min
TSL-2471C	Cardanomon Subsea Boarding Valve (2471) ISL	100	3h	1h
LSH-1220A	FOCI 2nd Stage Scrubber (MFI) 1220) LSH	410	1min	
LSL-3000-E	Flux Oil Heater (NBK-3000) ISL	100	1s	2ms
TSL-2421A	Hobokeno Subsea Boarding Valve (2421) ISL	100	10s	2s
PSH-145A	Cold Flow Heat Exchanger (HBE) 145) ISH	200	1ms	2min
TSL-2471A	Cardanomon Subsea Boarding Valve (2471) ISL	100		
TSL-090C	Flux Oil Scrubber (MFI) 890) ISL	100		

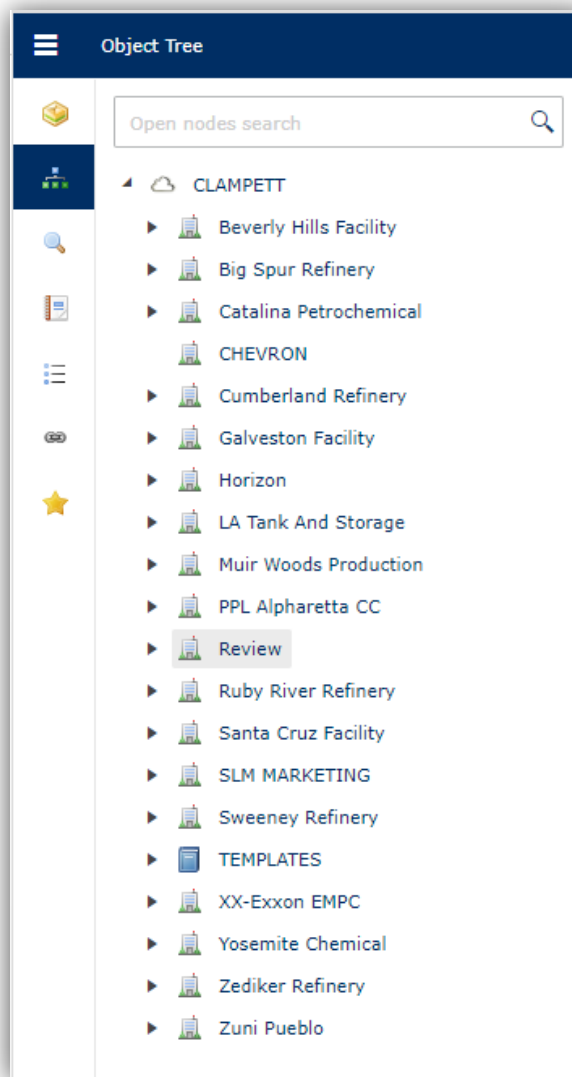
# 2.4s4 Release Notes

These release notes for SLM 2.4s4 provide an overview of the release and document new features, improvements and known issues.

## New Features

### User Modules

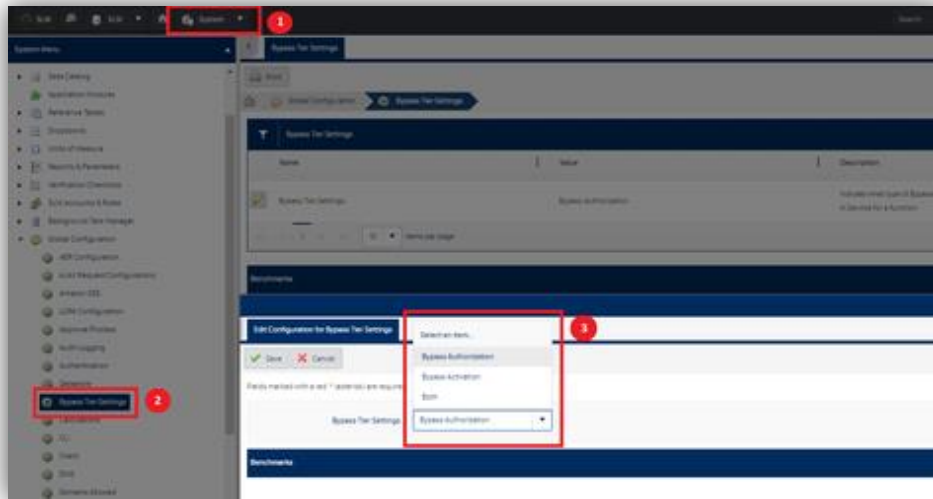
- Updates to Sidebar allowing for more vertical visibility.



## Operate Maintain

- Updated **TIER 3 Metrics** reports to **support** activation bypasses generated by **CGI** Endpoints:

### 1. System Bypass Configuration



### 2. Operate/Maintain Tier 3 Metrics Reports supporting Bypass Configuration

The screenshot displays three tables of availability data for 'Availability within Security WMA Facility'. Each table has columns for Unit Name, Function ID, Function Type, Equipment, Time Installed, Time in Bypass, Time in Service, and Availability. Red boxes highlight the 'Time in Bypass', 'Time in Service', and 'Availability' columns for each table.

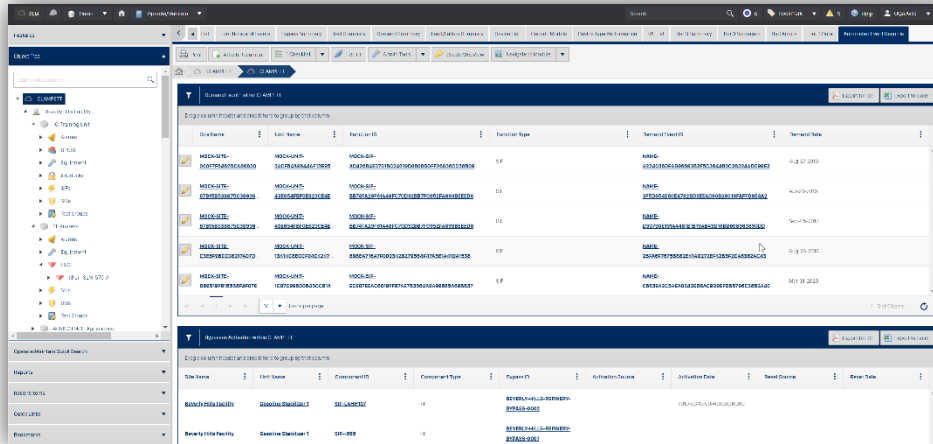
Unit Name	Function ID	Function Type	Equipment	Time Installed	Time in Bypass	Time in Service	Availability
Security Database 1	SE_LAN008	SP	YTEL-REGUL-DEFINITION GASOLINE-CHALLENGE	4/28 yrs	0/7 yrs	4/7 yrs	94.7%
Security Database 2	SE_LAN008	SP	YTEL-REGUL-DEFINITION GASOLINE-CHALLENGE	4/28 yrs	1/2 yrs	1/2 yrs	92.1%
Security Database 3	SE_LAN008	SP	YTEL-REGUL-DEFINITION GASOLINE-CHALLENGE	4/28 yrs	2/7 yrs	2/7 yrs	94.7%

- Updated Automated Event Reports, removed deprecated AER tables and replaced with 3 new grids:

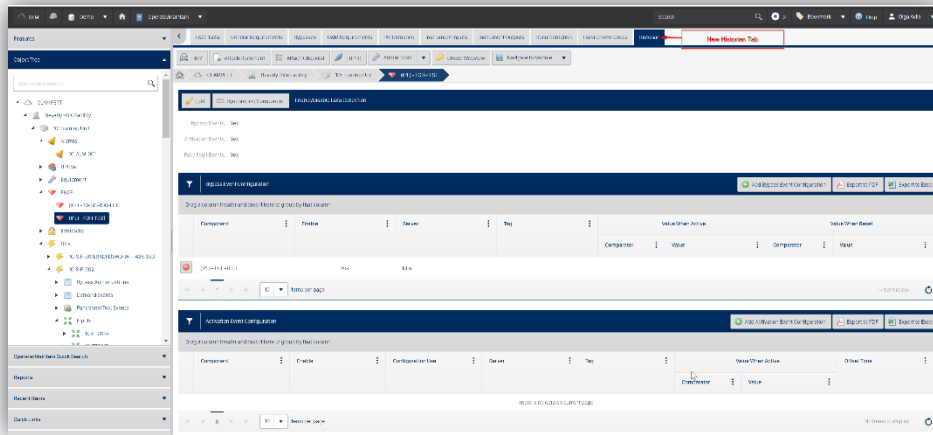
1. Activation List (demand\_event)
2. Bypasses List

### 3. Faults List

- 4. Was changed number display next to the AER icon, is shown the number of demands created by the CGI that have not been approved or finalized



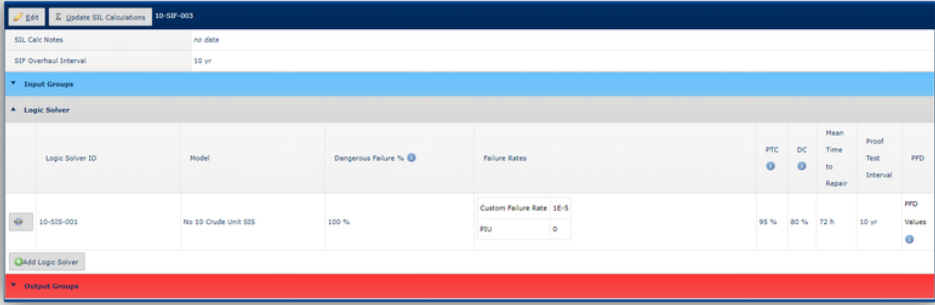
- Added Historian Tab to F&G Object



# Refinements & Usability Gap

## Instrumented System

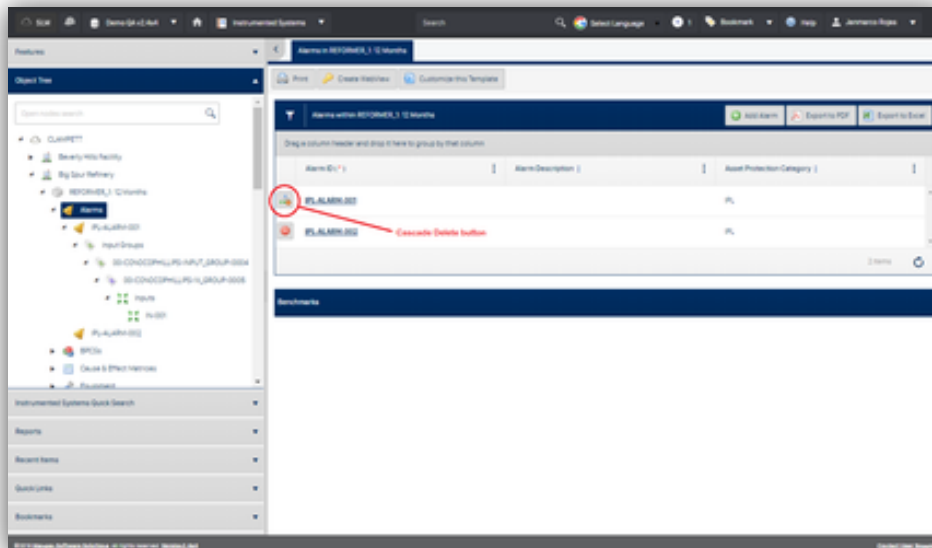
- In "SIL Cal Summary", the status (collapsed, expanded) of "Input Groups", "Logic Solver" and "Output Groups" are Saved.



The screenshot shows the "SIL Cal Summary" interface. At the top, there are tabs for "Edit" and "Update SIL Calculations" for "10-003". Below the tabs, there are fields for "SIL Calc Notes" (no data) and "SIP Overhaul Interval" (10 yr). A section titled "Input Groups" is expanded to show a "Logic Solver" table. The table has columns for Logic Solver ID, Model, Dangerous Failure %, Failure Rates, PTC, DC, Mean Time to Repair, Proof Test Interval, and PFD. A single row is visible with ID "10-003-001", Model "No 10 Crude Unit SIS", Dangerous Failure % "100 %", Failure Rates "Custom Failure Rate: 1E-5" and "PSU: 0", PTC "95 %", DC "80 %", Mean Time to Repair "72 h", Proof Test Interval "10 yr", and PFD "Values". Below the table is an "Add Logic Solver" button and a partially visible "Output Groups" section.

Logic Solver ID	Model	Dangerous Failure %	Failure Rates	PTC	DC	Mean Time to Repair	Proof Test Interval	PFD
10-003-001	No 10 Crude Unit SIS	100 %	Custom Failure Rate: 1E-5 PSU: 0	95 %	80 %	72 h	10 yr	Values

- Enabling Delete on Cascade for Function objects.



- Updated SIF Asset Protection Category Report, added parent IPL applied in LOPA

Name	IP Address	IPID	IPDescription	Asset Protection Category	Risk	Creation LXA	FLApplies
SecurityRiskFacility	192.168.1.1	192.168.1.1	SecurityRiskFacility	SecurityRiskFacility	High	192.168.1.1	Yes
SecurityRiskFacility	192.168.1.2	192.168.1.2	SecurityRiskFacility	SecurityRiskFacility	High	192.168.1.2	Yes
SecurityRiskFacility	192.168.1.3	192.168.1.3	SecurityRiskFacility	SecurityRiskFacility	High	192.168.1.3	Yes
SecurityRiskFacility	192.168.1.4	192.168.1.4	SecurityRiskFacility	SecurityRiskFacility	High	192.168.1.4	Yes
SecurityRiskFacility	192.168.1.5	192.168.1.5	SecurityRiskFacility	SecurityRiskFacility	High	192.168.1.5	Yes
SecurityRiskFacility	192.168.1.6	192.168.1.6	SecurityRiskFacility	SecurityRiskFacility	High	192.168.1.6	Yes
SecurityRiskFacility	192.168.1.7	192.168.1.7	SecurityRiskFacility	SecurityRiskFacility	High	192.168.1.7	Yes
SecurityRiskFacility	192.168.1.8	192.168.1.8	SecurityRiskFacility	SecurityRiskFacility	High	192.168.1.8	Yes
SecurityRiskFacility	192.168.1.9	192.168.1.9	SecurityRiskFacility	SecurityRiskFacility	High	192.168.1.9	Yes
SecurityRiskFacility	192.168.1.10	192.168.1.10	SecurityRiskFacility	SecurityRiskFacility	High	192.168.1.10	Yes

- Showed group/voting group view for Instrumented Inputs and Outputs as the SIL Calc Summary view.

Group ID: SIP-000-LOW-HI-Flow-T10

Voting Configuration: 1 (Yes), 1 (No)

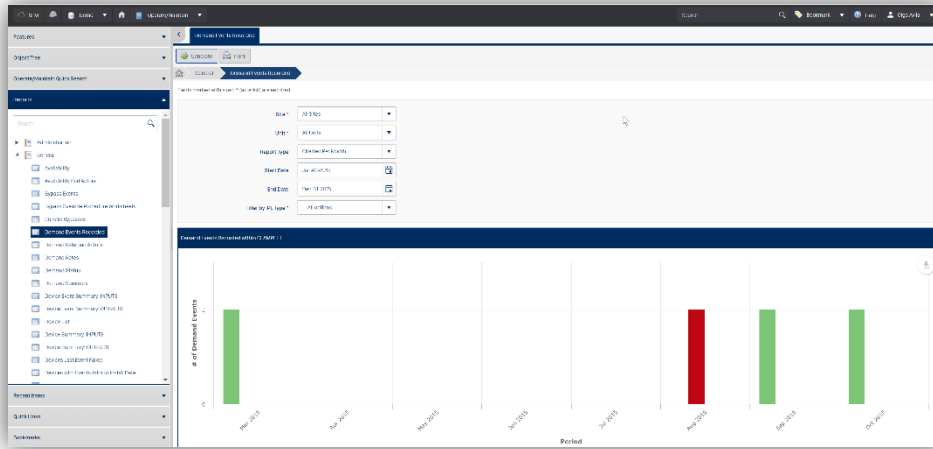
SIL Calculation: 1.79E-2

ID	Configuration	Votes	Outs
SIP-000-LOW-HI-Flow-T10	1.79E-2	1	1



## Operate Maintain

- Updated Demand Events Recorder Report by adding new filter parameters, including Report Type, Start and End Date and IPL Type



## FSA

- Added Target Date and replaced "Reference Contact" field with "Assignee" on FSA Action Item List
- "Assignee" field changed to dropdown field.

Checked Ref #	Action Item #	Date Created	Target Date	Category	Requested Action	Status	Action Taken	Assignee
1.01		Sep-04-2015						

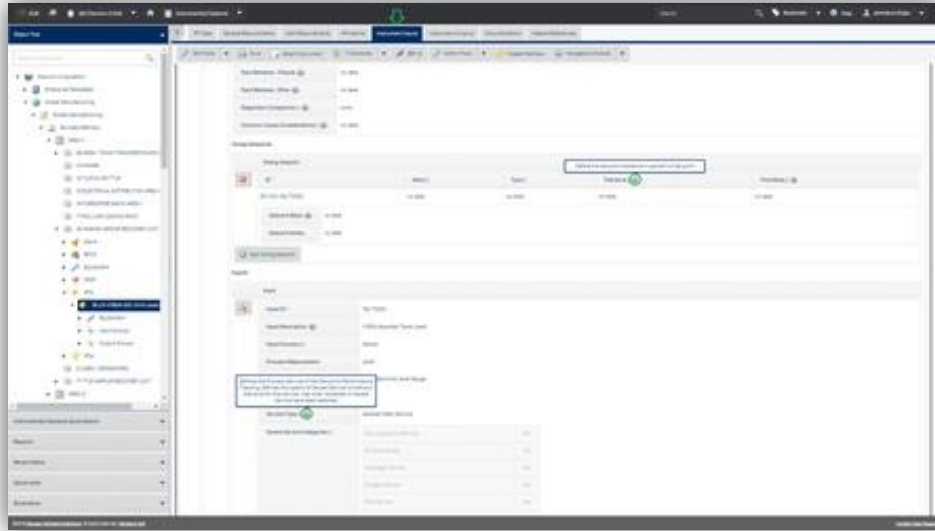
- Renamed "Description" field to "Requested Action" and "Action" field to "Action Taken"

Checked Ref #	Action Item #	Date Created	Target Date	Category	Requested Action	Status	Action Taken	Assignee
1.01		Sep-04-2015						

# Fixes

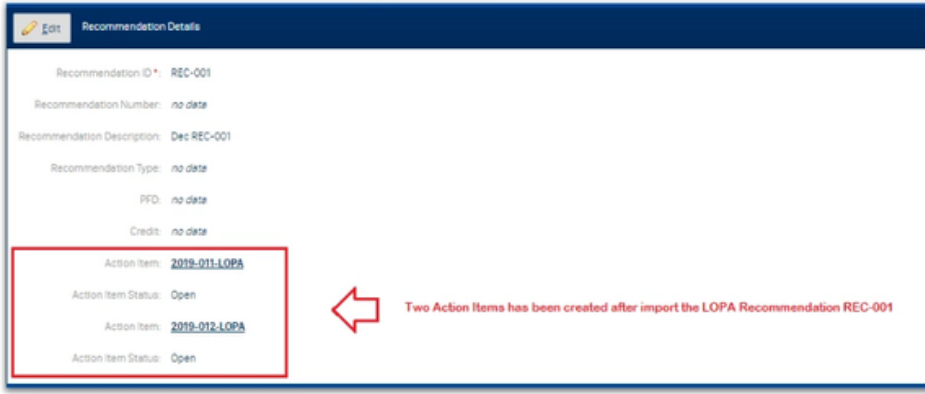
## Instrumented Systems

- Corrected misspellings on tooltips for Tolerance and Service Class.



## Adapters


- Creating only one LOPA Action Item per import LOPA Recommendation



The screenshot shows the 'Recommendation Details' page for REC-001. The page lists various fields: Recommendation ID (REC-001), Recommendation Number (no data), Recommendation Description (Dec REC-001), Recommendation Type (no data), PFD (no data), and Credit (no data). Below these, there are two action items listed: '2019-011-LOPA' and '2019-012-LOPA', both with a status of 'Open'. A red box highlights these two items. A red arrow points from the text 'Two Action Items has been created after import the LOPA Recommendation REC-001' to the highlighted items.

Recommendation ID *	REC-001
Recommendation Number:	no data
Recommendation Description:	Dec REC-001
Recommendation Type:	no data
PFD:	no data
Credit:	no data
Action Item:	<a href="#">2019-011-LOPA</a>
Action Item Status:	Open
Action Item:	<a href="#">2019-012-LOPA</a>
Action Item Status:	Open

Two Action Items has been created after import the LOPA Recommendation REC-001



The screenshot shows the 'Recommendation Details' page for REC-001. The page lists various fields: Recommendation ID (REC-001), Recommendation Number (no data), Recommendation Description (Dec REC-001), Recommendation Type (no data), PFD (no data), and Credit (no data). Below these, there is one action item listed: '2019-017-LOPA' with a status of 'Open'. A green box highlights this item. A green arrow points from the text 'Only one Action Item has been created after import the LOPA Recommendation REC-001' to the highlighted item.

Recommendation ID *	REC-001
Recommendation Number:	no data
Recommendation Description:	Dec REC-001
Recommendation Type:	no data
PFD:	no data
Credit:	no data
Action Item:	<a href="#">2019-017-LOPA</a>
Action Item Status:	Open

Only one Action Item has been created after import the LOPA Recommendation REC-001

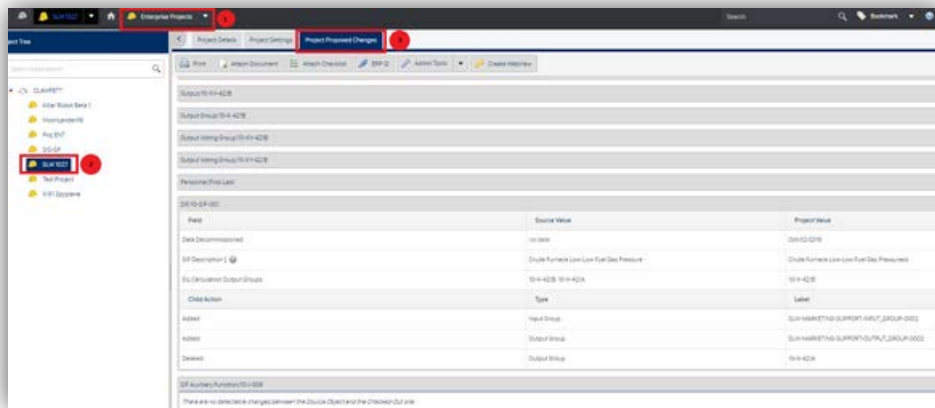
# 2.4s5 Release Notes

These release notes for SLM 2.4s5 provide an overview of the release and document new features, improvements and known issues.

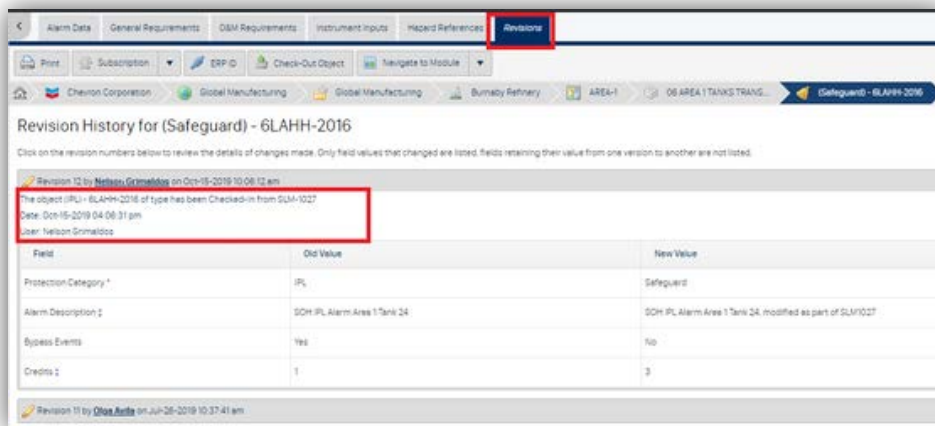
## New Features

### Enterprise Projects

- Ability to review changes being made inside an Enterprise Project, through several Proposed Project Changes windows and templates across the application.



- Integrate the Enterprise Project Logs to the System's Revision to inform users about actions executed to an object during a Project.



# Refinements & Usability Gap

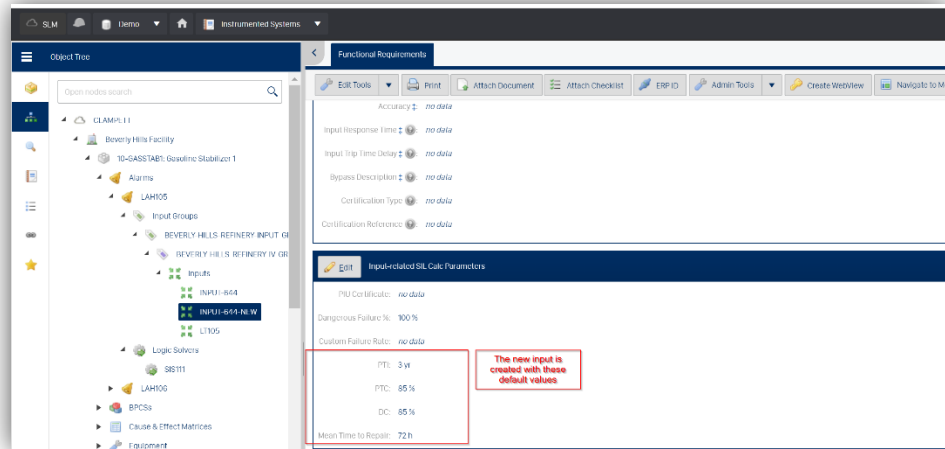
## SLM API

- **Add Children to Object Endpoints:** Add the ability to fetch children data along with the object data in the same call, instead of making several API calls for each child object after getting the main object data.
  - **Endpoints**
    - /objects/{type\_id}
    - objects/type\_id/{type\_id}
    - objects/{type\_id}/{hash}
  - **Response**

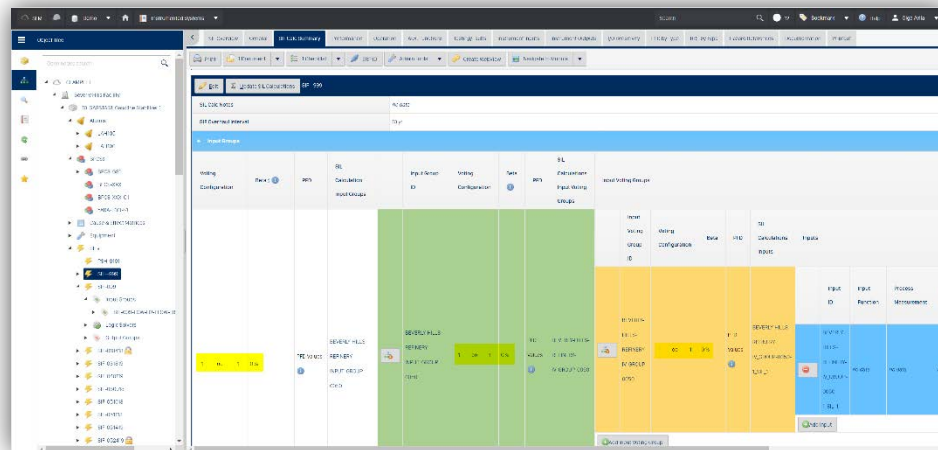
```
"activation_events_stat": null,
"associated_alarm": null,
"associated_bpcs": null,
"bypass_events_stat": null,
"fault_events_stat": null,
"lope_ic_tracker": null,
"proof_test_intervals": null,
"children": {
  "input": {
    "76E1C5E1-4143-E911-80E2-00003A50F648": {
      "scope": "BEVERLY-HILLS-REFINERY",
      "object_id": "10-FT201A",
      "in_function": "Transmitter",
      "proc_measurement": "Flow",
      "in_type": "CO Transmitter",
      "object_description": "test desc",
      "service_class": "Moderate Service",
      "ssc_dirty_plugged": 1,
      "ssc_high_vibration": 0,
      "ssc_high_pressure": 0,
      "ssc_high_temperature": 1,
      "ssc_high_corrosion": 0,
      "safety_critical": 1,
      "cert_type": "Safety Certified",
      "cert_reference": null,
      "bypass_description": null,
      "oo_pressure_range": null,
      "oo_temperature_range": null,
      "oo_other_considerations": null
    }
  }
}
```

## Instrumented System

- Added default values to the following fields for Input, Logic Solver, and Output objects: PTI, PTC, DC and Mean Time to Repair.

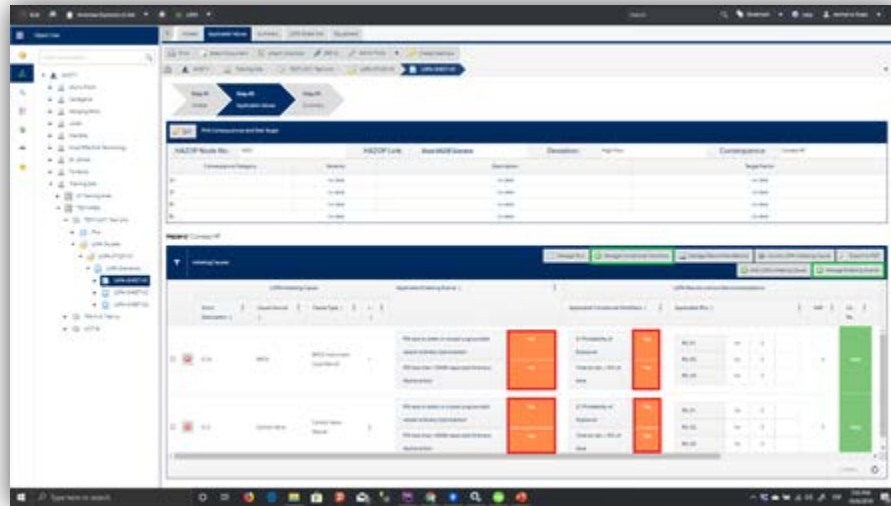


- When voting configuration is 1oo1 wipe out the beta value.



## LOPA

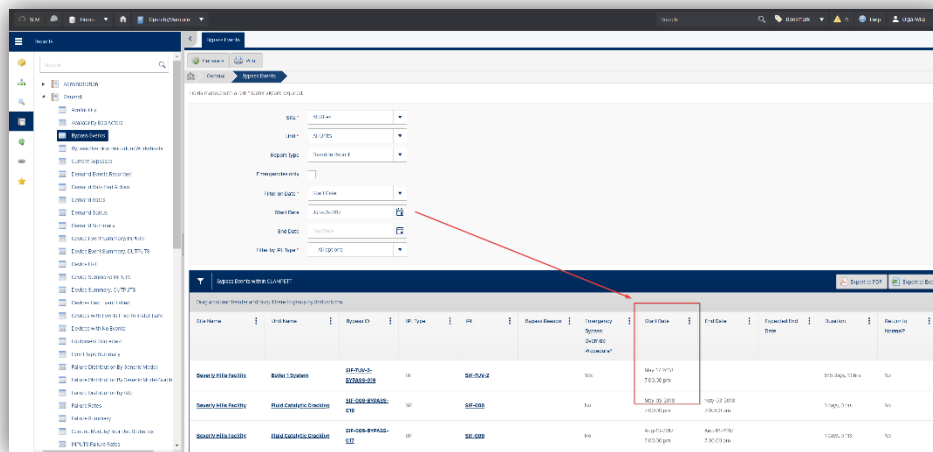
- The Enabling Events and Conditional Modifiers are applied automatically when they are copied to the Initiating Causes scenarios, from the Manage Conditional Modifiers and Manage Enabling Events respectively.



## Fixes

### Operate Maintain

- Bypass Events Report was not populating, was corrected the format of start date and end date used as the report filters.



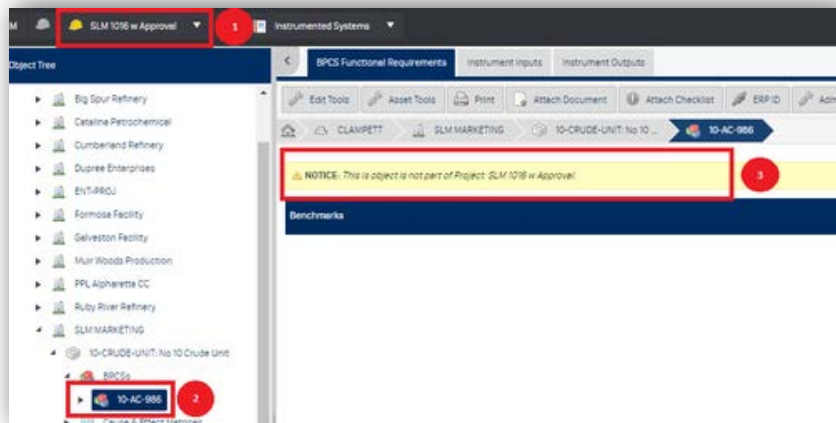
# 2.4s6 Release Notes

These release notes for SLM 2.4s6 provide an overview of the release and document new features, improvements and known issues.

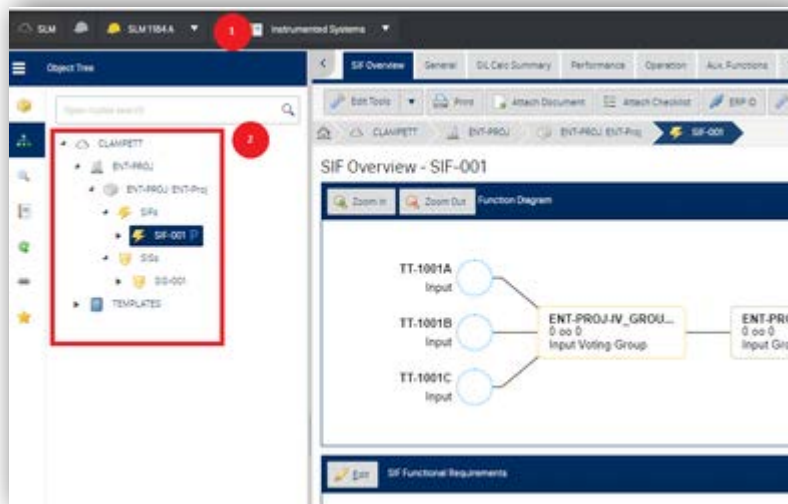
## New Features

### Enterprise Projects

- **Block all information regarding objects that belong to the main data while working on a Project.**

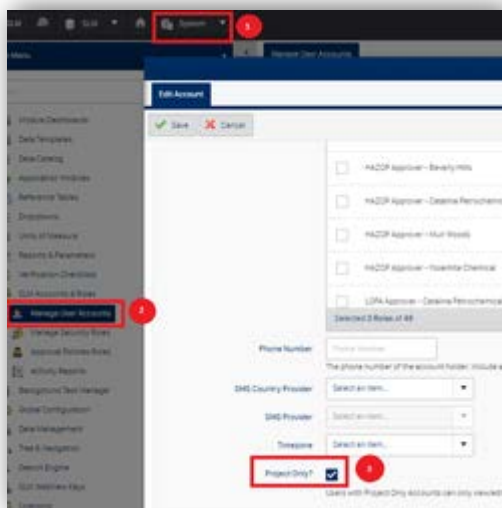


- **Object Tree must be trimmed to display only nodes of objects of the selected Project.**



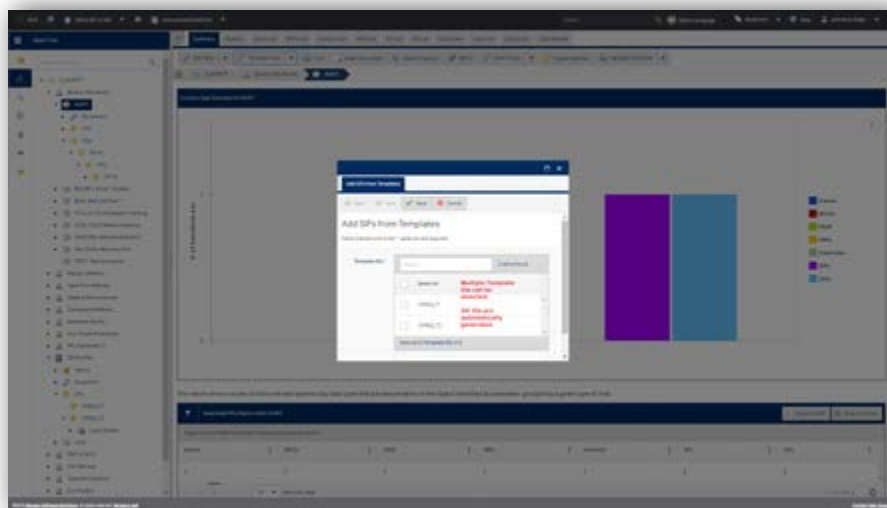


- Ability to **restrict a User to Projects** and **prevent them from accessing the Main Database**



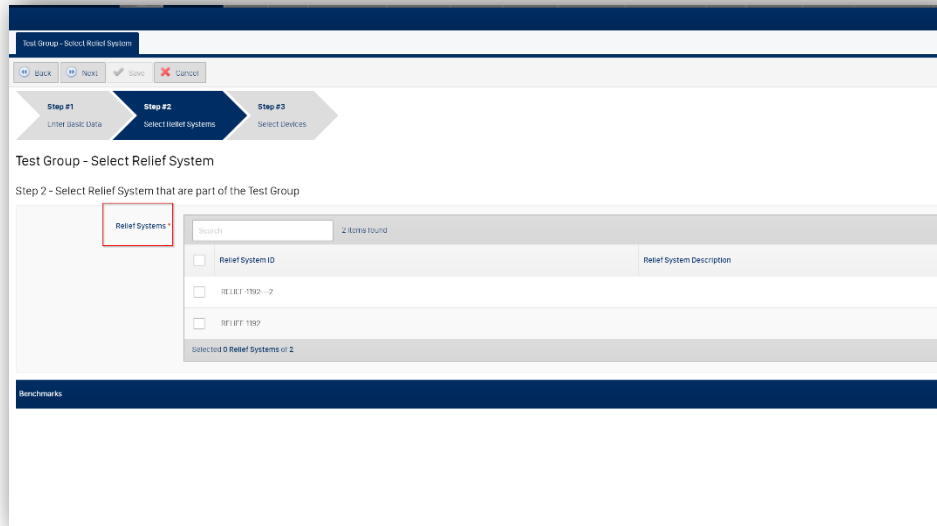
## Instrumented System

- Templates enhancement to allow adding multiple objects from templates.

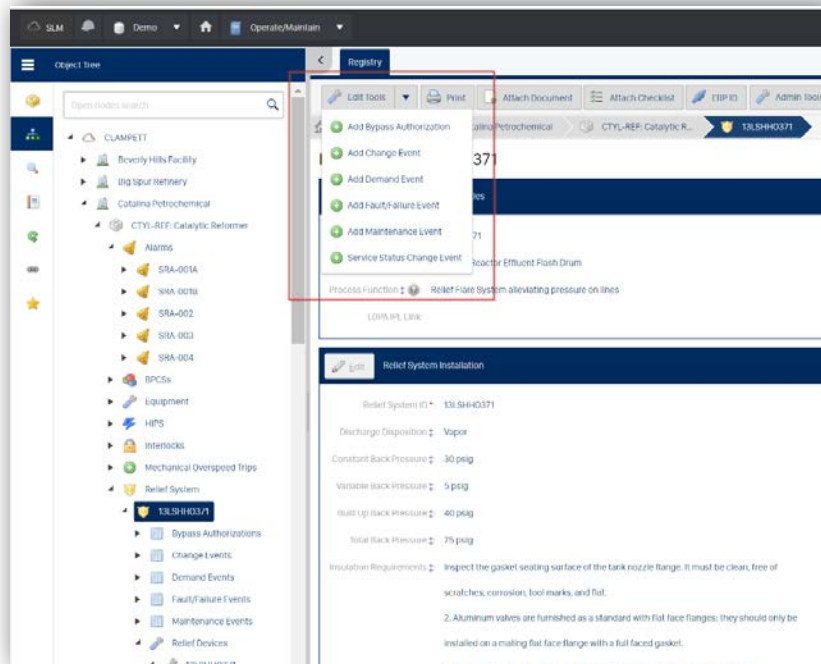


## Operate Maintain

- Modify Test Group logic to select Relief Systems Functions and Relief Devices



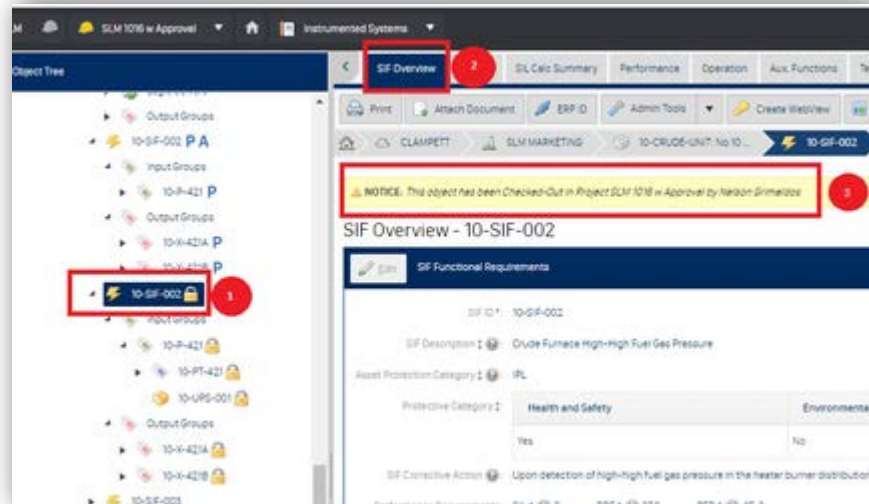
- Add ability to be added Relief Systems and Relief Devices to Change, Demand, Maintenance, Fault, Bypass and Service Status Change Events at the:
  1. Relief System Object Level
  2. Unit Level



# Refinements & Usability Gap

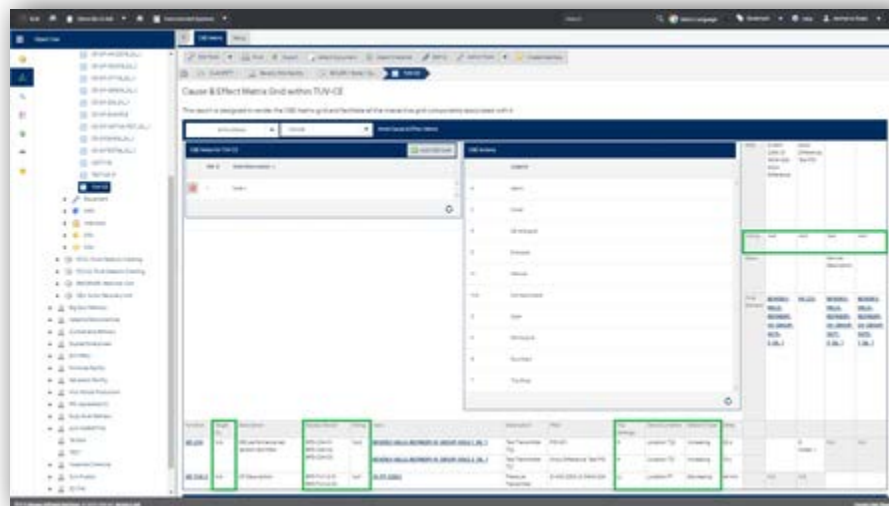
## Enterprise Projects

- Display the **Project Information** in the **Notification Banner** when showing a Locked Object that has been **Checked-Out**



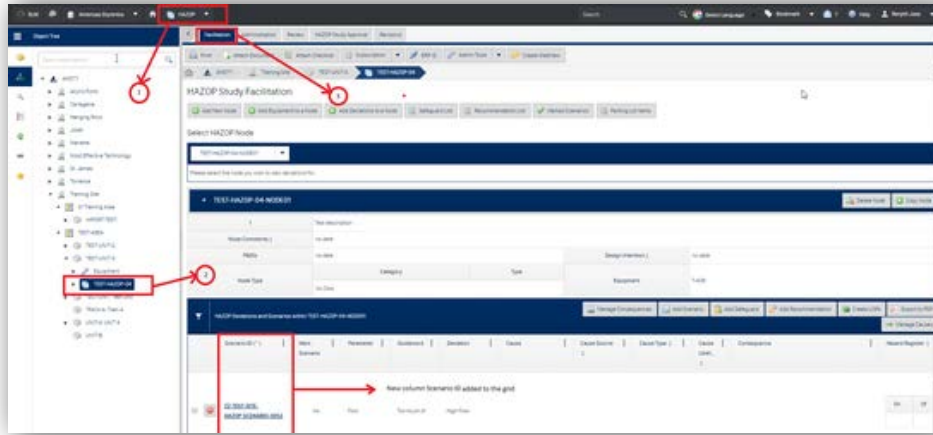
## Instrumented System

- Changes and fixes has been applied to the C&E Matrix



## Hazop

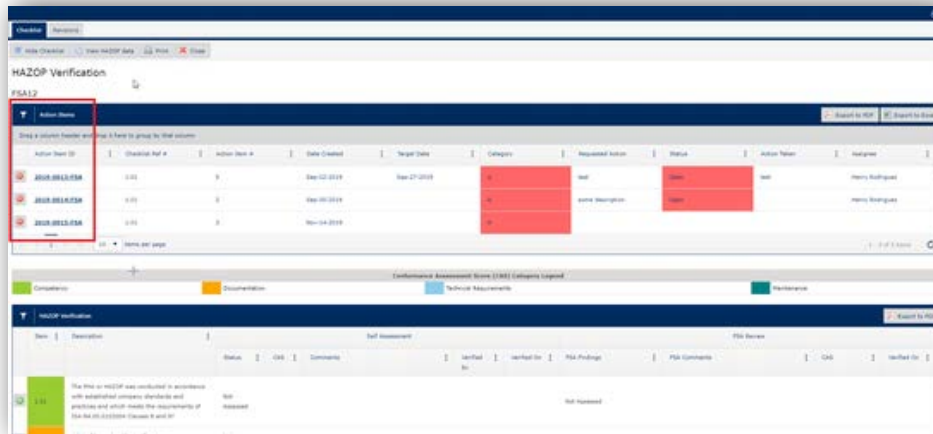
- New column Scenario ID added to the grid.



## FSA

- Add Action Item ID column to the action item table in step 4 and step 8 of FSA.

Step 4:



Step 8:

The screenshot displays a web application interface for 'Functional Safety Assessments'. The main content area is titled 'TEST-SIS - FSA Action Items' and includes a progress bar with steps from Step #1 to Step #9. Step #8, 'FSA Action Items', is the active step. Below the progress bar is a table of action items with the following data:

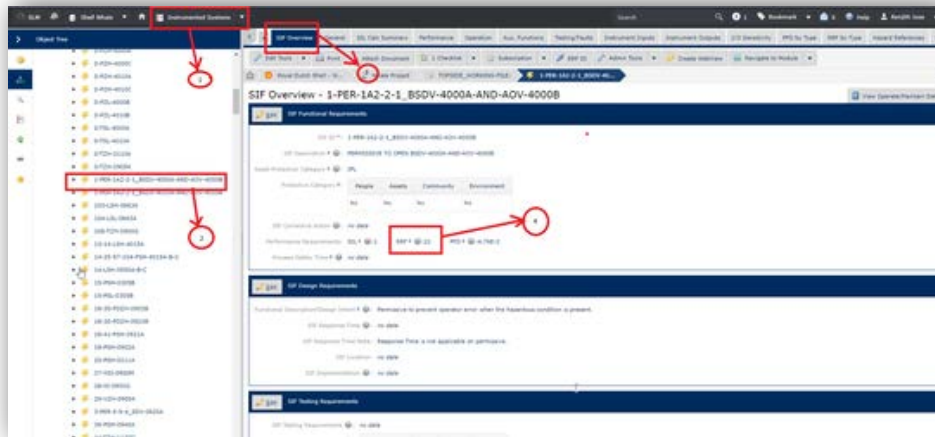
Action Item ID	Item #	Date Created	Target Date	Category	Requested Action	Status	Action Taken	Assignee
2023-2023-FSA	1.01	Nov 02 2023	Nov 27 2023	CA	test	Open	test	Henry Rodriguez
2023-2023-FSA	1.01	Nov 02 2023		CA	none description	Open		Henry Rodriguez
2023-2023-FSA	1.01	Nov 04 2023		CA				

# Fixes

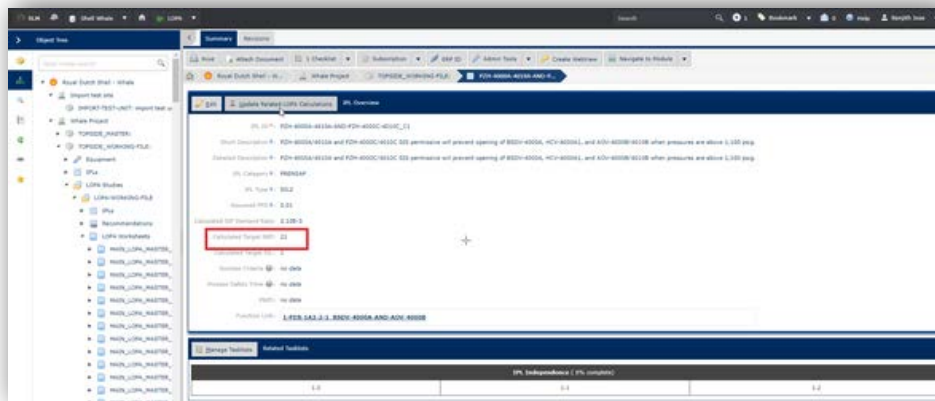
## Instrumental System

- RRF value fix for the SIF object (The RRF value for the SIF object in the Instrumental System module and its linked IPL's Calculated Target RRF value should be same).

The RRF value for SIF object in IS module:

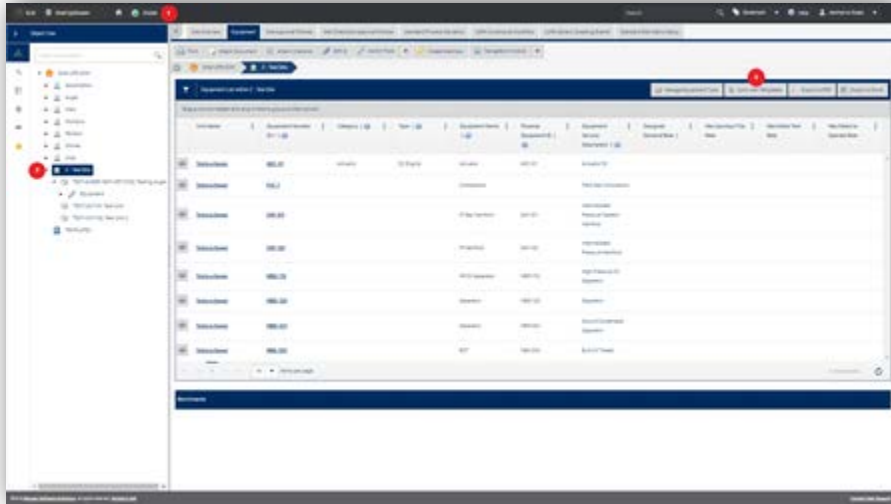


The linked IPLs Calculated Target RRF value in LOPA module:



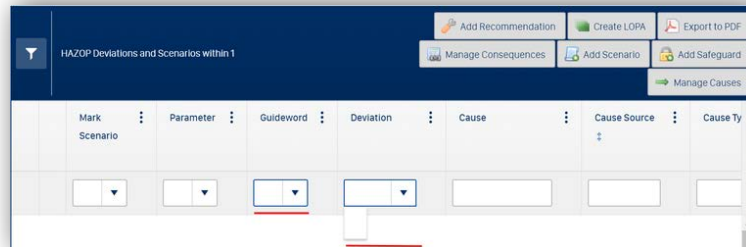
## Global

- The *Sync with Templates* functionality has been fixed.

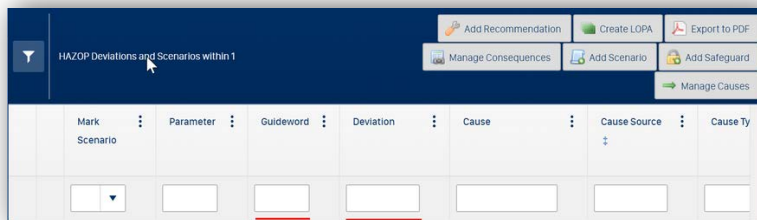


- The dropdowns filter was converted to textbox.

Before:



After:

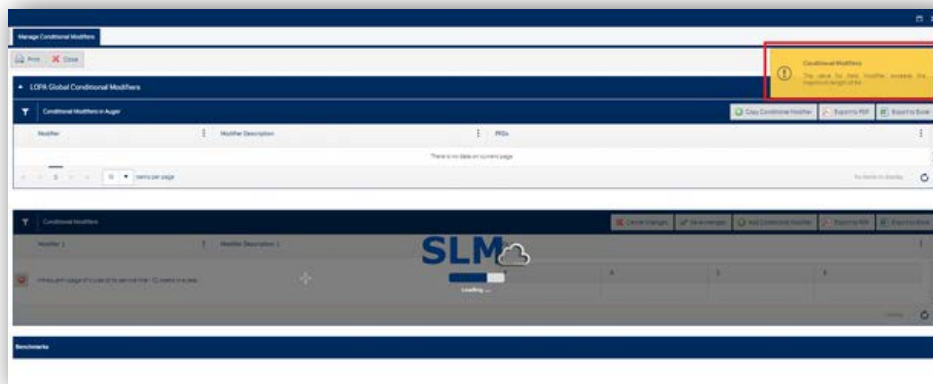


## LOPA

- Fixed report part on core LOPA Study and LOPA Sheet report.

Initiating Causes (IC) x Enabling Events					
Short Description	IEF	Applicable Enable Events		IEF x PFDs	
PowerNap H2S levels require blending to meet sales and gas lift specification. Olympus gas decreases to the point where 7ppm specification is exceeded.	2.454565456	Shut in of the well and leak back through gas lift assembly.	Yes	P	2E-003
				A	2E-003
		Loss of gas dehydration	Yes	C	2E-003
				E	2E-003
Sum of IEFs	2.454565456	Sum of IEFs x PFDs		P	2E-003
				A	2E-003
				C	2E-003
				E	2E-003

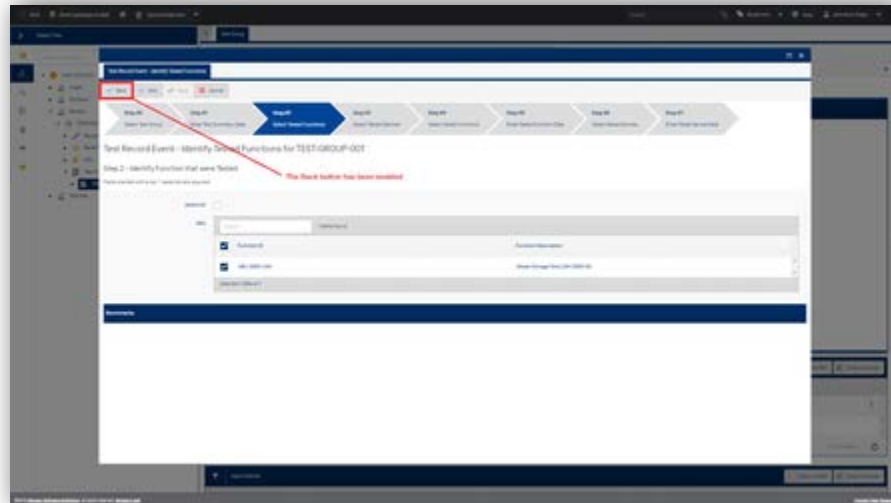
- Populate warning message when the length of the modifier field exceeds its limit more than 64.





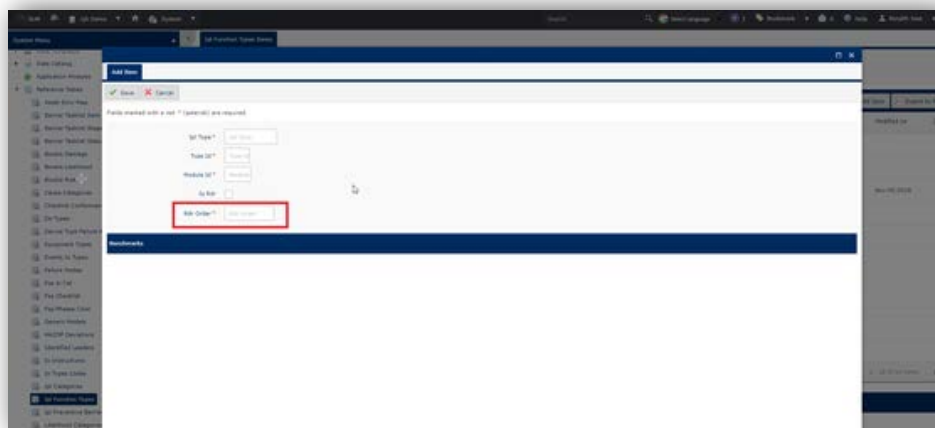
## Operate Maintain

- Enabling the Back button in the Test Event Workflow.



## System Module

- Fix for the default value for Rdr Order field in IPL Function Type reference table.



# 2.4s7 Release Notes

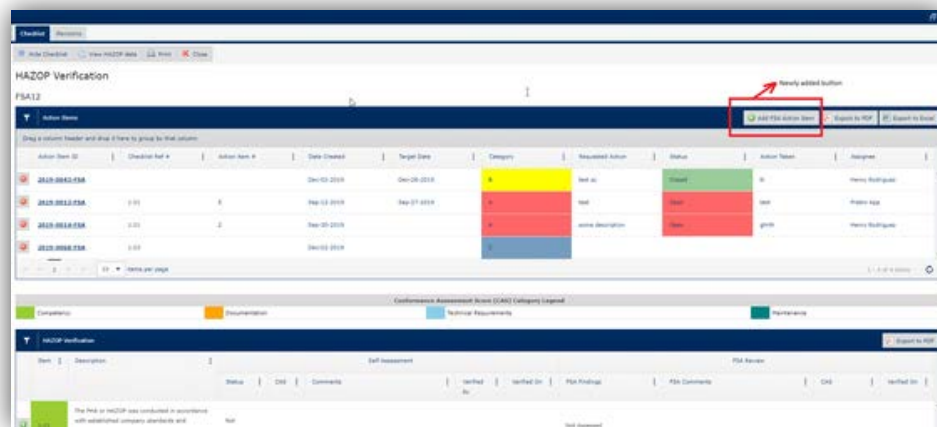
These release notes for SLM 2.4s7 provide an overview of the release and document new features, improvements and known issues.

## New Features

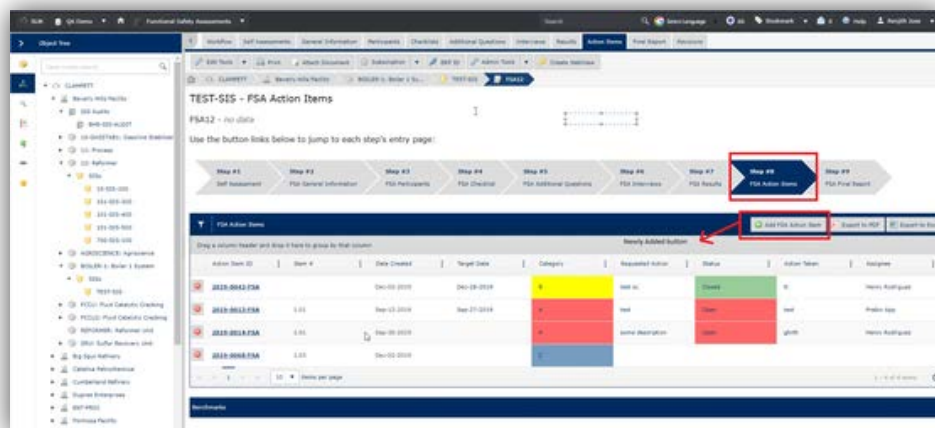
### FSA

- New add button for Action Item table in Step 4 and Step 8 of FSA.

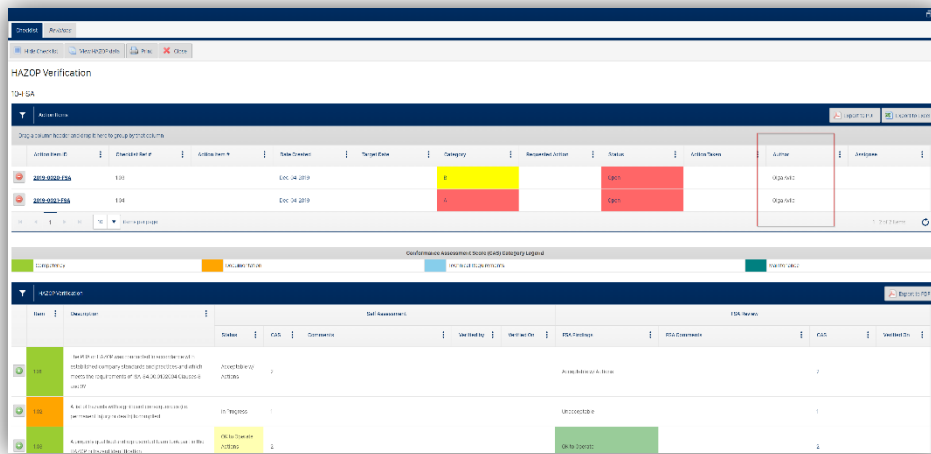
Step 4:



Step 8:



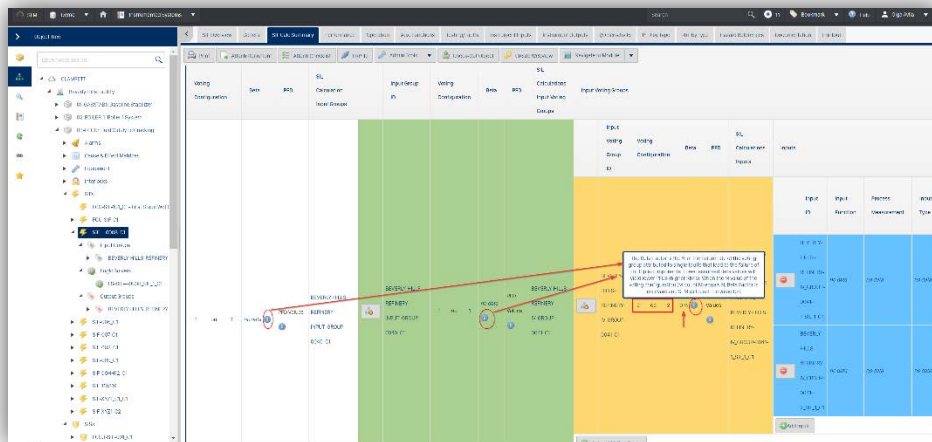
- Add an "Author" field to the Action Item fields particularly in the FSA module in the Action Items table.



## Refinements & Usability Gap

### Instrumented Systems

- Changes on Beta field:
  - Reset the beta value to zero for any voting ratios that are 1oo1, this includes 2oo2, 3oo3, etc.
  - Change tool tip for each beta field



## LOPA

- The translation of likelihood when a Function related to an IPL in a LOPA is Bypassed and the LOPA count link in the DRM matrix position changes depends on the LOPA Result.

LOPA Result: Gap

LOPA Gap: 1000

The screenshot shows the 'Initiating Causes' section of the software. The main table has columns for 'Short Description', 'Cause Source #', 'Ca. Type #', 'SEF #', 'Applicable IPLs #', 'SEF', 'Applicable Conditional Modifiers #', 'LOPA Gap', and 'LOPA Result'. The entry shown is 'Equipment Error' with a source of 'Atmos. tank failure' and a SEF of 0.01. The applicable IPL is 'TEST-REN-IPU-01' with a 'Yes' status. The LOPA Gap is 1000 and the LOPA Result is 'Gap', which are highlighted with a red box.

Short Description	Cause Source #	Ca. Type #	SEF #	Applicable IPLs #	SEF	Applicable Conditional Modifiers #	LOPA Gap	LOPA Result
Equipment Error	Atmos. tank failure		0.01	TEST-REN-IPU-01	1	0.1	1000	Gap

The screenshot shows the 'DRM Matrix' view of the software. The matrix consists of multiple rows and columns representing different LOPA entries. Each cell in the matrix is color-coded: green for low risk, yellow for medium risk, orange for high risk, and red for unacceptable risk. The entry 'RECU-LOPA-RES-01' is highlighted with a red box, indicating a high risk level. Below the matrix, a summary table provides details for the selected LOPA entry.

LOPA Description	SEF	SEF x CF	SEF x CF x PM	SEF x CF x PM x R	Risk	Result
RECU-LOPA-RES-01	0.01	0.01	0.01	0.01	1000	Gap

LOPA Result: Pass

LOPA Gap: 1

The screenshot shows the LOPA software interface. At the top, there are navigation tabs: 'Initiating Causes', 'Manage Conditional Modifiers', 'Manage Recommendations', 'UNLINK LOPA Initiating Cause', 'Export to PDF', 'Add LOPA Initiating Cause', 'Manage Enabling Events', and 'Manage IPLs'. Below these, there are three main sections: 'LOPA Initiating Cause', 'Applicable Enabling Events', and 'LOPA Results without Recommendations'. The 'LOPA Initiating Cause' section shows a table with columns for Short Description, Cause Source #, Ca. Type #, and IEF #. The 'Applicable Enabling Events' section shows a table with columns for Applicable IPLs #, MEF #, Applicable Conditional Modifiers #, LOPA Gap #, and LOPA Result #. The 'LOPA Results without Recommendations' section shows a table with columns for S, E, and C, and a 'LOPA Result' column. A red box highlights the 'LOPA Result' column, which contains the word 'Pass'.

The screenshot shows a risk matrix and a detailed LOPA result. The risk matrix has columns for 'Common Occurrence - Typically once', 'Similar event has occurred or is likely to occur in the process', 'Similar event has occurred or is likely to occur in similar facilities', 'Similar event has occurred or is likely to occur within the company facilities', 'Similar event has occurred in the industry', and 'Similar event has not occurred in industry and is an extremely remote possibility'. The rows represent different levels of risk, with colors ranging from blue (low) to red (high). A red arrow points from the 'Common Occurrence' column to the 'Similar event has not occurred in industry...' column. Below the matrix, there is a table with columns for 'LOPA Worksheet #', 'LOPA Description', 'Severity', 'Likelihood', 'RPF', 'Related Equipment', and 'IPLs (IPL ID/PCN ID/PCN Type)'. A red box highlights the 'IPLs' column, which contains the text 'IPL1: 8838.IPL1' and 'IPL2: 8838.IPL2'.

Count value moved from left to right as the LOPA Result value decreases.

# Fixes

## FSA

- Fix the column header names and populate the missing column values for FSA SSRS Final Report to match with the checklist table in SLM. Check list table from SLM Instance:

Item #	Description	Self Assessment				FSA Review		
		Status	Comments	Verified By	Verified On	FSA Findings	FSA Comments	Verified On
7.1	Ensure that the FAT is completed per the project scope, is documented and that punch list items are corrected.	In Progress	In progress			In Progress	The report changes may be outstanding.	
7.2	There should be confirmation of no shipping damage and that documentation is complete.	Completed	RD shipped to the site and no damage found. Honeywell completed the assessment/SAT prior to power up. Documentation provided by Honeywell.			Completed	Done during the SAT per procedure.	Nov-12-2019
7.3	Is there supervision to ensure the correct application of the specifications and procedures during installation?	Completed	Completed by Powell. Verified at Site.			Failed	See action item 2019-0029-FSA, 2019-0031-FSA, 2019-0032-FSA.	Nov-12-2019
7.4	Are the installation procedures designed, managed and supervised to minimize the introduction of common cause failures?	Completed	Completed by Powell. Verified at Site.			Completed	See action item 2019-0031-FSA.	Nov-12-2019
7.5	Are the SSRS installation activities included in the overall permit commissioning program as well as that there is no interference by other construction activities?	Completed				In Progress	Commissioning of basic SSRS done after final construction activities are complete. Correcting the FAT finding a list corrected across all areas and there may be issues being identified but as complete that the list has the most work completed or not had as working. The functional tests should occur after the SSRS is commissioned as close as possible to the sign-off of the unit.	
7.6	Is the SSRS installed in order to avoid damage caused by installation activities?	Completed	No damage. SSRS cabinet worked. FAT instrumentally verified during code checking.			Completed		Nov-12-2019
7.8	Is the exception analysis conducted with construction activities to ensure that corrected and reported work is not repeated by subsequent activities?	Completed	Governed by the SSRS program.			Failed	Correcting the headroom finding a list corrected across all areas and there may be issues being checked out as complete that there are not had the list been completed or verified as working. The functional tests should occur after the SSRS is commissioned as close as possible to the sign-off of the unit.	Nov-12-2019

Check list table from SSRS report:

Mardan Refinery - Naphttha Desulphurization Unit FSA Final Report

FSA Installation and Commissioning Checklist (Checklist)								
Item #	Description	Self Assessment				FSA Review		
		Status	Comments	Verified By	Verified On	FSA Findings	FSA Comments	Verified On
7.1	Ensure that the FAT is completed per the project scope, is documented and that punch list items are corrected.	In Progress	In progress			In Progress	The report changes may be outstanding.	
7.2	There should be confirmation of no shipping damage and that documentation is complete.	Completed	RD shipped to the site and no damage found. Honeywell completed the assessment/SAT prior to power up. Documentation provided by Honeywell.			Completed	Done during the SAT per procedure.	Nov-12-2019
7.3	Is there supervision to ensure the correct application of the specifications and procedures during installation?	Completed	Completed by Powell. Verified at Site.			Failed	See action item 2019-0029-FSA, 2019-0031-FSA, 2019-0032-FSA.	Nov-12-2019
7.4	Are the installation procedures designed, managed and supervised to minimize the introduction of common cause failures?	Completed	Completed by Powell. Verified at Site.			Completed	See action item 2019-0031-FSA.	Nov-12-2019

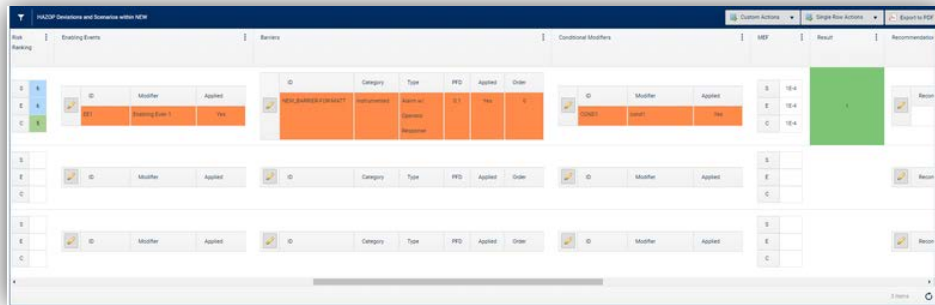
# 2.4s8 Release Notes

These release notes for SLM 2.4s8 provide an overview of the release and document new features, improvements and known issues.

## New Features

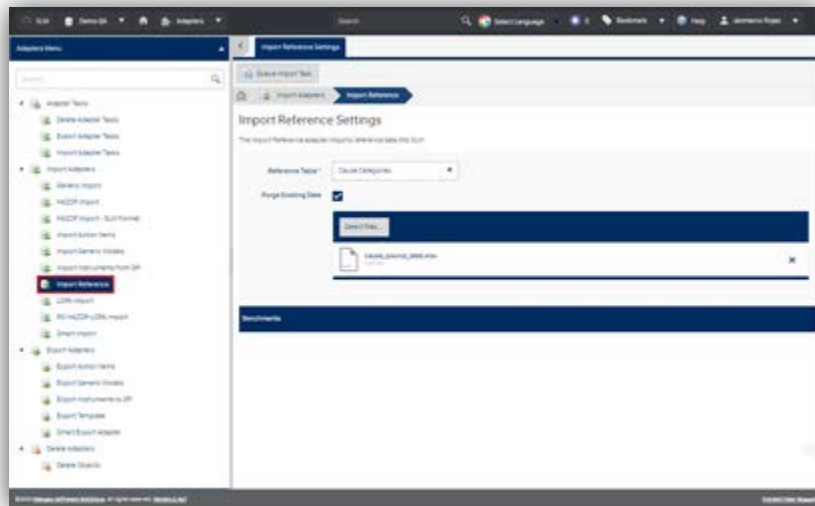
### HAZOP

- Adding LOPA Functionality to HAZOP Facilitation workflow.
  - Setting applicable Enabling Events, Barriers, Conditional Modifiers and Recommendations
  - Calculating MEF Gaps

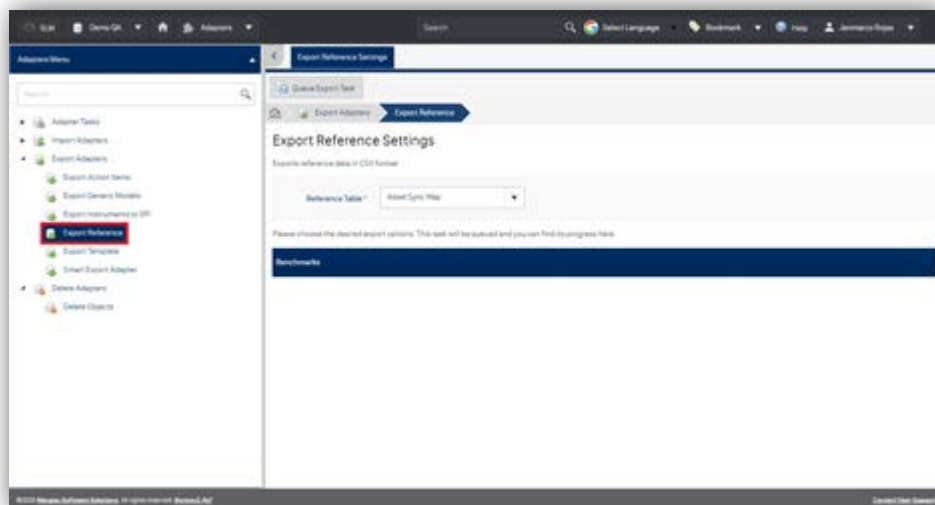


## Adapters

- New *Import Reference* adapter for importing reference data.



- New *Export Reference* adapter for exporting reference data.

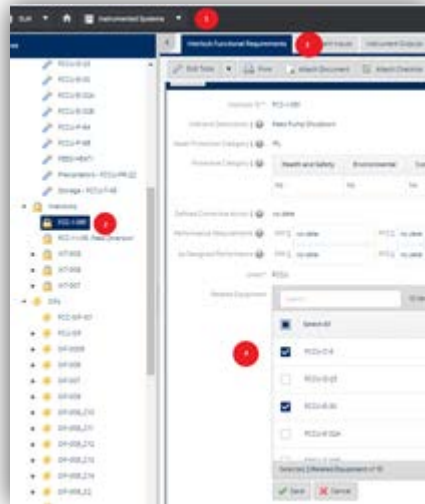




# Refinements & Usability Gap

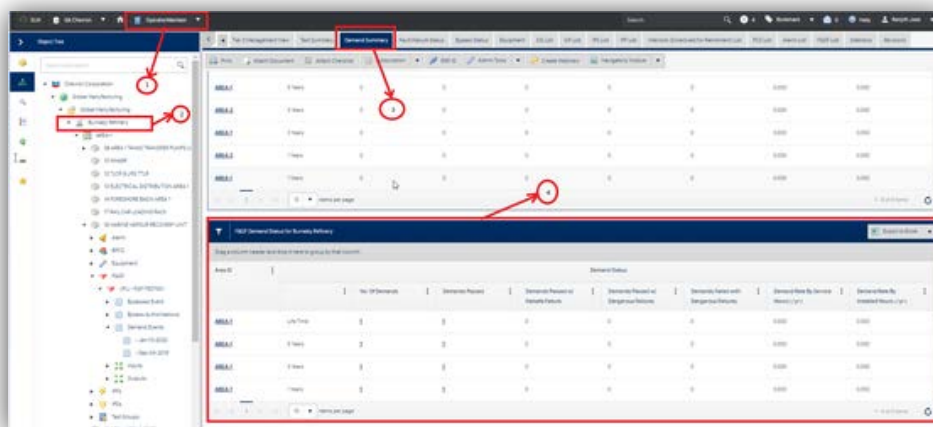
## SIS

- Replace Functions/Equipment relationships with a relational field instead of the usual tables.



## Operate Maintain

- Demand Status table F&GF object.



# Instrumented Systems

- "Safety Requirements Specification" gets displayed as option in Document Type field when editing a SIF / SRS document

The screenshot shows the 'Edit Document' interface. At the top, there are 'Save' and 'Cancel' buttons. Below them, the title 'Edit Document' is followed by a note: 'Fields marked with a red \* (asterisk) are required.' The form contains several fields: 'Document ID \*' with the value 'OTHER', 'Document Type \*' with a dropdown menu open showing 'Other Document' (highlighted with a red circle containing the number 5) and 'Safety Requirements Specification (SRS)', 'Document Name \*' with the value 'SRS', 'Description' with the value 'Safety Requirements Specification (SRS)', and 'External URL' with the value 'External URL'.

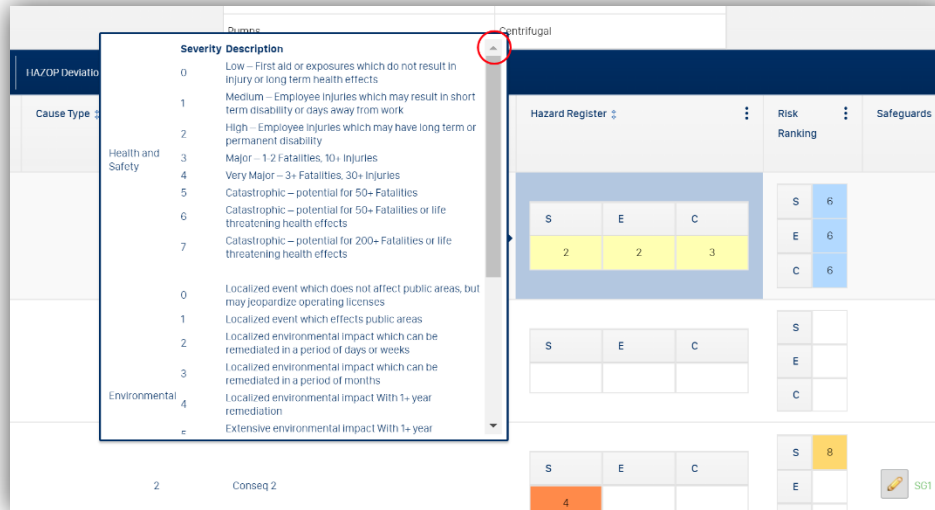
# HAZOP

Add missing columns (Likelihood, Risk Ranking) to the HAZOP Review SSRS report and move LOPA required column to the left of the LOPA ID column.

The screenshot shows a HAZOP Review SSRS report table. The table has several columns, including 'Description', 'Likelihood', 'Risk Ranking', 'LOPA', and 'LOPA ID'. Red boxes highlight the 'Likelihood' and 'Risk Ranking' columns, with a red arrow pointing to them from the text 'Newly added columns'. Another red box highlights the 'LOPA' column, with a red arrow pointing to it from the text 'Moved column'.

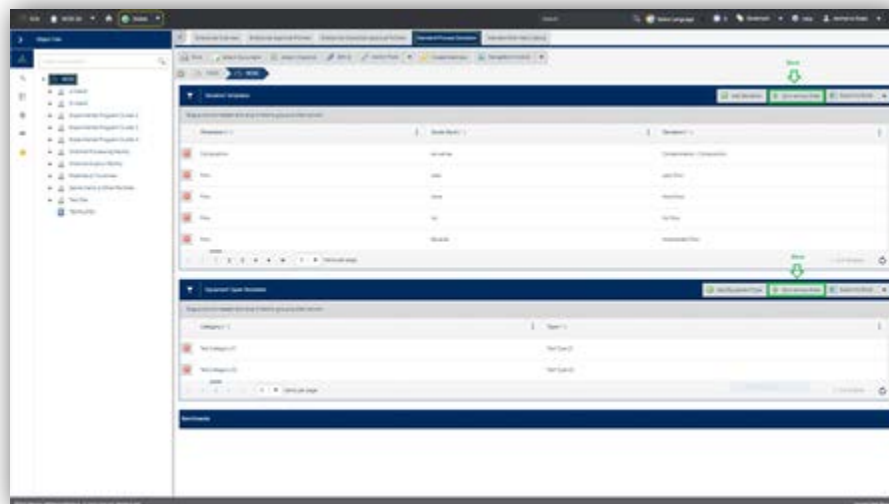
Description	Likelihood	Risk Ranking	LOPA	LOPA ID
High Temperature	High	High	Yes	
High Flow	High	High	Yes	

- The option to automatically hidden tooltip of column “Hazard Register” of the grid “HAZOP Deviation Scenarios” was enabled



## Global

- New buttons haven been added at the Enterprise level to synchronize deviation templates and equipment type templates across all sites.



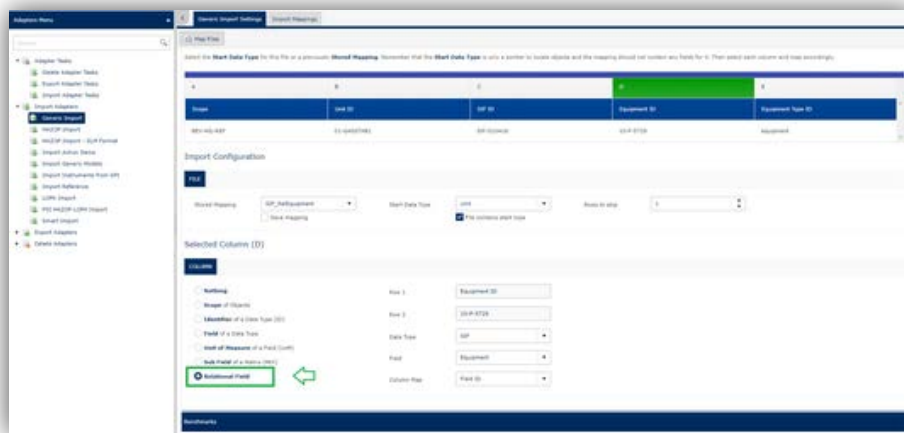
# 2.4s9 Release Notes

These release notes for SLM 2.4s9 provide an overview of the release and document new features, improvements and known issues.

## Refinements & Usability Gap

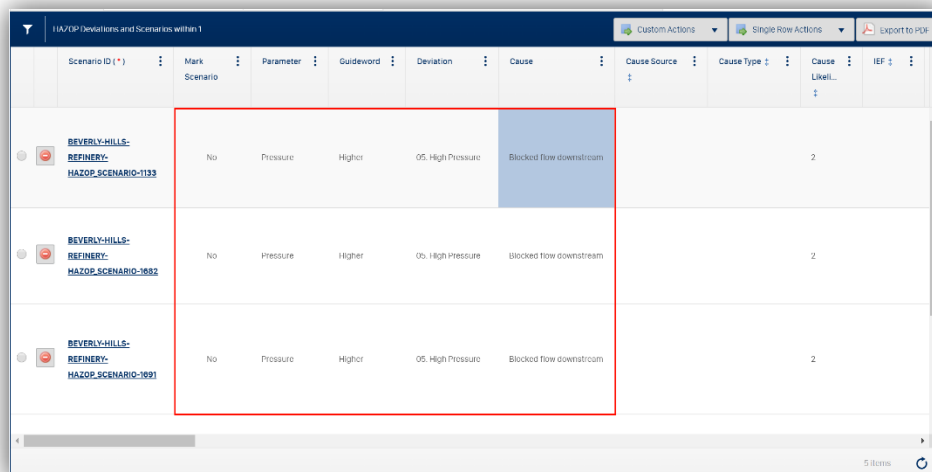
### Adapters

- **Generic Import:** Adding support for importing Relational Fields.

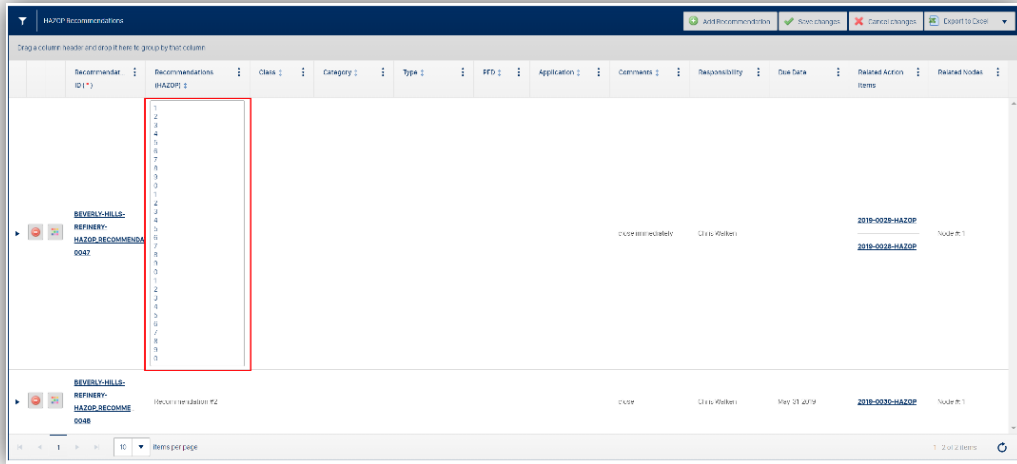


### General

- The font color of grid editable cells was changed like not editable cells.

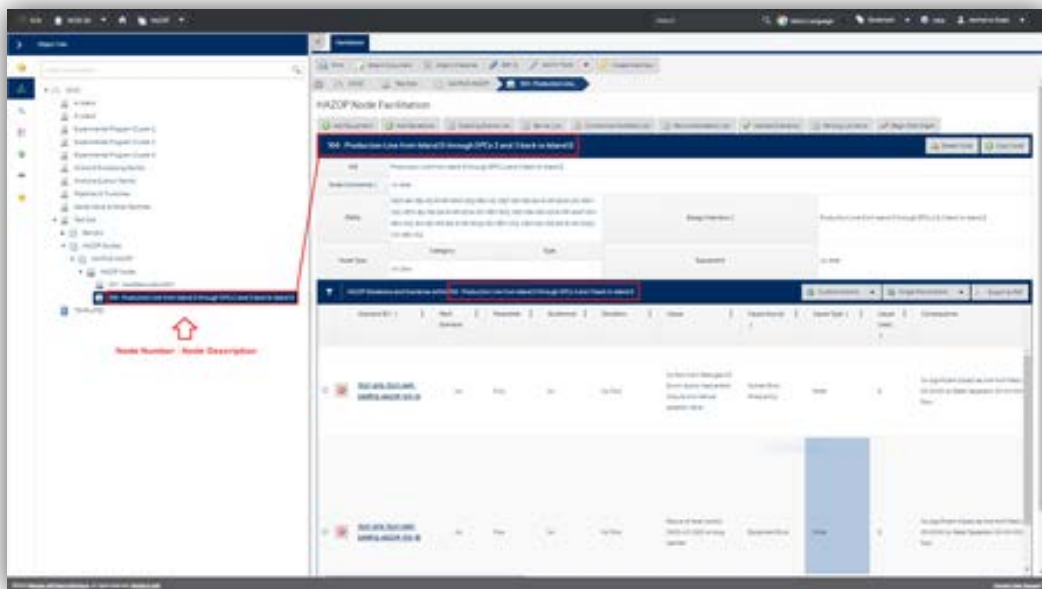


- In grids with an editable cells by a text area, these cells expand as data is entered.

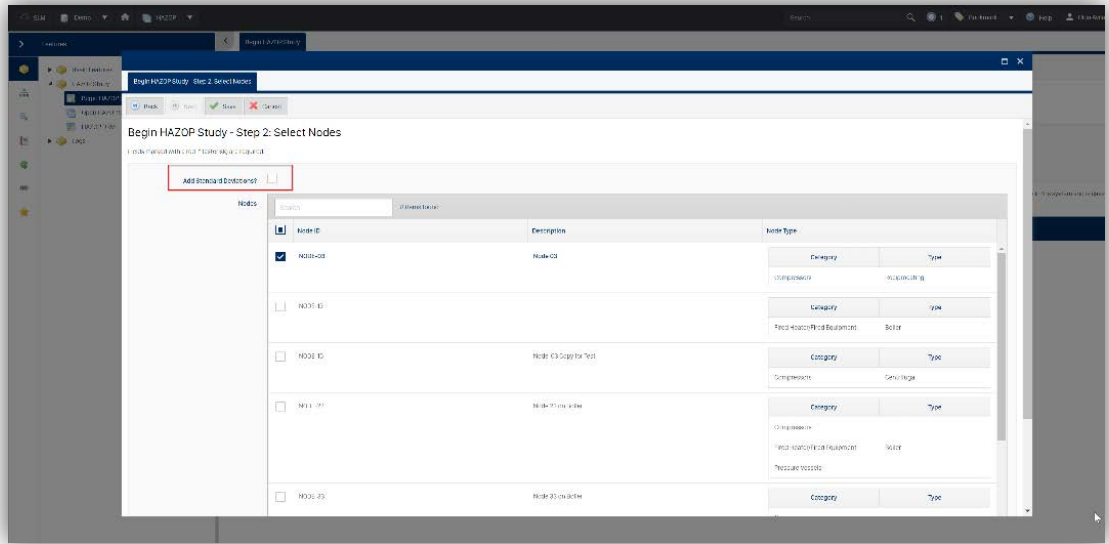


## HAZOP

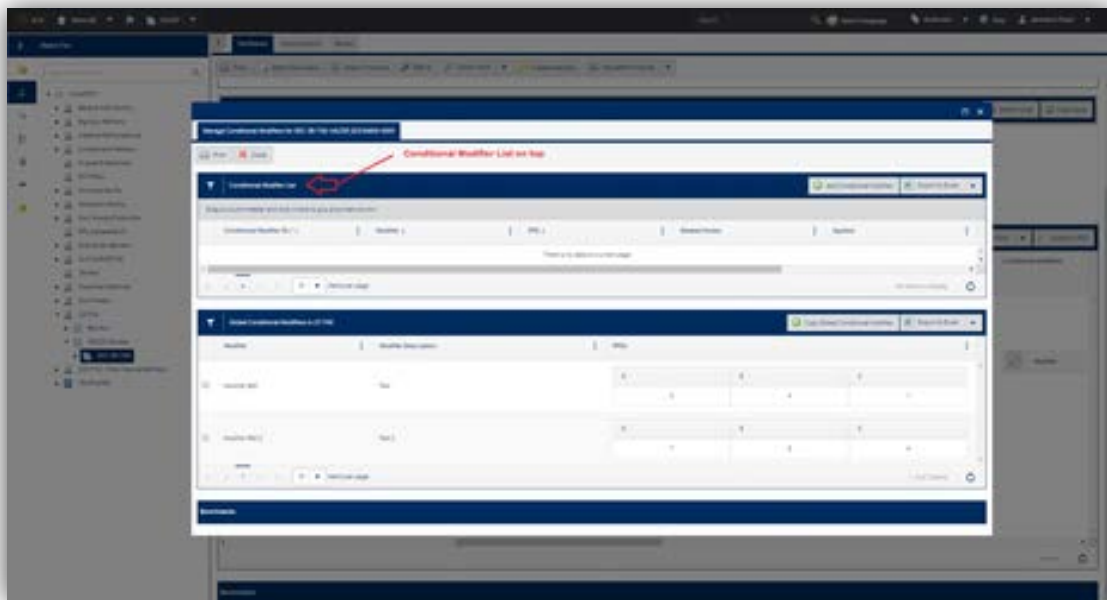
- Displaying the title on the HAZOP Node Details table as shown in the Object Tree.



- Add option to create Standard Deviations when creating a new HAZOP Study



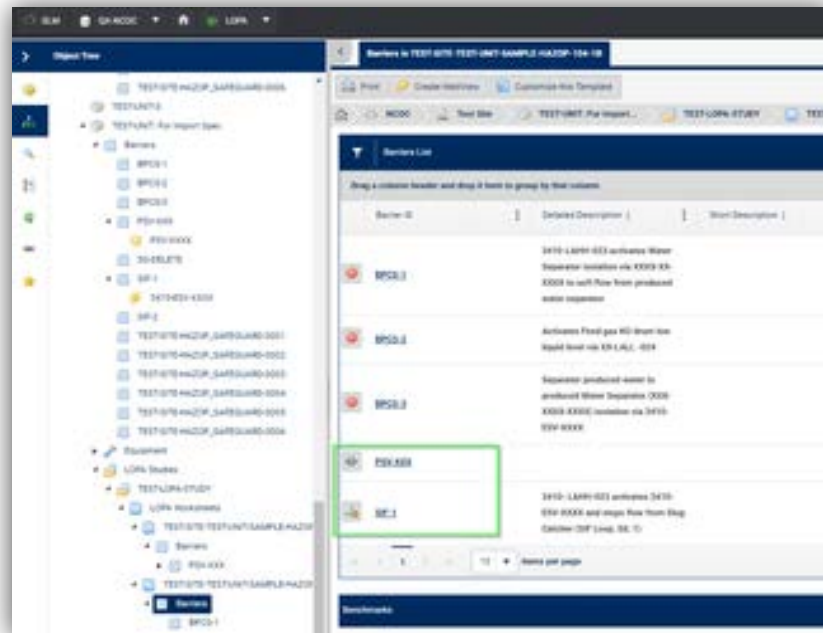
- Reordering tables in Manage Conditional Modifiers and Manage Enabling Events for the HAZOP Scenario.



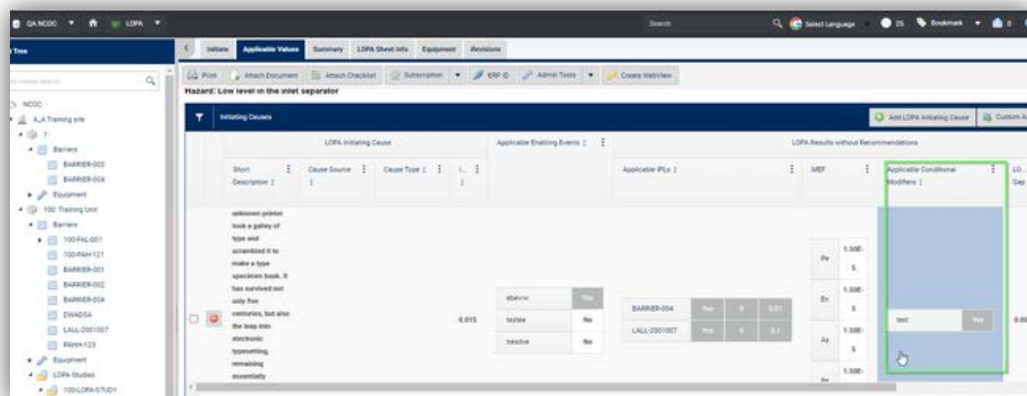


# LOPA

- Delete Cascade and unlink buttons now available in "Barriers" category view under LOPA sheet

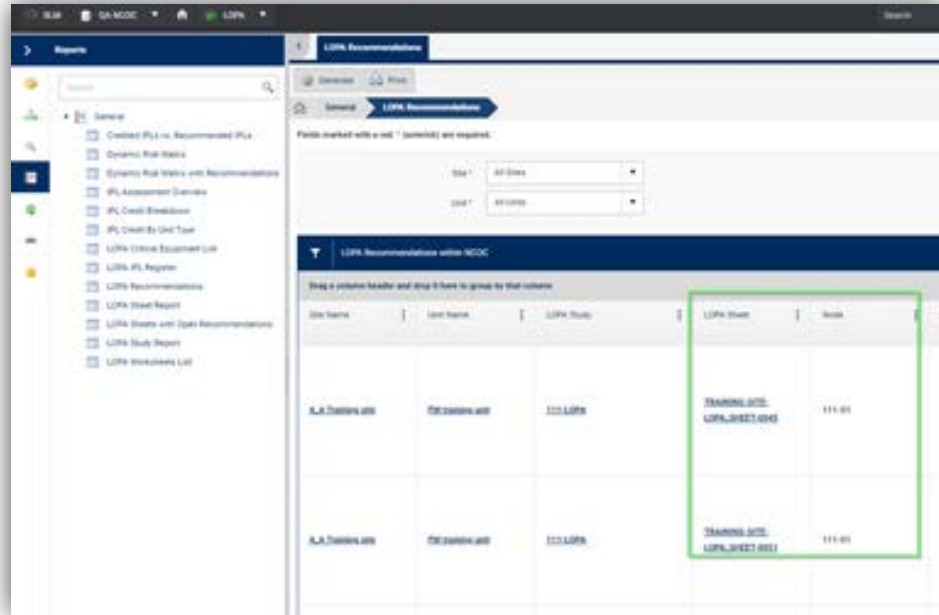


- LOPA conditional modifiers and enabling events are applied when they are added to the LOPA sheet. It was not being applied before.

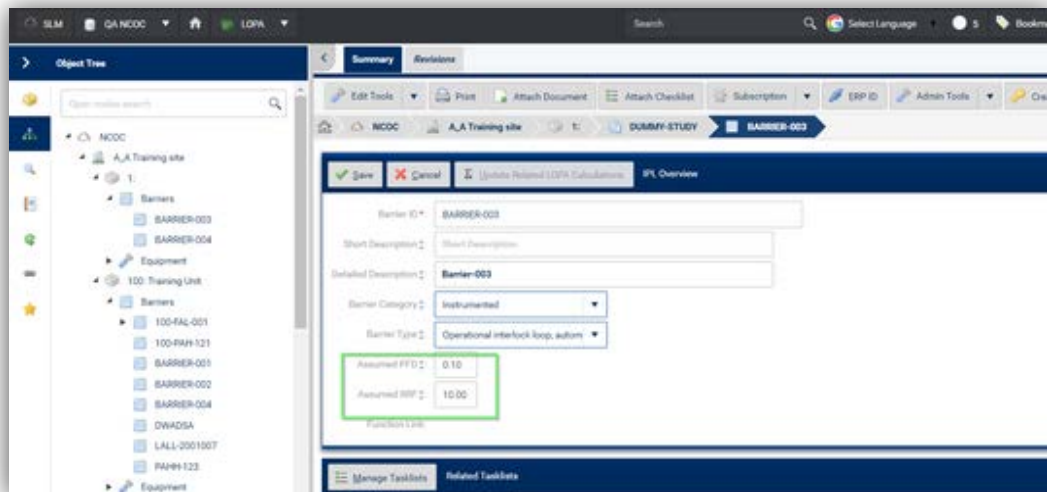




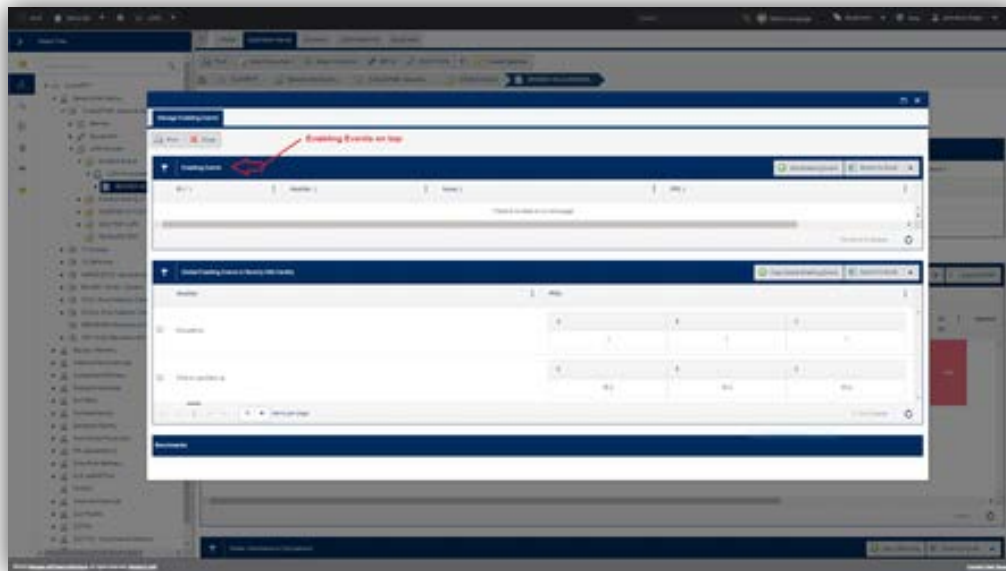
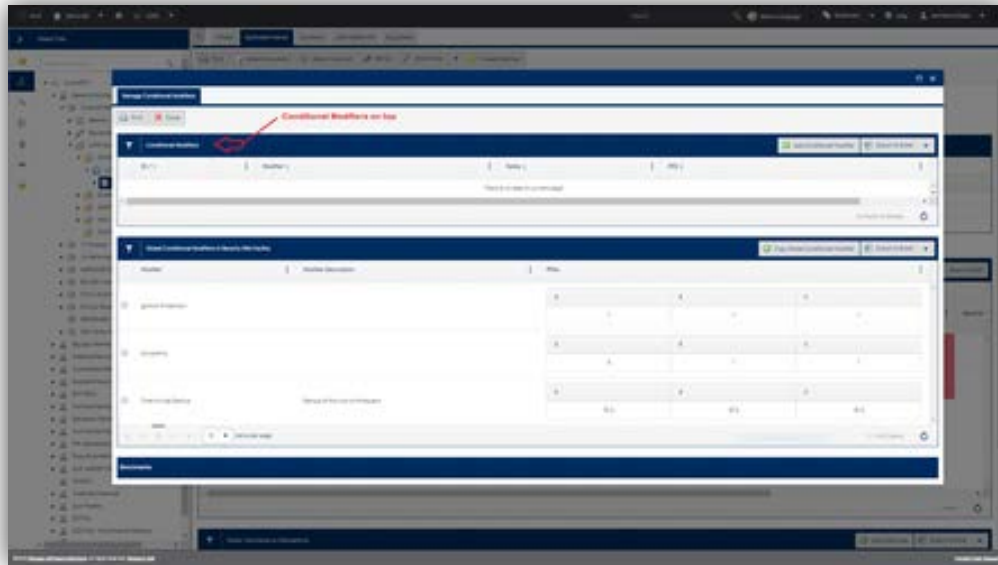
- The node column on the LOPA Recommendations report is displaying. Additionally, LOPA Sheet ID column is added



- At the IPL level, the correct IPL Category and Types dropdowns appear, and PFD/RRF value populate in edit mode.



- Reordering tables in Manage Conditional Modifiers and Manage Enabling Events for the LOPA Worksheets.



# Instrumented Systems

- Align SIF Protective Category columns to Severity Classes

The screenshot displays a software interface for configuring Instrumented Systems. It is divided into several panes:

- Diagram Pane:** Shows a functional block diagram with components: PT601A Input, PT601B Input, PT601C Input, OS-CONDOCOPHILLIP-001-001 Input Voting Group, VOTING-GROUP-200-001 Input Voting Group, and INPUT-GROUP-1001-001 Input Group.
- SIF Protective Categories Table:** A table with columns: Name, S, P, C, and Description. A red box highlights the 'SIF Protective Category' column.
- Severity Classes Table:** A table with columns: Class, Severity, State, Error Description, Long Description, Target Utilization, Integ. Color, Range Color, and Integ. Required. A red arrow points from the 'SIF Protective Category' column in the previous table to the 'Severity Class' column in this table.

**SIF Protective Categories Table:**

Name	S	P	C	Description
SIF Protective Category	S	P	C	

**Severity Classes Table:**

Class	Severity	State	Error Description	Long Description	Target Utilization	Integ. Color	Range Color	Integ. Required
com	C	0				440146	440146	No
com	E	1	SEAL BUCK	SEAL commercial input	IE 0	440146	440146	No

# Action Item Tracker

- Added new Site and/or Unit and Parent ID columns where the Action Item was created from. The new columns are dynamic created by client instance. The new Action Items will have new name convention at the object ID field (Action Item Number).

The screenshot shows the 'Action Items for A.A Training site' table. The columns are: Type Name, Site ID, Unit ID, Parent ID, Action Item Number, Date Created, Priority, Assign..., and Requested Action. A red box highlights the Site ID, Unit ID, Parent ID, Action Item Number, and Date Created columns.

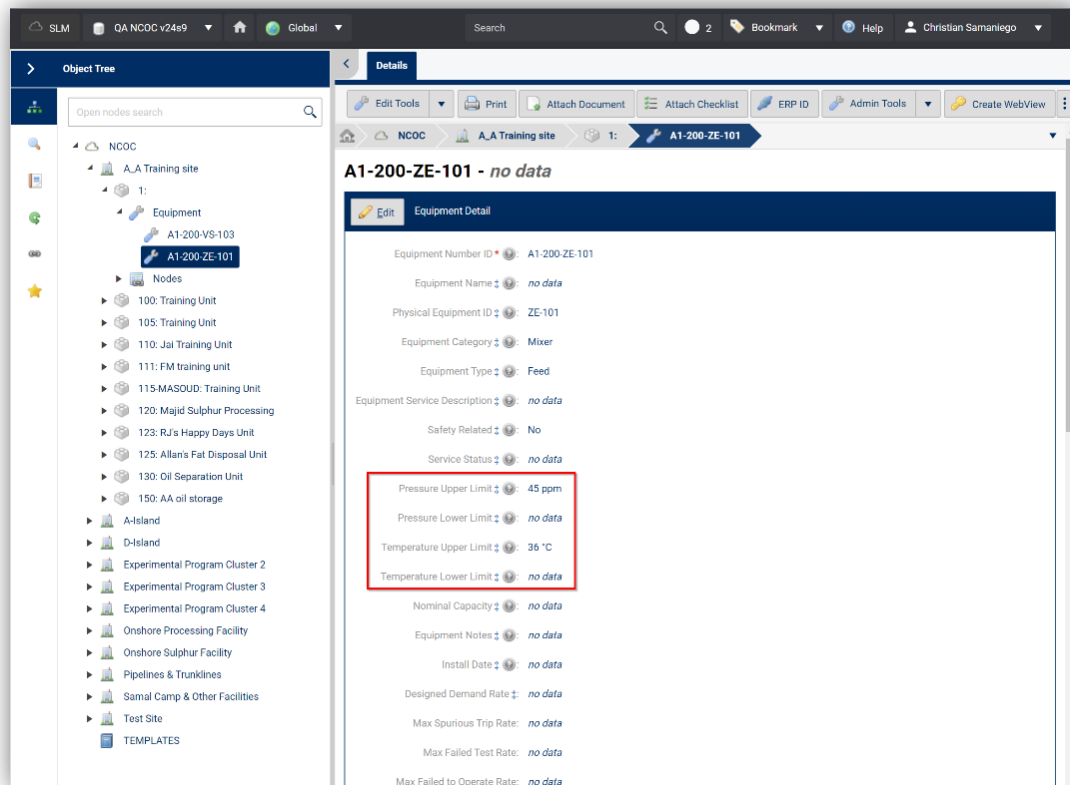
Type Name	Site ID	Unit ID	Parent ID	Action Item Number	Date Created	Priority	Assign...	Requested Action
FSA Action Item	TRAINING-SITE	110	TEST-FSA-1	2020-03-05-0018	05-03-2020			Requested Action 1
HAZOP Action Item	TRAINING-SITE	100	TRAINING-SITE-HAZOP_RECOMMENDATION-0002	2020-03-04-0048	04-03-2020			Add a high pressure alarm
LOPA Action Item	TRAINING-SITE	100	TRAINING-SITE-LOPA_RECOM-0020	2020-03-04-0050	04-03-2020			LOPA Recommendation
MOC Action Item	TRAINING-SITE	100	TEST-MOC-3	2020-03-04-0002	04-03-2020			
Standalone Action Item			NCOC	2020-03-04-0027	04-03-2020			
FSA Action Item	TRAINING-SITE	110	TEST-FSA-1	2020-03-03-0017	03-03-2020			Requested Action 2

The screenshot shows the 'Action Items for A.A Training site' table with a different set of data. The columns are: Type Name, Site ID, Unit ID, Parent ID, Action Item Number, Date Created, Priority, Assign..., and Requested Action. A red box highlights the Site ID, Unit ID, Parent ID, Action Item Number, and Date Created columns.

Type Name	Site ID	Unit ID	Parent ID	Action Item Number	Date Created	Priority	Assign...	Requested Action
FSA Action Item	TRAINING-SITE	110	TEST-FSA-1	2020-03-04-0019	04-03-2020			Requested Action 1
HAZOP Action Item	TRAINING-SITE	100	WASDASD	2020-03-04-0047	04-03-2020			Test
LOPA Action Item	TRAINING-SITE	100	100	2020-03-04-0049	04-03-2020			LOPA Recommendation
MOC Action Item	TRAINING-SITE	100	TEST-MOC-3	2020-03-04-0003	04-03-2020			
Standalone Action Item			NCOC	2020-03-04-0028	04-03-2020			

## Global

- The "Design Pressure" and "Design Temperature" fields are replaced by The "Pressure Lower Limit", "Pressure Upper Limit", "Temperature Lower Limit" and "Temperature Upper Limit" fields at Equipment object. Existing data on the fields are placed on the upper level fields.



The screenshot displays a software interface for equipment management. On the left, an "Object Tree" shows a hierarchy starting with "NCOC" and "A.A Training site", leading to "Equipment" and then "A1-200-ZE-101". The main panel shows the "Details" for "A1-200-ZE-101 - no data". The "Equipment Detail" section lists various attributes:

- Equipment Number ID: A1-200-ZE-101
- Equipment Name: no data
- Physical Equipment ID: ZE-101
- Equipment Category: Mixer
- Equipment Type: Feed
- Equipment Service Description: no data
- Safety Related: No
- Service Status: no data
- Pressure Upper Limit: 45 ppm
- Pressure Lower Limit: no data
- Temperature Upper Limit: 36 °C
- Temperature Lower Limit: no data
- Nominal Capacity: no data
- Equipment Notes: no data
- Install Date: no data
- Designed Demand Rate: no data
- Max Spurious Trip Rate: no data
- Max Failed Test Rate: no data
- Max Failed to Operate Rate: no data

A red box highlights the four limit fields: Pressure Upper Limit (45 ppm), Pressure Lower Limit (no data), Temperature Upper Limit (36 °C), and Temperature Lower Limit (no data).

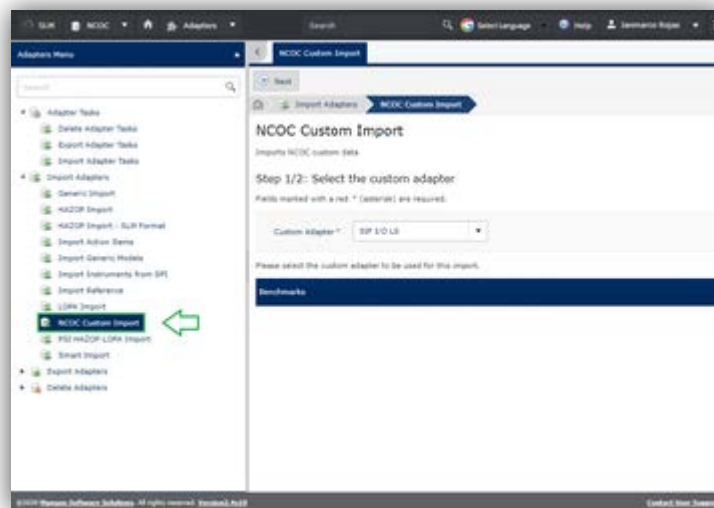
# 2.4s10 Release Notes

These release notes for SLM 2.4s10 provide an overview of the release and document new features, improvements and known issues.

## New Features

### Adapters

- New Core Custom Import.



# Refinements & Usability Gap

## Adapters

- The grid height is adjusted according to the number of rows until the defined height is reached

After

Scenario ID (*)	Mark Scenario	Parameter	Guideword	Deviation	Cause	Cause
BEVERLY-HILLS-REFINERY- HAZOP_SCENARIO-1667	No	Pressure	Higher	05. High Pressure		

Before

Scenario ID (*)	Mark Scenario	Parameter	Guideword	Deviation	Cause	Cause
BEVERLY-HILLS-REFINERY- HAZOP_SCENARIO-1667	No	Pressure	Higher	05. High Pressure		

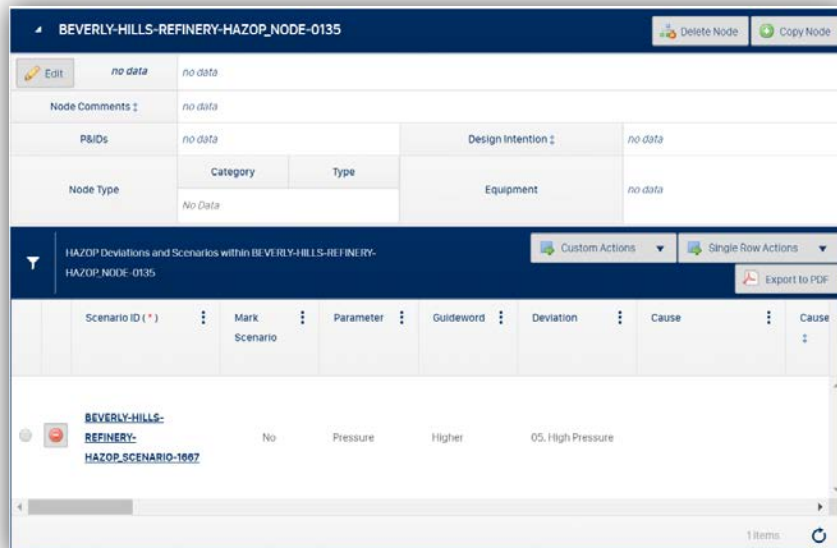
# Hazop

- Change the Node header collapsing function to only collapse the Node object information fields

Collapsed

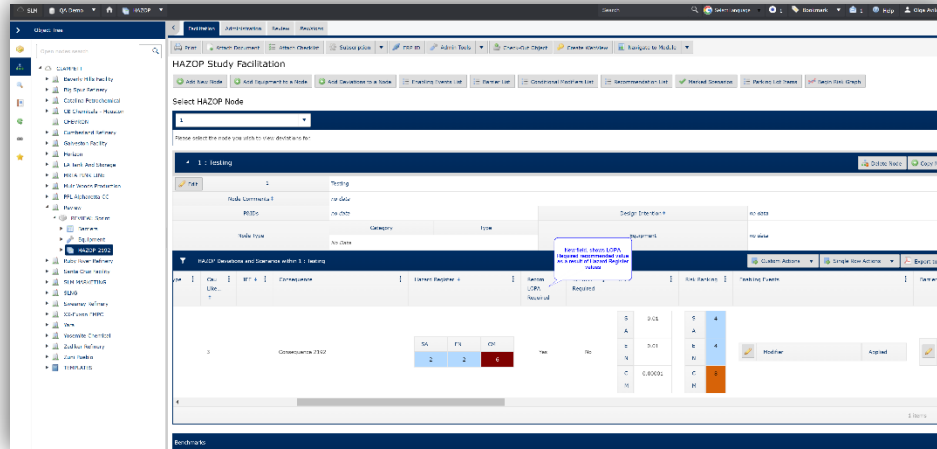


Expanded

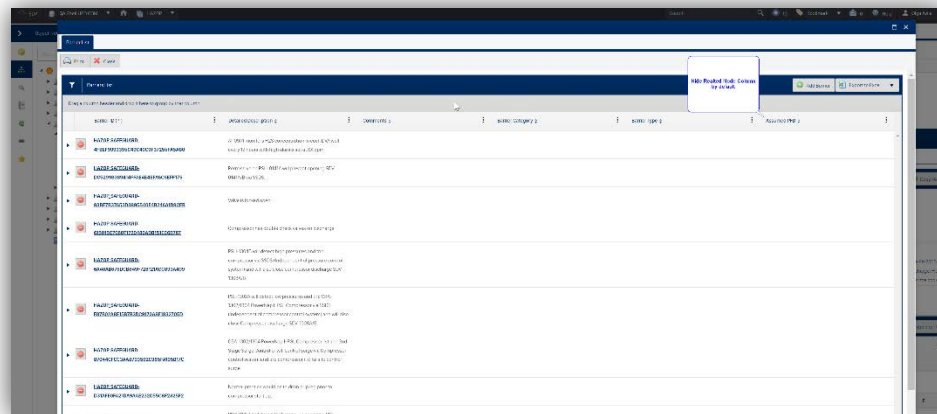




- "Is LOPA Required" field is returning to "Yes" value automatically depending of severity configuration values for the Site in which HAZOP scenario is, to allow change this value this logic was moved to a new field and displayed as "Recommended LOPA Required"



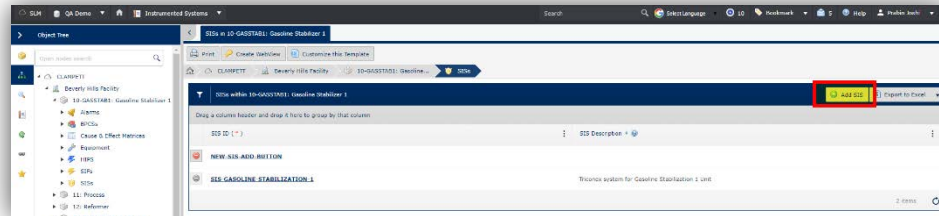
- Hide (unselect) this field by default from the Barriers List modal in the HAZOP module



# Fixes

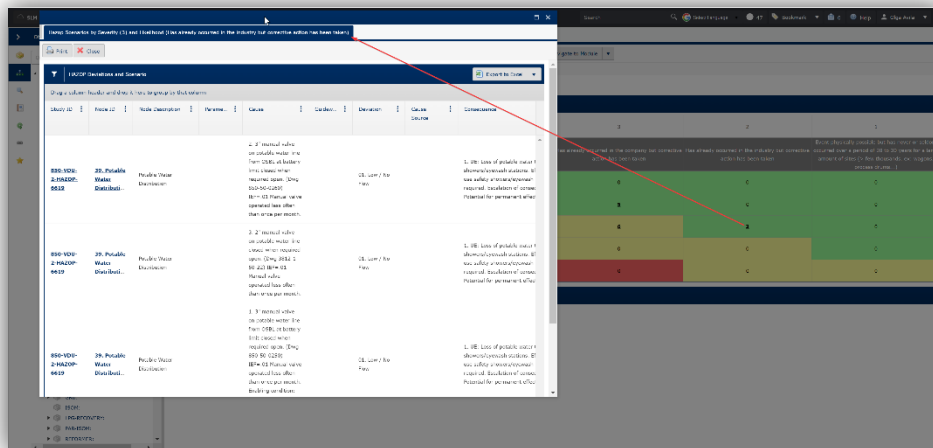
## SIS

- Added "Add SIS" button on SIS category

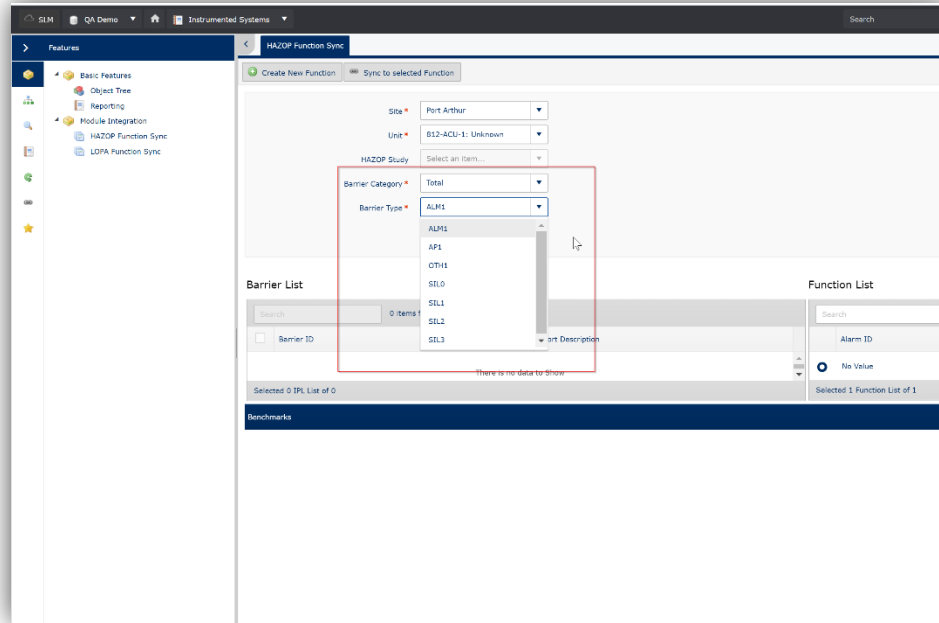


## HAZOP

- Fixed report that display when the numbers are clicked on the DRM

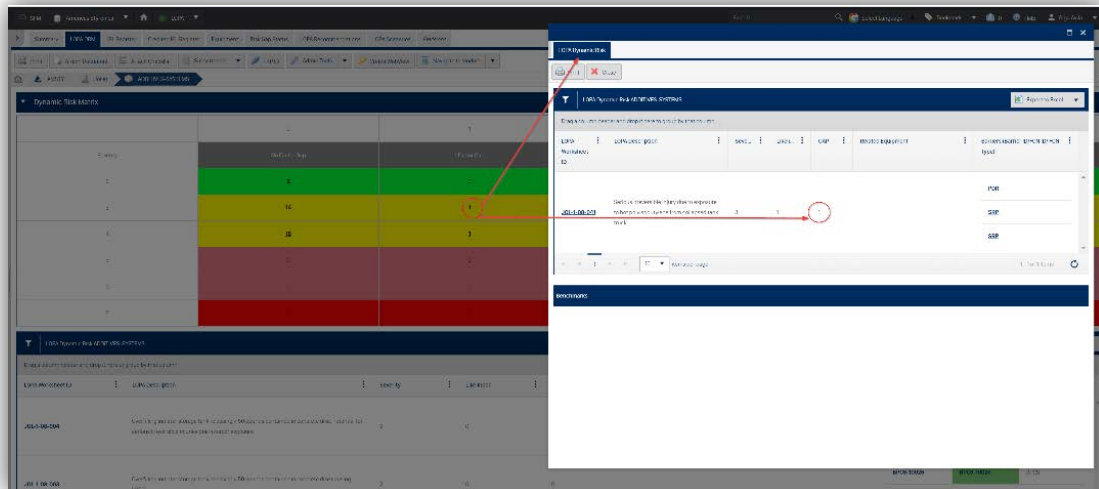


- Fixed cascade between drop down "Barrier Category" and "Barrier Type"



## LOPA

- Fixed showing correct gaps in the DRM



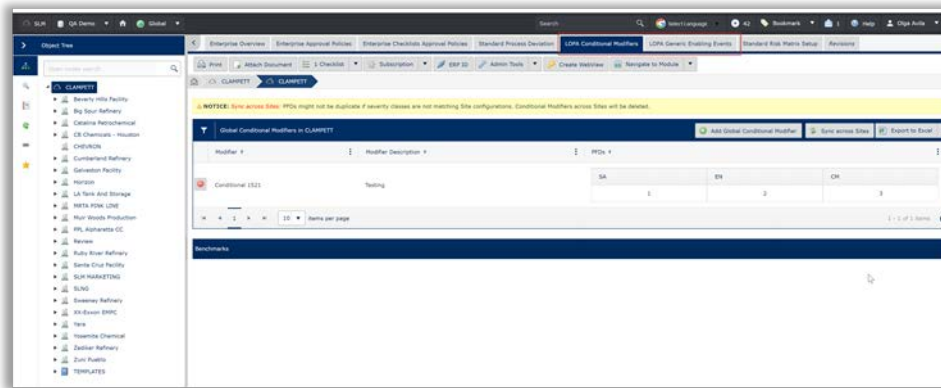
# 2.4s11 Release Notes

These release notes for SLM 2.4s11 provide an overview of the release and document new features, improvements and known issues.

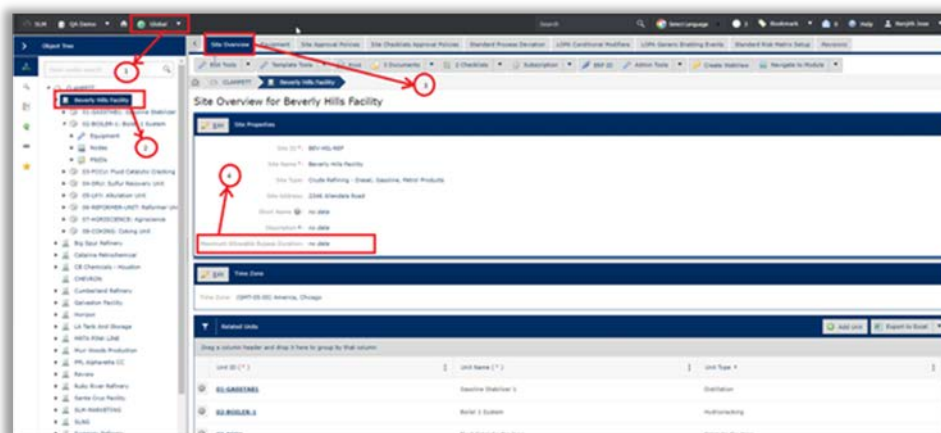
## New Features

### Global

- Add LOPA Conditional Modifiers and LOPA Generic Enabling Events to be at the Enterprise level. In addition be able to sync all site level LOPA Conditional Modifiers and LOPA Generic Enabling Events with across the sites

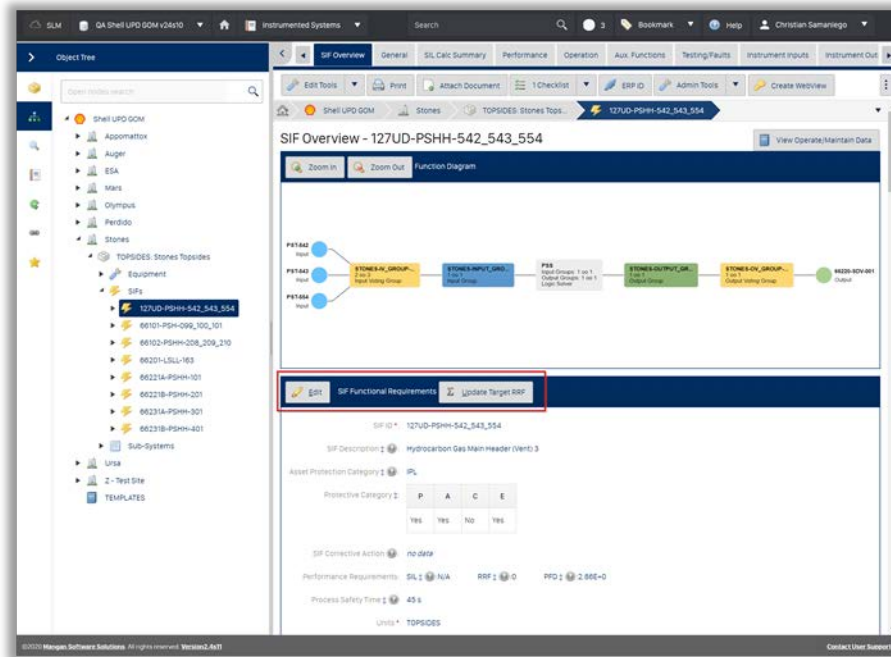


- Add a new field called Maximum Allowable Bypass Duration for site object which is used to calculate Exceeded Time for Bypass Event object.

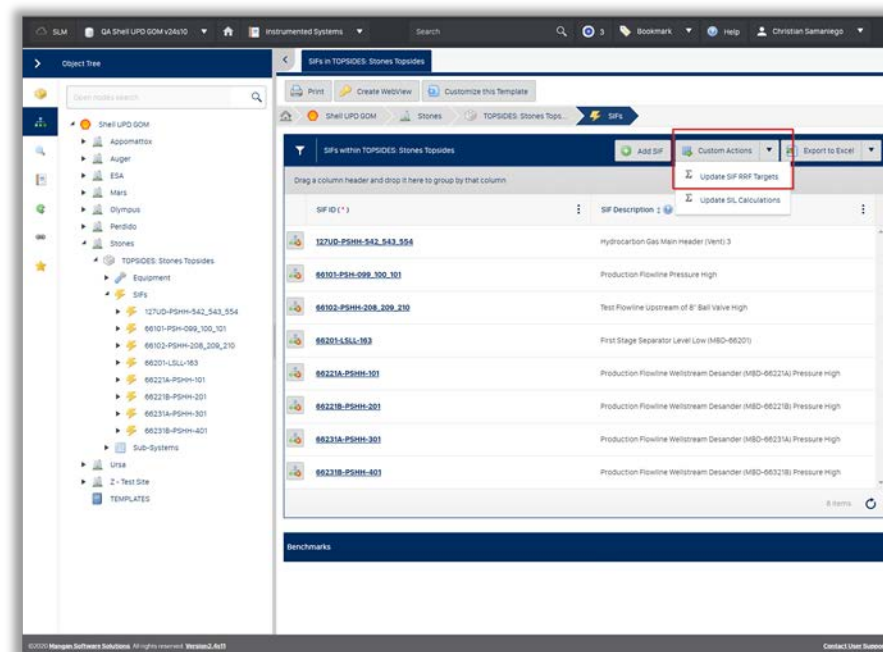


## Instrumented Systems

- Add command button in the Instrumented System module for the system to update the target\_rrf field of all sif objects in the scope of the command.



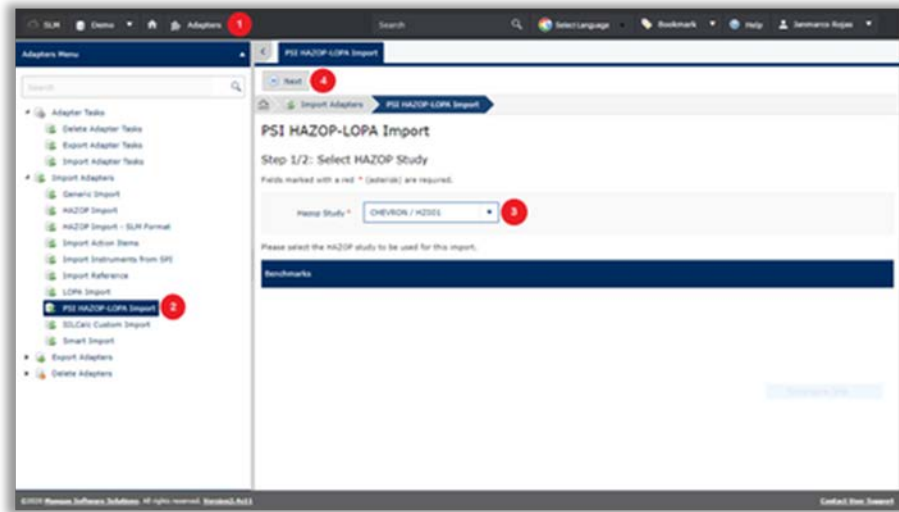
- Add command button at any SIF object categorization to update RRF Targets (same place as the command to Update SIL Calculations) as well as at any particular SIF object.



# Refinements & Usability Gap

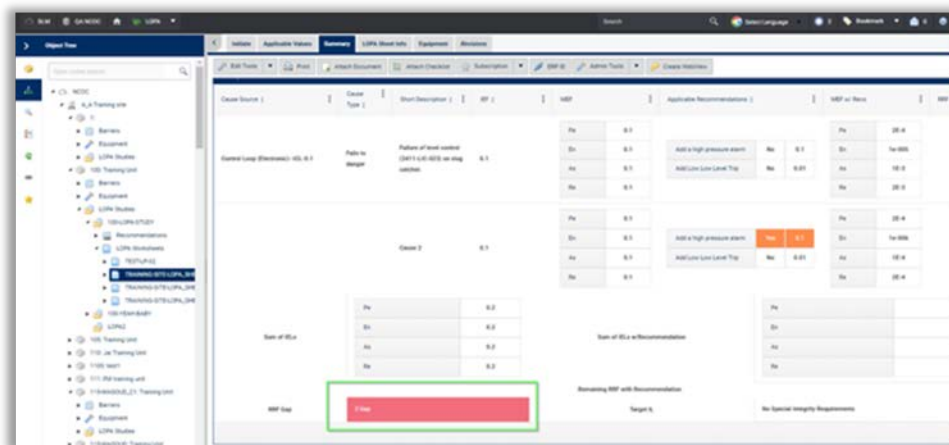
## Adapters

- Change the HAZOP-LOPA Import to be able to import Barriers.



## LOPA

- RRF Gap color coded and added text to indicate "Gap" or "Pass"



- Add a row to the PHA Consequences and Risk Target table to display the object\_id field of the lopa\_sheet object.

The screenshot displays a software interface for PHA (Process Hazard Analysis) Consequences and Risk Target. The interface includes a navigation pane on the left, a breadcrumb trail at the top, and a main content area with a table. The table is titled 'PHA Consequences and Risk Target' and has a header row with columns: HAZOP Node No., HAZOP Link, and Consequence. A new row is highlighted with a red border, showing a HAZOP Node No. of 'D01A Platform/DIA reHeads and Production Manifolds' and a Consequence of '1 Potential for pressures to rise towards STP of 2,500 psig or 3,450 psig for gas lifted wells. Potential increased pressure in MBD-250 Test Separator receiving well flow, possible overpressure of MBD-250. Potential for pressures less than 10% MAWP for non-gas lifted wells. 15 MAWP for gas lifted wells. Potential for 10-25 mm leak. Potential release of well fluid. Potential fire/explosion. Potential personnel injury. Potential asset damage. Potential environmental impact.'

HAZOP Node No.	HAZOP Link	Consequence
D01A Platform/DIA reHeads and Production Manifolds	Some HAZOP Scenarios	1 Potential for pressures to rise towards STP of 2,500 psig or 3,450 psig for gas lifted wells. Potential increased pressure in MBD-250 Test Separator receiving well flow, possible overpressure of MBD-250. Potential for pressures less than 10% MAWP for non-gas lifted wells. 15 MAWP for gas lifted wells. Potential for 10-25 mm leak. Potential release of well fluid. Potential fire/explosion. Potential personnel injury. Potential asset damage. Potential environmental impact.

Below the main table, there is a smaller table with columns: Consequence Category, Severity, Description, and TMEI (y/y).

Consequence Category	Severity	Description	TMEI (y/y)
a	5	More than 3 fatalities	.0001
A	5	Massive damage	.001
C	3	Moderate impact	N/A
E	3	Moderate effect	N/A

- Add a custom export excel to allow show barriers fields.

The screenshot shows the LOPA software interface. At the top, there's a navigation bar with tabs for Summary, LOPA RAM, PL Register, Credited PL Register, Equipment, Risk Gap Status, and LOPA Recommendations. Below this is a table with columns for Frequency and Risk levels (I, II, III, IV, V). A detailed view of LOPA work items is shown below, with columns for LOPA Work ID, LOPA Description, Severity, Likelihood, RRF, Related Equipment, and Barriers. An 'Export to Excel' button is highlighted in the top right of this view.

LOPA Worksheet ID	LOPA Description	Severity	Likelihood	RRF	Related Equipment	Barriers (Barrier ID/FCN ID/ FCN Type)
LOPA-PSH-7115B		0	D	50		PSH-7115B POIC-7115A1 WATERFLOOD_BN V
LOPA-PSL-2742A	Parallel LOPAs: PSL-2775A	0	D	1		PSL-2742A
LOPA-ASH-0611A	OPER-SELEC-INPUT1	0	C	30		ASH-0611A
LOPA-TSH-0921B		0	C	1		FAL-0551B1 VRUJ_PROT TSH-0921B
LOPA-TSH-0923A		0	D	0.11		TSH-0921A FGC_PROT TSH-0923A TSH-0665A
LOPA-TSH-0620A		0	D	100		PSL-2624A
LOPA-PSL-2624A	Parallel LOPAs: PSL-2634A	0	D	10		PSL-2624A
LOPA-LSH-0924A	Parallel LOPAs: LSH-0974A	0	E			LSH-0924A
LOPA-TSH-1103A		0	D	10		TSH-1103A
LOPA-PSH-5110A		0	D	6		PSH-5110A
LOPA-PSH-2121A	Parallel LOPAs: PSH-2122A, PSH-2123A	0	C	2		PSH-2121A PSH-2121A
LOPA-PSH-1801A		0	D	10		PSH-1801A
LOPA-TSH-1101A		0	C	0.1		TSH-1101A TSH-1101B SIF
LOPA-LSH-0671A		0	D	23		LSH-0665A LSH-0671A
LOPA-LSH-0605B		0	E	31		PSL-0665A TDIC-0675A1 LSH-0605A LSH-0605B
LOPA-PSL-1801A	Parallel LOPAs: PSL-1806A, PSL-1811A, PSL-1821A, PSL-1822A	0	D	10		PSL-1801A



## Operate/Maintain

- Align RRF and PFD values

Interlock O-M Data - 34LAH-4004-6

34LAH-4004-6-selector switch) high level alarm set at 47% activates Interlock I-S4 to AutoStart 34P-401A.

Interlock Data

Interlock ID: 34LAH-4004-6

Interlock Description: 34LAH-4004-6-selector switch) high level alarm set at 47% activates Interlock I-S4 to AutoStart 34P-401A.

Performance Requirements: RRF: 10 PFD: 0.1

Functional Description: no data

Testing Data

Interlock Testing Requirements: no data

Interlock Test Intervals:

Test Intervals	Interlock	Inputs	Outputs
On-Line	no data	no data	no data
Off-Line	no data	no data	no data

- Change the text Trip Point Type to Setpoint Type for the Sif

The screenshot displays a software interface with a navigation pane on the left and a main content area on the right. The navigation pane shows a tree structure under 'Instrumented Systems' with 'SIFs' expanded to 'CO1A-1'. The main content area is divided into two sections: 'Performance' and 'Trip Requirements'.

**Performance Section:**

- Process Safety Time Notes: no data
- Sensor Detection Time: 500 ms
- Trip Point Time Delay: 0 s
- Logic Solver Processing Time: 200 ms
- Final Element and Actuation Time: 900 ms
- SIF Response Time: 1.6 s

**SIF Response Time Note:**

- The response time of the Sensor sub-system will be no greater than 500 milliseconds.
- The response time of the Logic Solver sub-system will be no greater than 200 milliseconds (PARES 70)
- The response time of the Final Element sub-system will be no greater than 900 milliseconds.
- The response time of the complete SIF will be from detection at the sensor to completion of final elem

Achieved System Response Time: no data

**Trip Requirements Section:**

- Trip Type: De-energize to Trip
- Trip Point: no data
- Setpoint Type: no data (highlighted with a red box)
- Trip Point Tolerance: no data
- Trip Point Basis: no data
- Trip Point Notes: no data
- Trip Settings: no data

**Additional Trip Notes:**

- Trip will be reset by manual action in the field unless noted otherwise
- Trip cannot be manually reset until all initiators are in their healthy (normal operation) condition.

- Device with No Events Report: Do not Exclude if only Service Status Change Events

The screenshot shows the 'Service Status Change' event details for 'Function Service Status Event - 053-ESD-K5364-002-SERV-STAT-120'. The event details include:

- Service Status Event ID: 053-ESD-K5364-002-SERV-STAT-120
- Function ID: 053-ESD-K5364-002
- Function Type: SIF
- Function Description: K-5364 Field BRPB
- Date Change Was Recorded: Feb-14-2019
- Service Status Notes: No data

Below the details is a table of 'Associated Device Service Status' with the following data:

Device ID (*)	Type	Device Event ID	Service Description	Prior Service Status	New Service Status	Event Notes
53H54795		53H54795-SERV-STAT-001	Field BRPB	Created	Decommissioned	Service Status changed from Created to Decommissioned on Nov-01-2018
53H54795		53H54795-SERV-STAT-002	Relay - for K5364	Created	Decommissioned	Service Status changed from Created to Decommissioned on Nov-01-2018

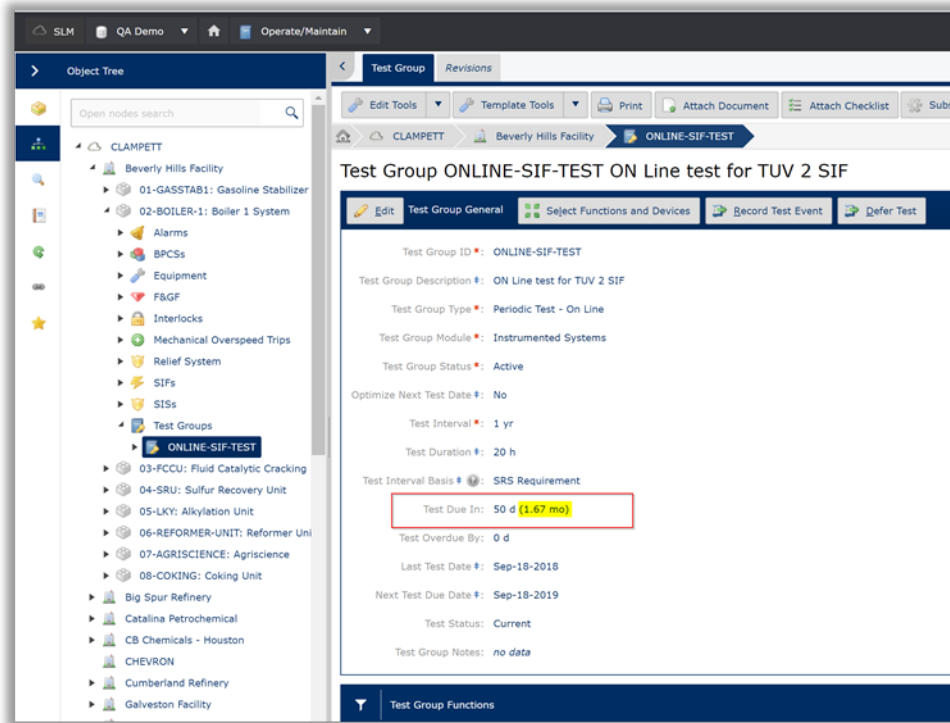
The screenshot shows the 'Devices with No Events' report generation screen. The filters are set to:

- Business Unit: All Business Units
- Major Area: All Major Areas
- Site: All Sites
- Area: All Areas
- Unit: All Units
- IO Type: Input

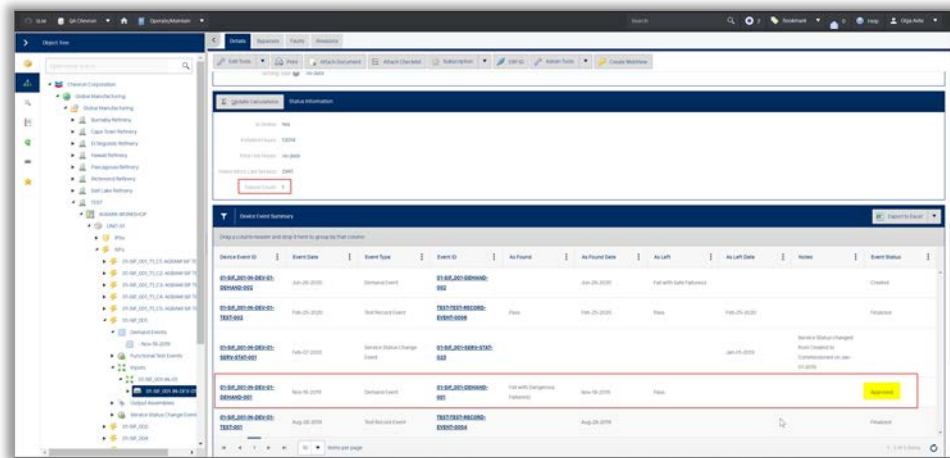
The report shows one device with no events:

Business Unit Name	Major Area Name	Site Name	Area Name	Unit Name	Device ID	Device Type	Input ID	Input Label
Global Manufacturing	Global Manufacturing	Pascagoula Refinery	CUX	ELUXYL	53H54795	Input	53H54795	53H54795 Field BRPB

- In Test Group, add to "Test Due In" and "Test Overdue By" field the value in months



- Fixed "Failure Count" counting logic, it was not counting properly



- Displayed "Time in Bypass" column in day and hours, and fix "Exceeded Approve Time" calculation

Function ID	Function Type	Function Description	Status	Time in Bypass	Emergency Status	Exceeded Approve Time
03L889	SPC	A PTC (200) is equipped with... ...and... ...through PTC (200) to... ...P2	OK	2:0	No	No
L364263A80C	SP	PTC (200) Custom #12 Perfor... ...Unit	OK	0:0	No	No
L364263A80C	SP	PTC (200) Custom #12 Perfor... ...Unit	OK	0:0	No	No

- Exclude Service Status Events from Device List count and was added new column on Device Type Performance that counts device into a given scope without service class

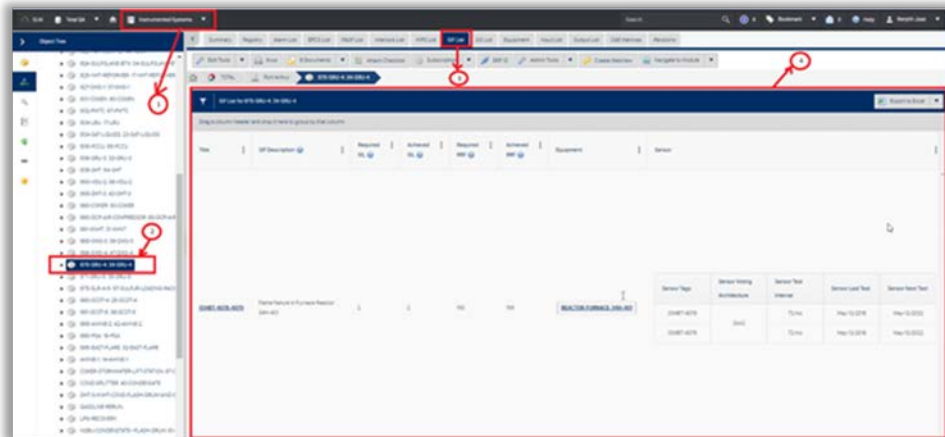
Event ID	Event Type	Date	Description	Air Found	Air Left	Event Notes
83-PT-12882-RTXAB-001	System Event	May 23-2018	Emergency Bypass			
83-PT-12882-DEMAND-001	Demand Event	May 23-2018	Process Demand on SPC	Fail with Safe	Partial	
83-PT-12882-TEXT-001	Text Record Event	May 23-2018		Pass	Pass	
83-PT-12882-TEXT-002	Text Record Event	May 23-2018		Pass	Pass	

Device Type	Without Service Class	Quantity or Service by Service Category					In-Service Return Rates					
		Enterprise	All Services	General Clean Service	Moderate Service	Prior Use	Severe Service	Enterprise	All Services	General Clean Service	Moderate Service	Prior Use
Absolute Pressure Transmitter	0	1	1	1	0	0	0.000	0.000	0.000	0.000	0.000	0.000
Cone	1	0	0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000
SPC Transmitter	0	225	2	0	0	0	17.483	0.135	0.000	0.135	0.000	0.000

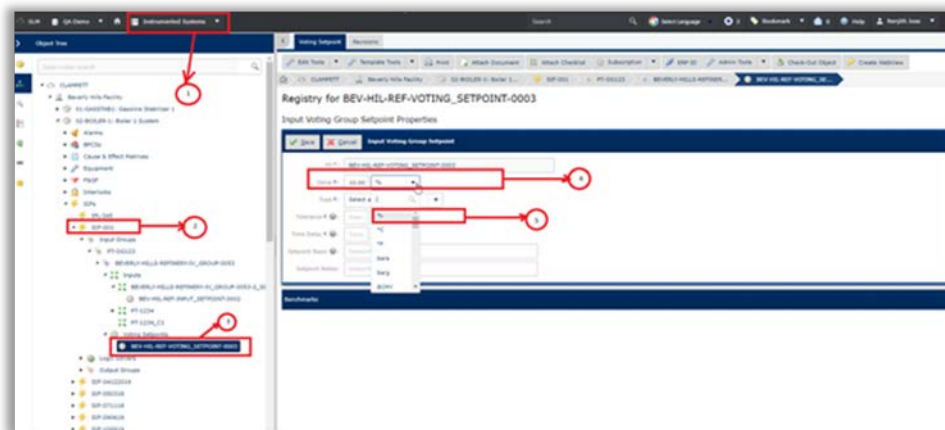
# Fixes

## Instrumented System

- In Cause and Effects Webview are showing the hyperlinks to the functions.
- Fixed problem when deleting of template. Those were actually not deleted but only unlinked from the deleted parent template object and were showed up on the quick search.



- % UOM option added for the set point object value field.



# 2.4s12 Release Notes

These release notes for SLM 2.4s12 provide an overview of the release and document new features, improvements and known issues.

## Refinements & Usability Gap

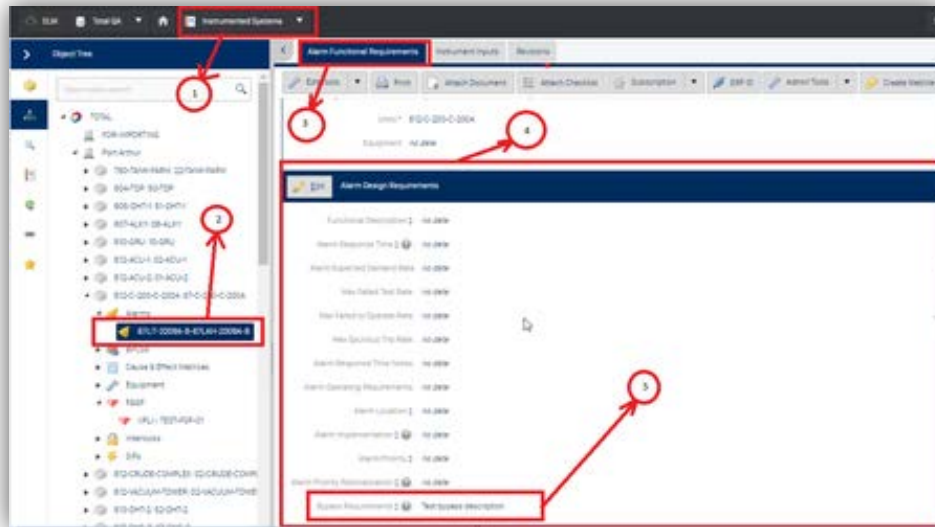
### Adapters

- Fixing issue importing formatted data.
- Fixing issues exporting data with special characters.
- Modifying the Total HAZOP-LOPA Mapping. Safeguard and IPL columns become Barriers linked to HAZOP Scenarios and LOPA Sheets respectively.

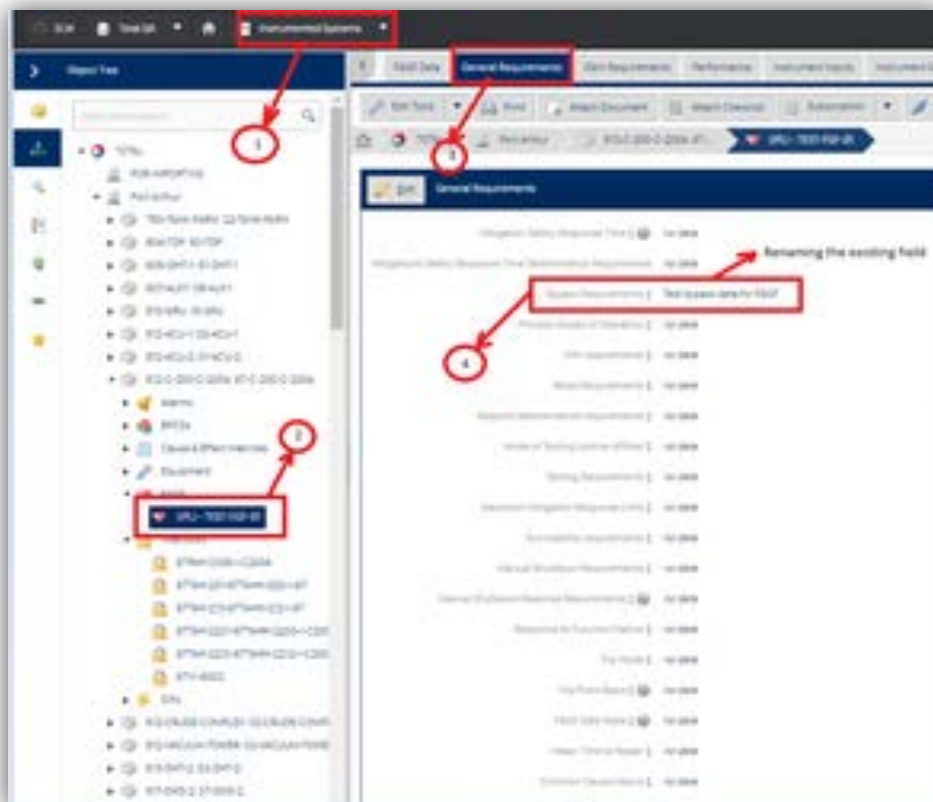
A	B	C	D	E
Node	Design Intent/Description	Design Conditions/Parameters	Drawing/Doc Number	Parameter
F	G	H	I	J
Guide Word	Deviation	Cause	Consequence	Kinetic
K	L	M	N	O
Consequence Category	Severity	Unmitigated Likelihood	Number of Safeguards Required	Safeguard Description
P	Q	R	S	T
Safeguard PDF	Safeguard Tag Number	Safeguard Type	Recommendations	HAZOP Scenario Desc
U	V	W	X	Y
LOPA IC	Frequency ICL	Enabling Event Description	Enabling Event PDF (Probability)	LOPA Consequence Description
Z	AA	AB	AC	AD
TMEL Category (Severity)	TMEL Conseq Short Value (Code)	Conditional Description	Conditional PFD (Probability)	Unmitigated Event Frequency
AE	AF	AG	AH	AI
Tolerable Risk Frequency	IPL Description	IPL Tag Number	IPL Type	IPL PDF
AJ	AK	AL	AM	AN
Mitigated Event Frequency (events pe Risk Reduction Factor)	Recommendations	Facilitator Comments	Equipment	

### Instrumented System

- A new data field called Bypass Requirements is added to the Functional Requirements template of functions Alarm, BPCS and Interlock.

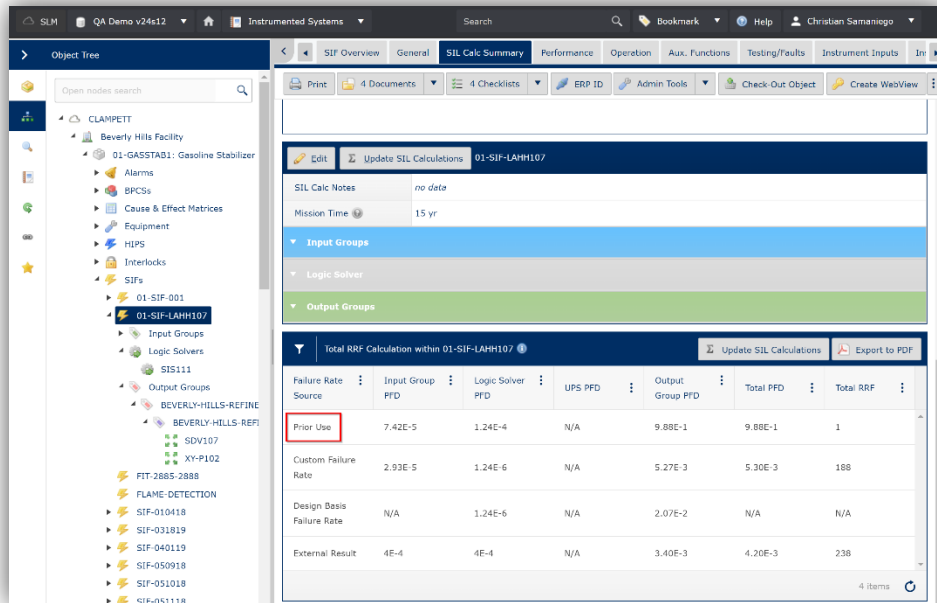


- Rename the existing field of F&GF object on the General Requirements template to Bypass Requirements.

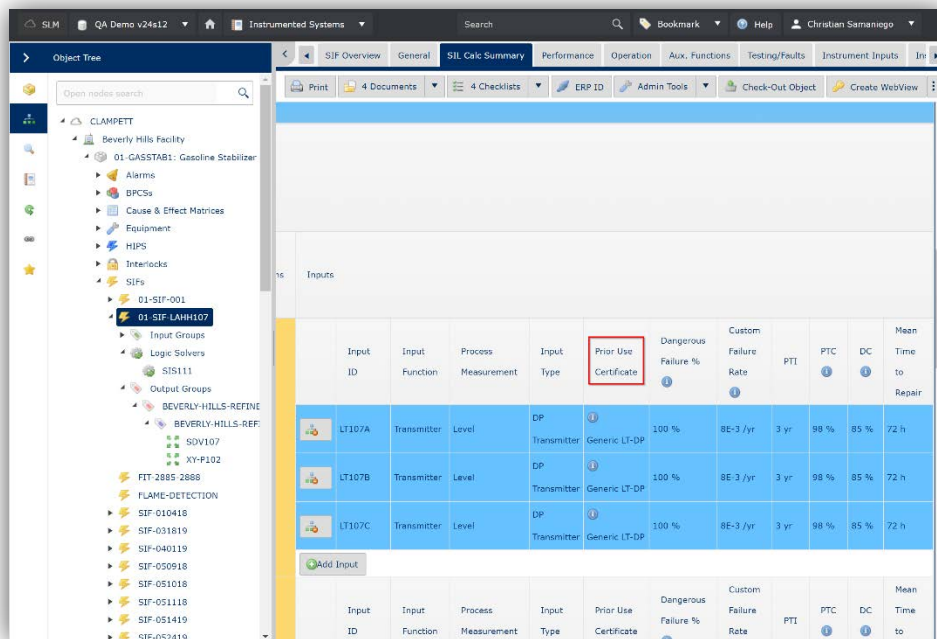




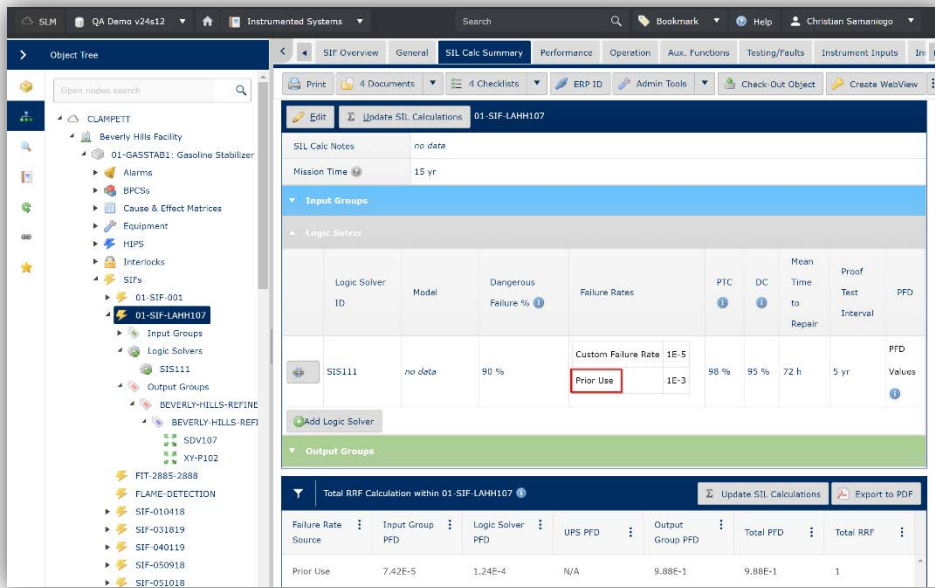
- Change "PIU" to "Prior Use" for all references in SLM
  - Total RRF Calculation at "SIL Calc Summary" template



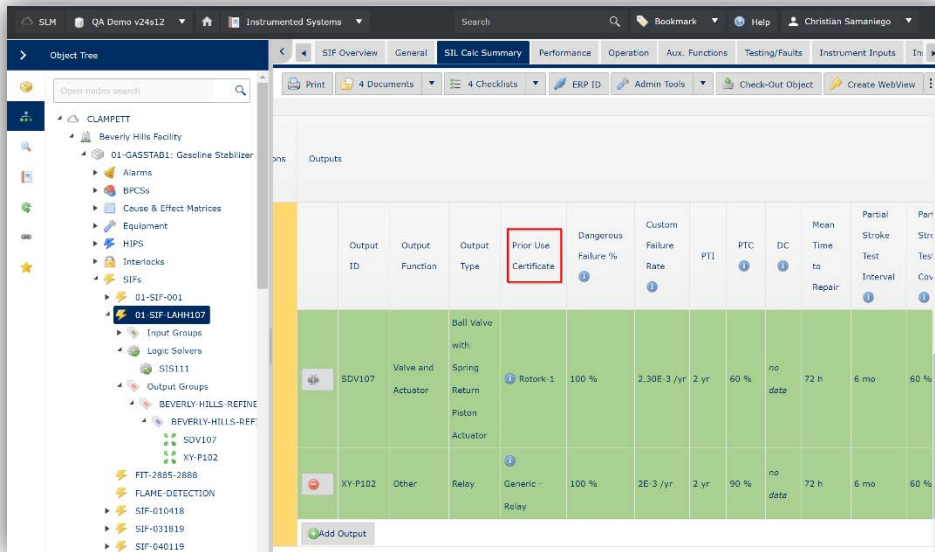
- Input Groups > Input Voting Group > Input at "SIL Calc Summary" template



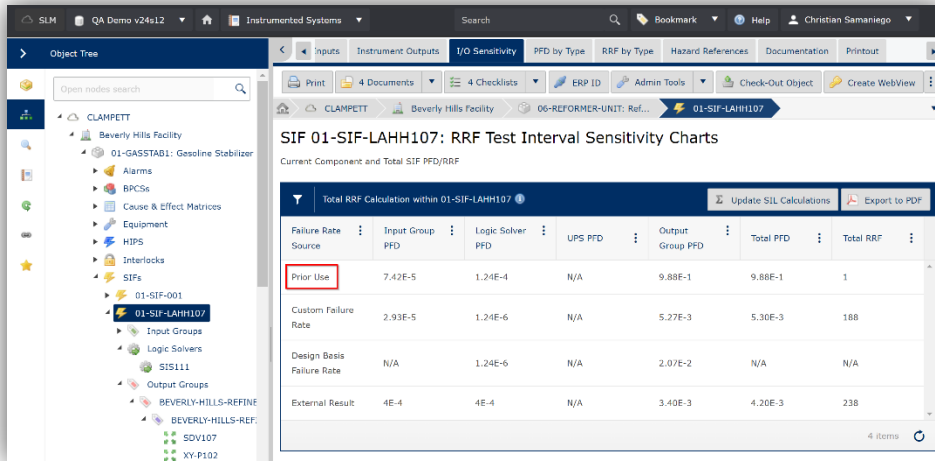
- Logic Solver at "SIL Calc Summary" template



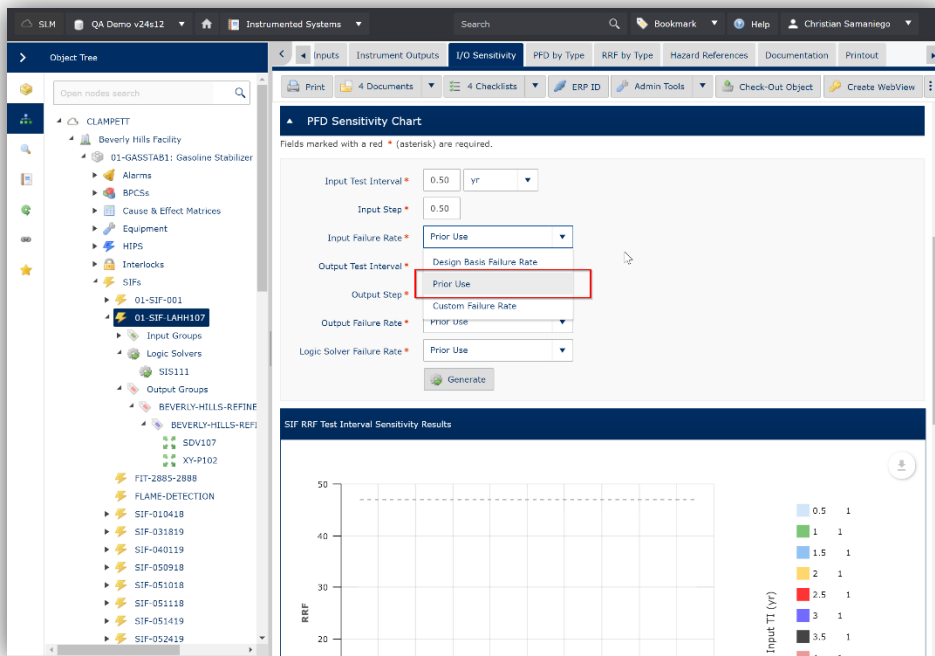
- Output Groups > Output Voting Group > Output at "SIL Calc Summary" template



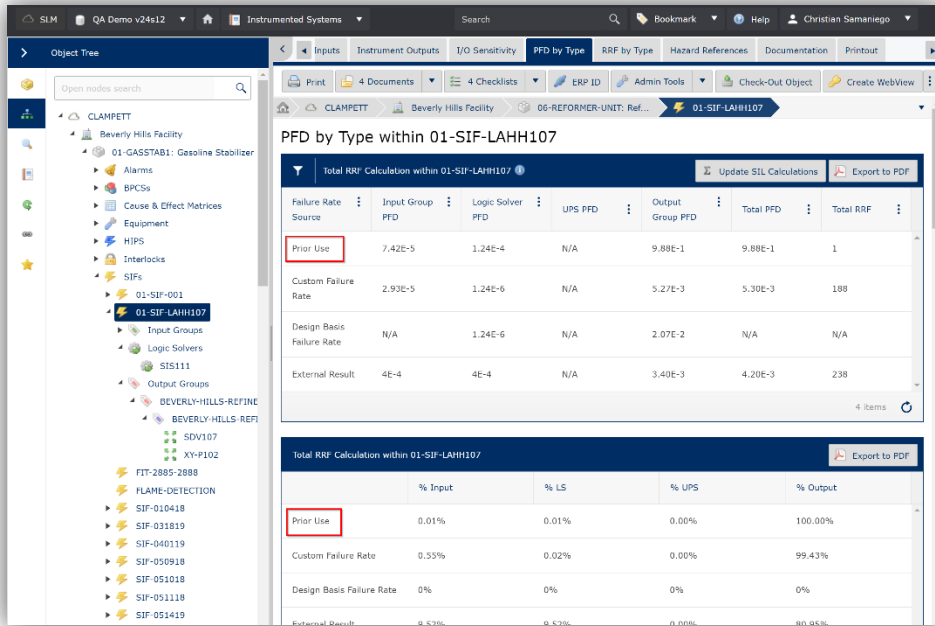
- Total RRF Calculation at "I/O Sensitivity" template



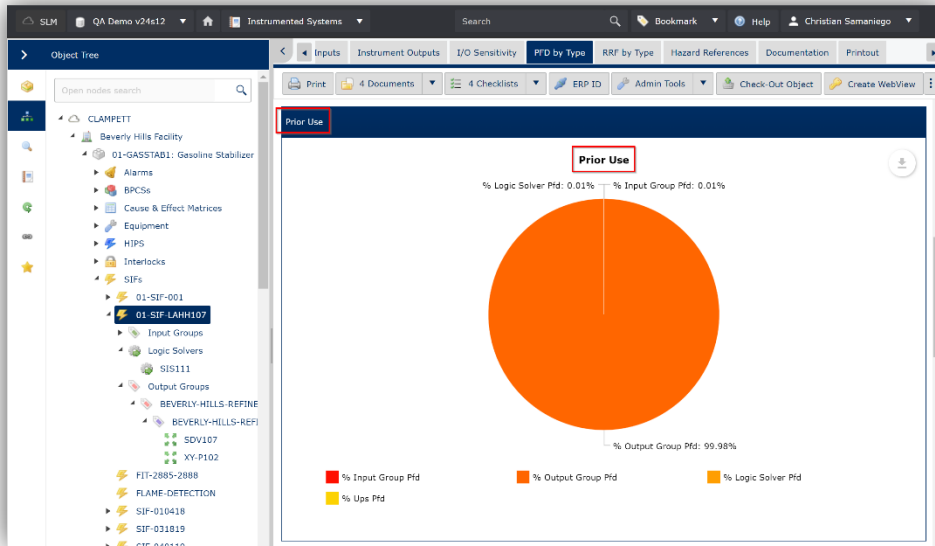
- PFD Sensivity Chart at "I/O Sensivity" template



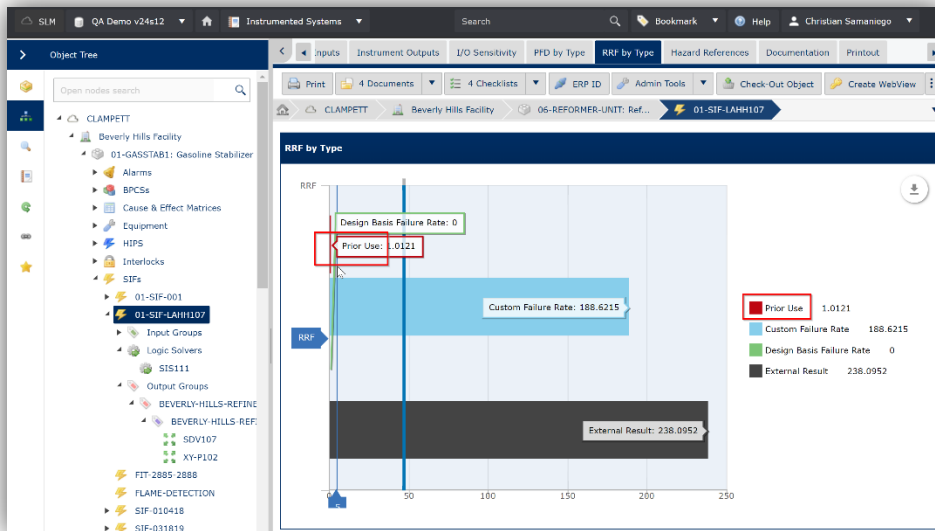
- Total RRF Calculation at "PFD by Type" template



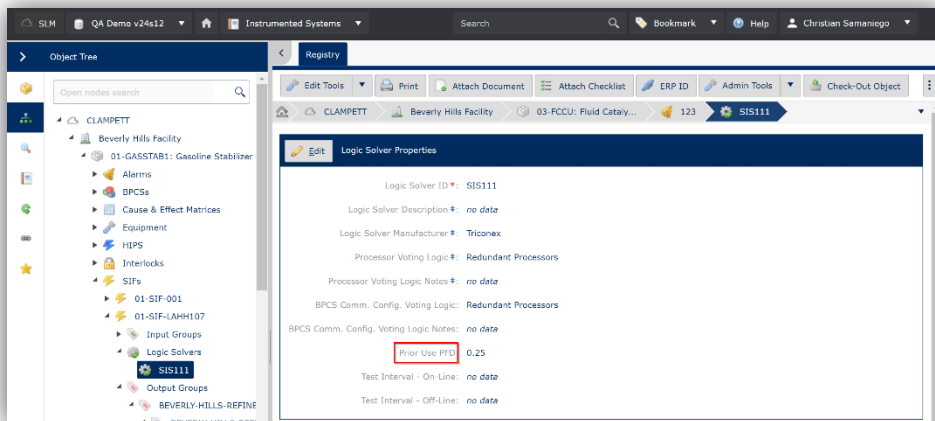
○ PIU Chart at "PFD by Type" template



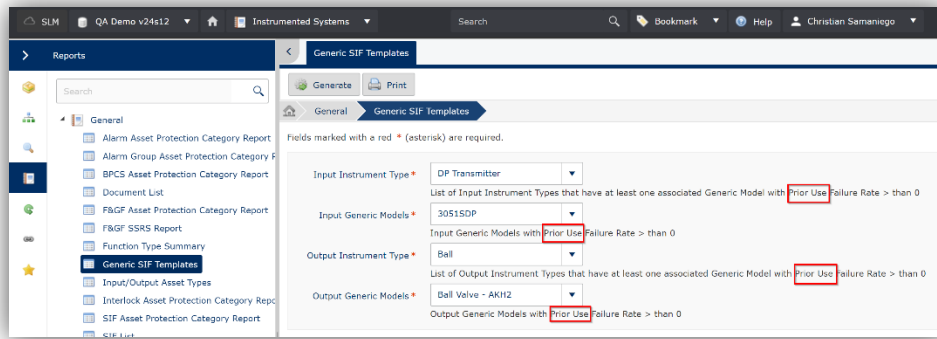
○ RRF by Type at "RRF by Type" template



- Logic Solver register



- "Generic SIF Templates" Report



## Operate/Maintain

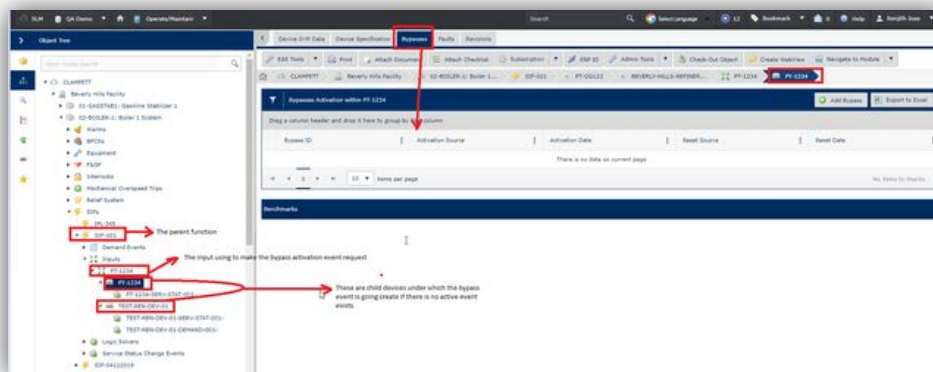
- CGI device level bypass tracking functionality extension. If we make an activation request from input/output level, the logic will look for is there any open bypass event exists in all the devices under that object as well as its parent IPL function, if not it will create one for each.

Scenario: Bypass activation request from input/output level.

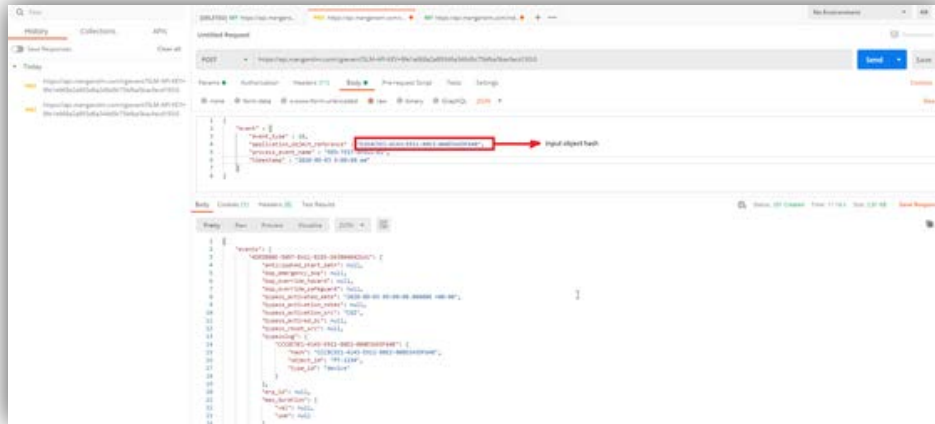
1. IPL function - No Bypass exists
2. Request : From Input object
3. Devices under the input object

Device 1: No Bypass exists

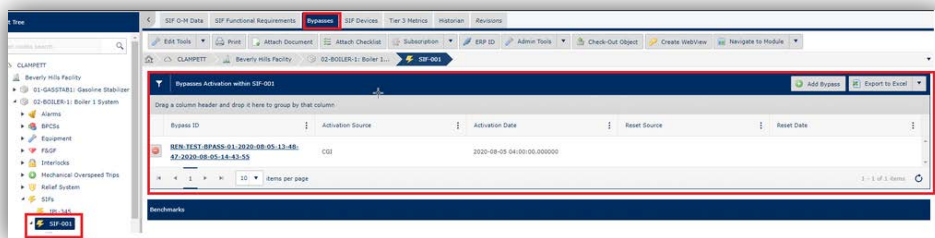
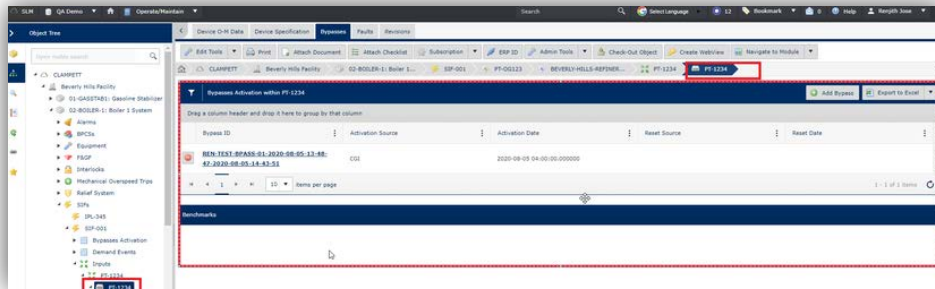
Device 2: No Bypass exists

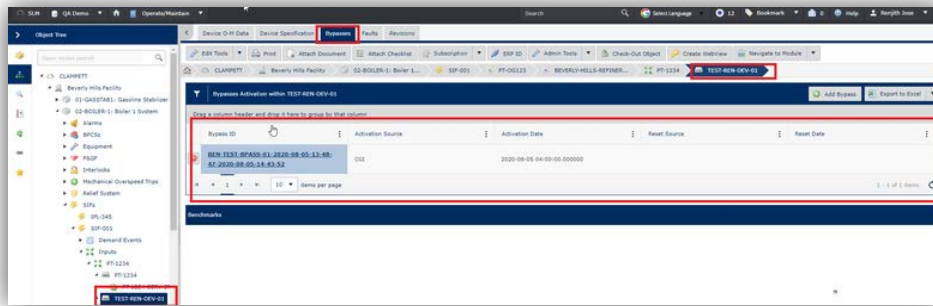


- API Request using Postman tool



The request will create three active bypass event for all the devices under the input and one at the function level since there are no bypass event currently active for the above scenario.



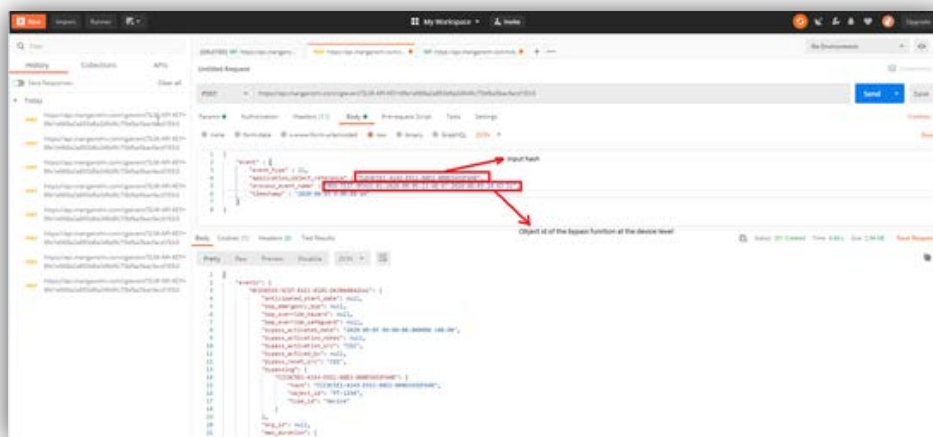


Scenario: Bypass reset request from input/output level.

Requesting bypass reset call at the input level will look

- All the devices under that input for an active bypass exists, if there it will reset.
- Look for the active bypass at the parent function level, if there it will reset.

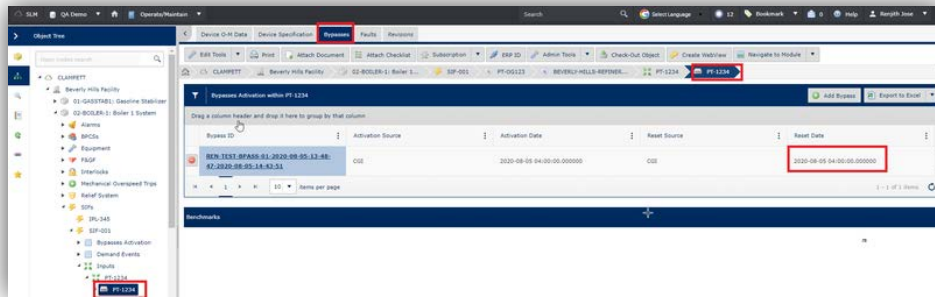
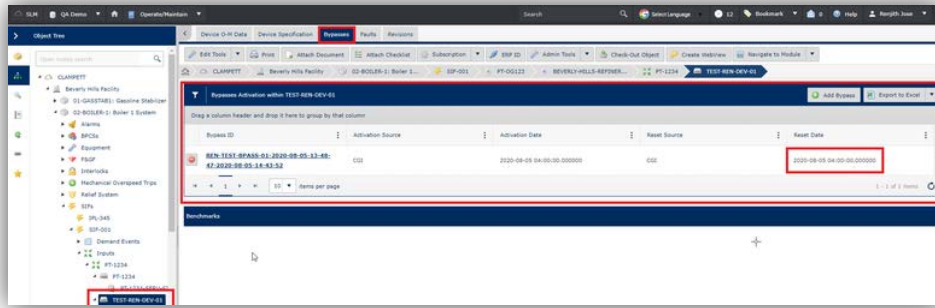
API Request using Postman tool



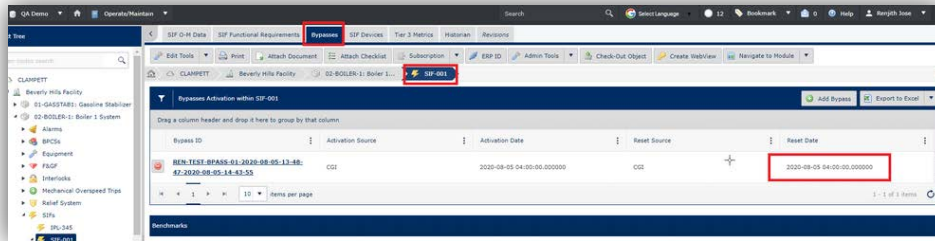
This request will reset all the open bypass events at the device level as well as the one in the function level. According to the scenario, three bypass objects will be reset.

- Device level

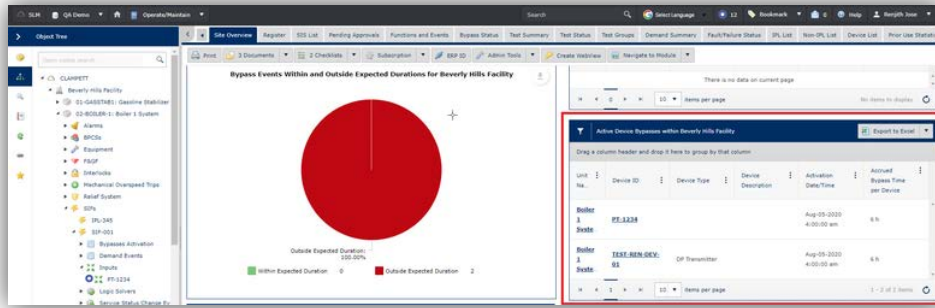




- Function level



A new report called Active Device Bypasses created at the site level on Site Overview tab which list all the active bypass events generated from API call.



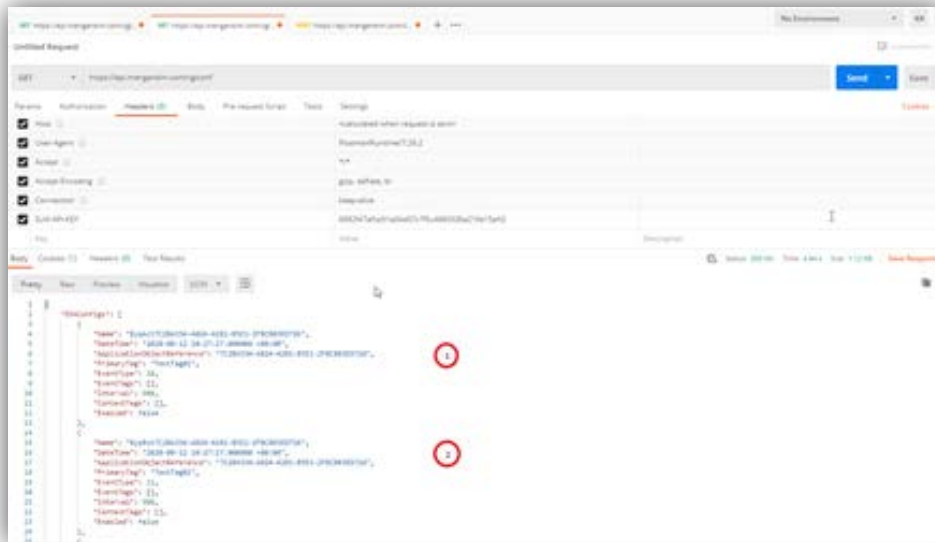
The existing Active Bypasses grid on the Site Overview Tab is updated to show all the active bypass authorization objects as well as the active bypass events from API.

Link No.	Function ID	Fun. Type	Function Description	Unit	Appl. No.	Max. Demand	System Standby	Time	On	Off	App. Type
3	BT-1328	SIP	Generator	BT	BT	75.0	22	May-07-2019 11:00:00 am	Yes	Yes	None
3	BT-1328	SIP	Generator	BT	BT	75.0	22	May-07-2019 11:00:00 am	Yes	Yes	None
3	BT-1328	SIP	Generator	BT	BT	75.0	22	May-07-2019 11:00:00 am	Yes	Yes	None

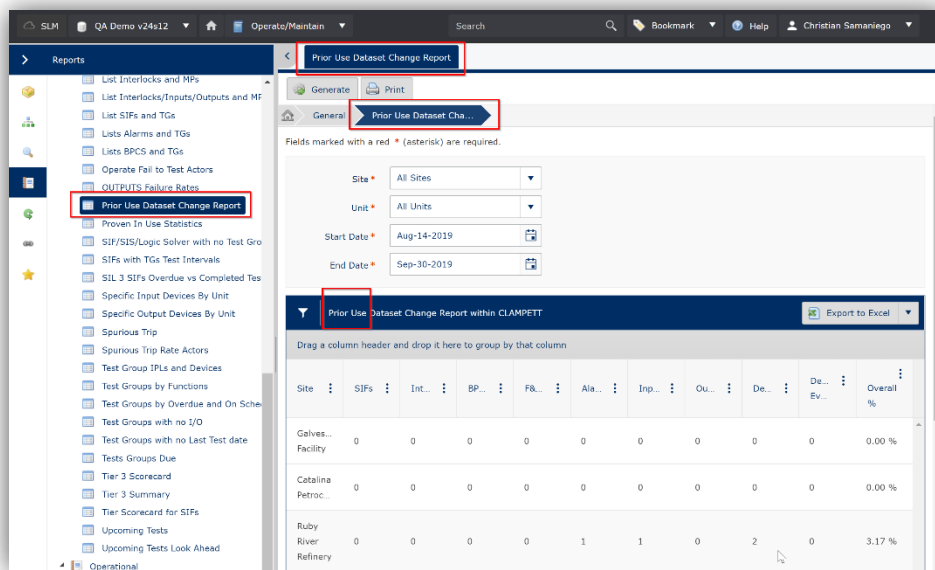
- Bypass Event Configuration definition
  - Two event definitions (active and reset) per each row.

Component	Enable	Server	Tag	Comparator	Value	Value When Active	Comparator	Value	Value When Reset
TEST-SIP-01	Yes	Test server	TestTag1	<	0	<	<	5	

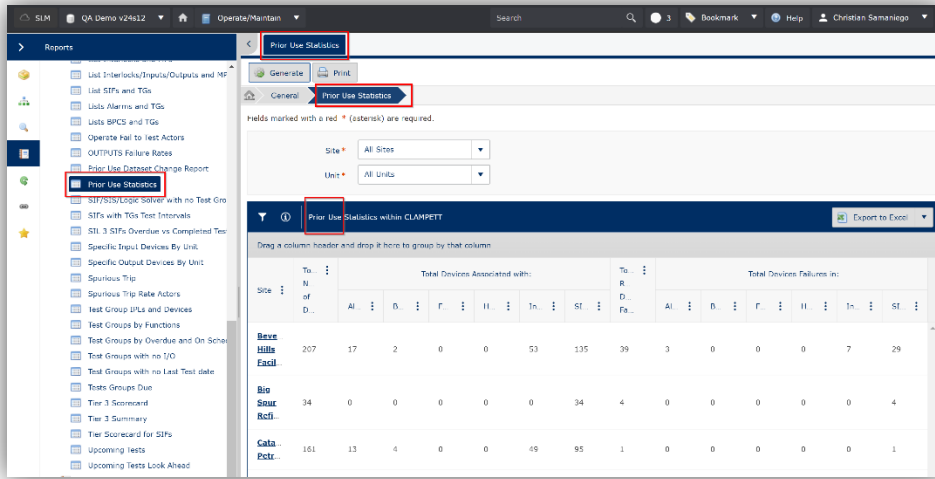
- Postman result



- Change PIU to Prior Use for all references in SLM
  - "PIU Dataset Change Report" Report

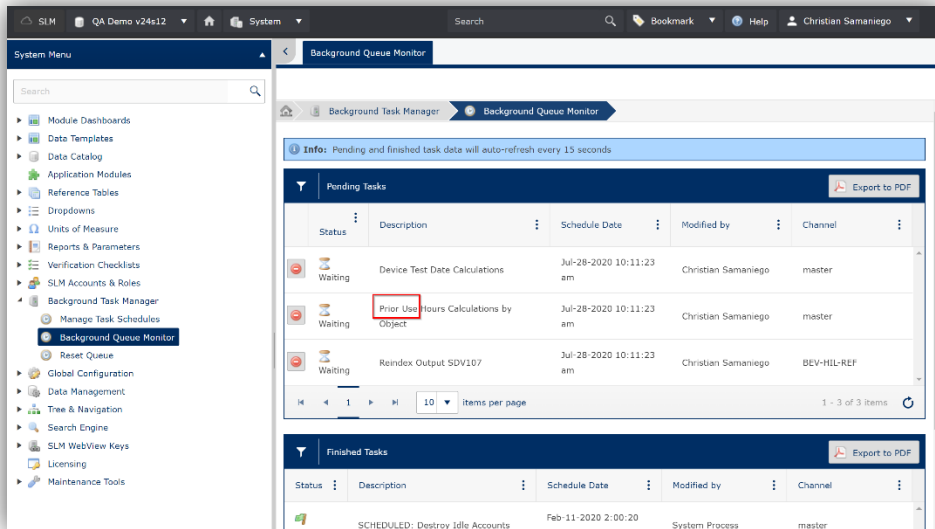


- "Proven In Use Statistics" Report



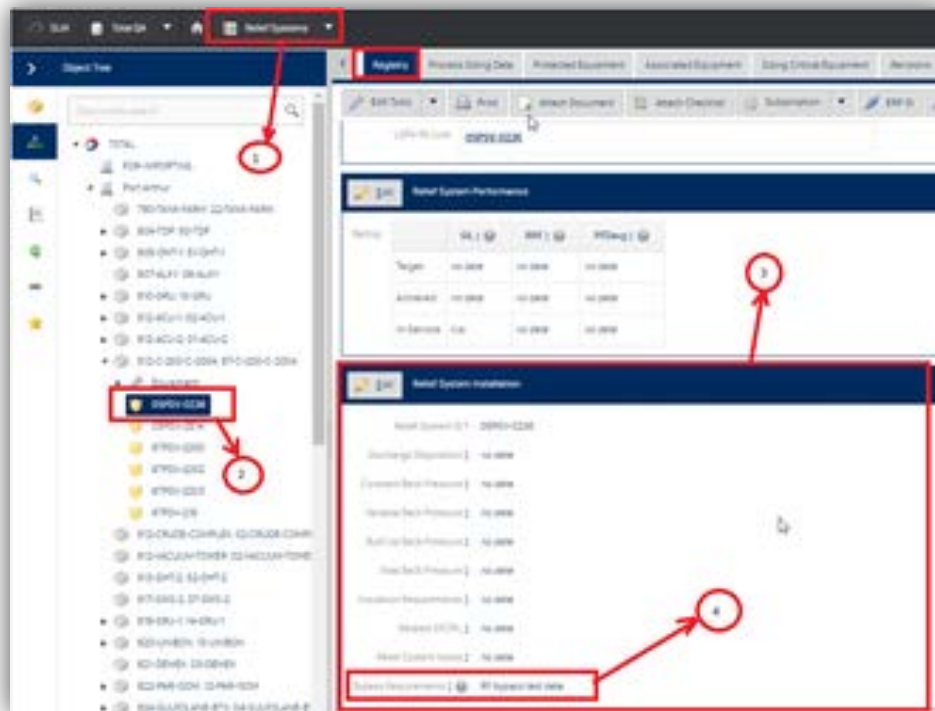
## System

- Change PIU to Prior Use for all references in SLM
  - PIU Hours Calculations by Object" Background Queue task



## Relief System

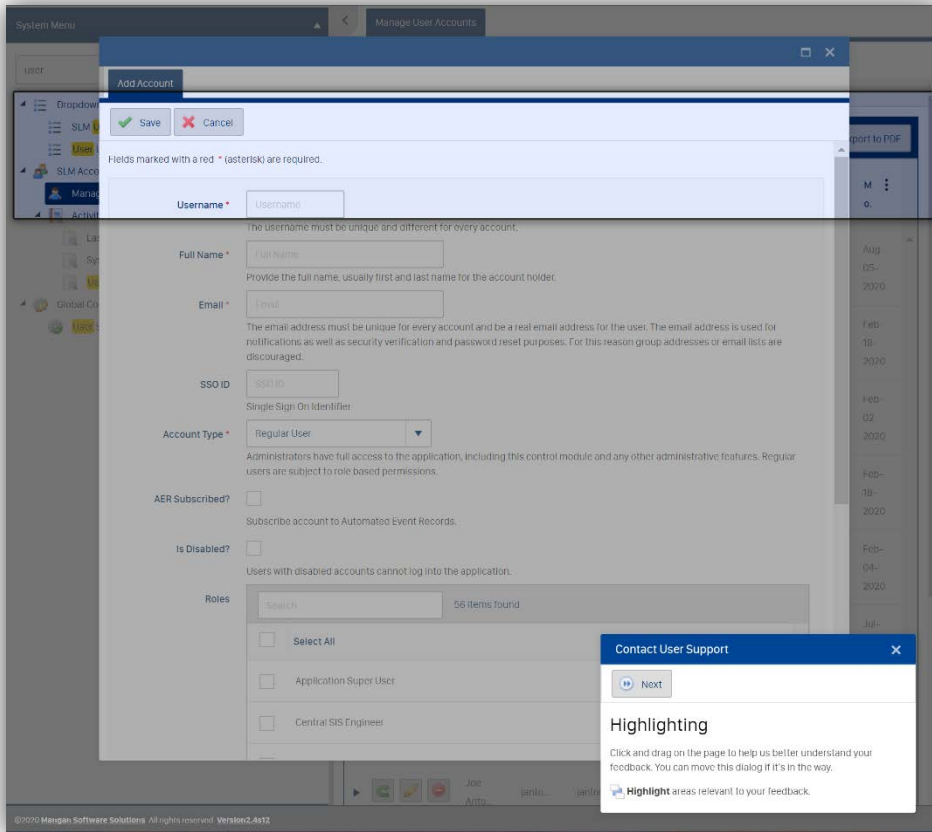
- A new data field called Bypass Requirements is added to the Registry template of relief system object.



## Fixes

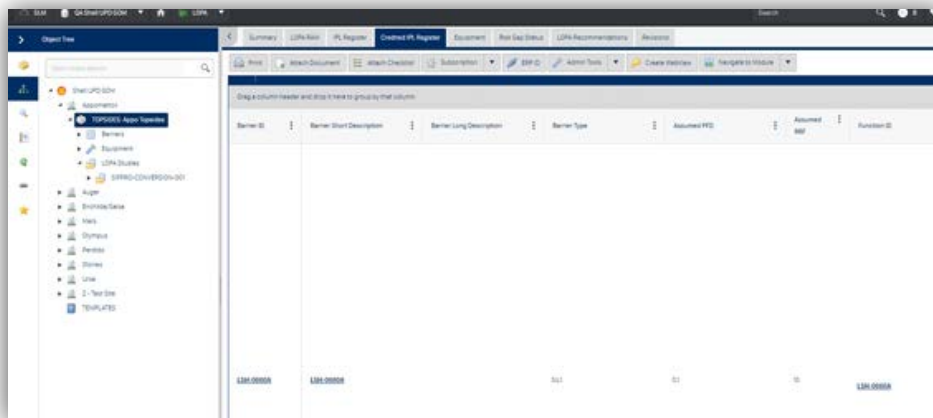
### General

- A fix is made in the grid, when loading the grid the pagination did not work correctly, on the first page it showed the number of items selected but on the following pages it always showed all the items unless the number of items to show was changed.
- When a modal is open, the user support system highlighting function only worked in this modal, now it can be highlighted outside the modal.

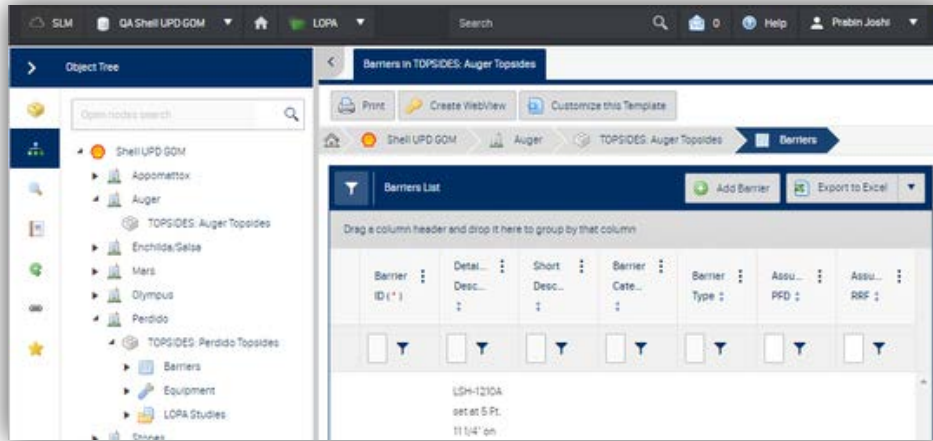


## LOPA

- Function hyperlinks listed under the Credited IPL Register tab was broken, now its fixed



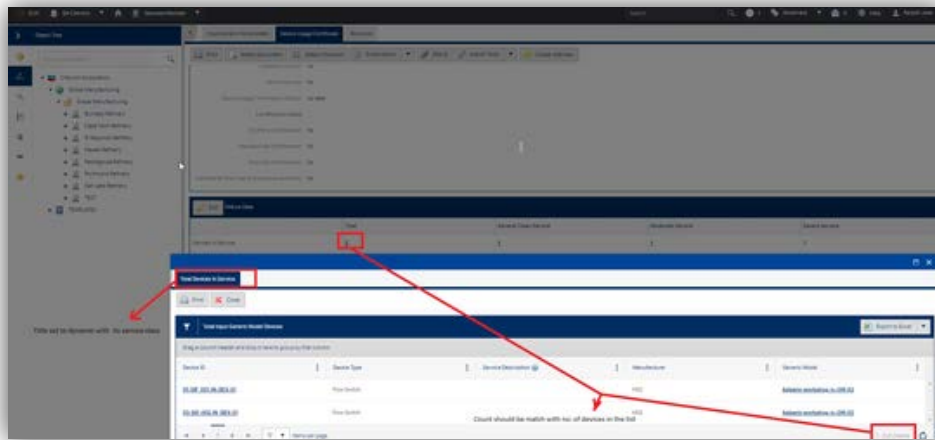
- Barriers can be added from barriers category under unit



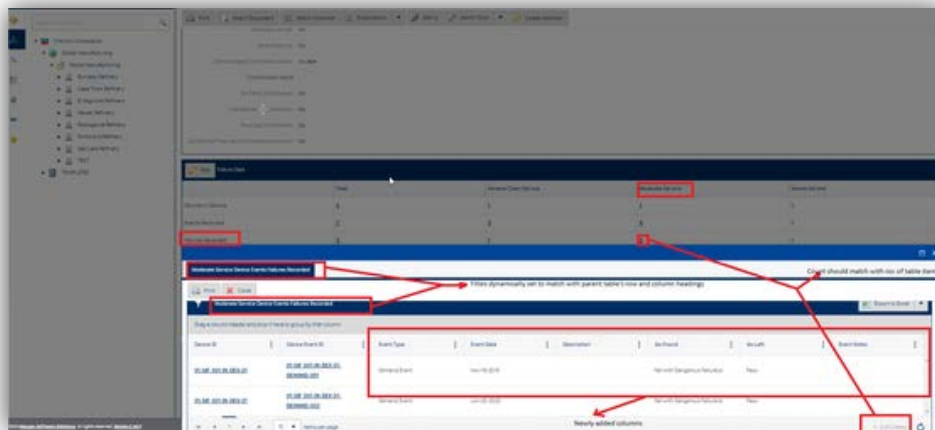
## Operate/Maintain

- All the calculated value links in the Device In Service row cells are changed to corresponding device count links and pop-up grid's title is changed to specify its service lass.

	Total	General Clean Service	Moderate Service	Severe Service
Devices In Service	3	3	0	0
Devices Reported	2	2	0	0
Repairs Reported	3	3	0	0
Service Hours	2285	2285	0	0
Price User Hours	4927	4927	0	0
In-Service Failure Rate	1.08%	0.73%	0.00%	0.00%
Mean Time Between Failures	10,000	10,000	10,000	10,000
Mean Time To Repair	10,000	10,000	10,000	10,000



- New fields are added to the pop up Events Recorded/Failures Recorded tables and its title is dynamically set to specify its service class and record type.





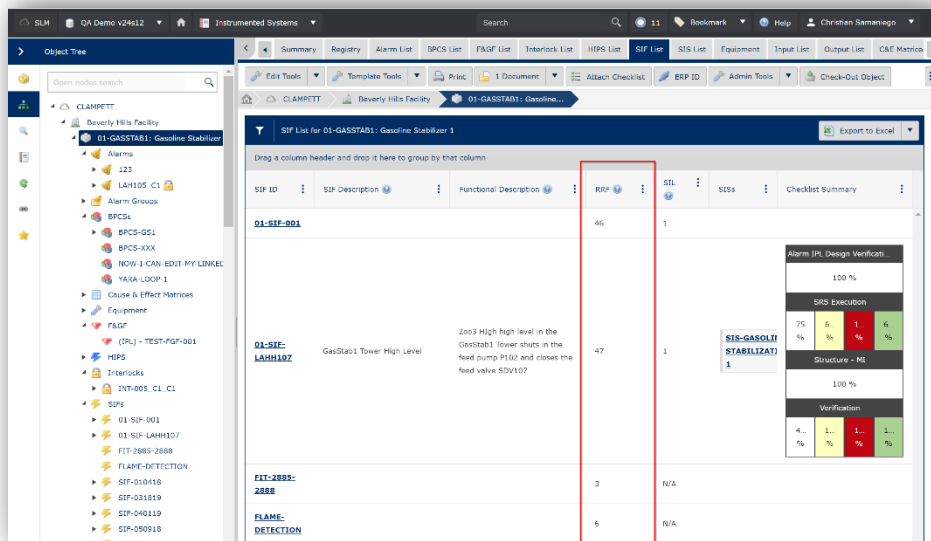
# 2.4s13 Release Notes

These release notes for SLM 2.4s13 provide an overview of the release and document new features, improvements and known issues.

## Refinements & Usability Gap

### Instrumented Systems

- Added Target RRF field in column Function SIF List



# Fixes

## Global

- The code editor plugin change the code when there is a code that is considered incorrect. At the moment the code formatting is disabled to prevent this error.

```
Template Data
<table class="content-worksheet">
<tbody>
[[{helper.id=lopa_module:mtd=lopa_data_from_hazop:.show_object_id=TRUE}]
</tbody>
</table>
```

## Instrumented Systems

- Display correct Prior Use value on SIL Calc Summary grid

Input Group ID	Voting Configuration	Data	PFD Values	SIL Calculations	Input Voting Groups	Prior Use	Dangerous	Custom Failure Rate
BEVERLY-HELLS-REFINERY_IV_GROUP-0071	no data	no data	no data	no data	1 00 2	3.15E+11/yr	100 %	1.51E+01/yr
LT107A Transmitter	Level	DP	Transmitter Generic L2 OP	100 %	1.41 /yr	3 yr		

## Operate/Maintain

- Make the Test Deferral Period field's UOM field editable for the Test deferral object.

The screenshot displays a web application interface for managing test deferrals. The top navigation bar includes the 'Operate/Maintain' menu, which is highlighted with a red circle and arrow labeled '1'. The left-hand 'Object Tree' shows a hierarchy of test groups, with 'TG-TEST-DEFERRAL-001' selected and highlighted with a red circle and arrow labeled '2'. The main content area shows the 'Deferral Authorization - TG-TEST-DEFERRAL-001' form. The 'Test Deferral Period' field is set to '1.00' and has a dropdown menu open, showing options for units of measure: 'wk', 'd', 'mo', 'q', 'yr', and 'yr'. This dropdown menu is highlighted with a red circle and arrow labeled '4'. The 'Save' and 'Cancel' buttons are visible to the right of the dropdown. The form also displays other fields such as 'Test Deferral Authorization ID', 'Creation Date', 'Test Group ID', 'Last Test Date', 'Original Test Due Date', 'Event Status', 'Reason for Deferral', 'New Test Due Date', and 'Safety Impact of Deferral'.

# 2.4s14 Release Notes

These release notes for SLM 2.4s14 provide an overview of the release and document new features, improvements and known issues.

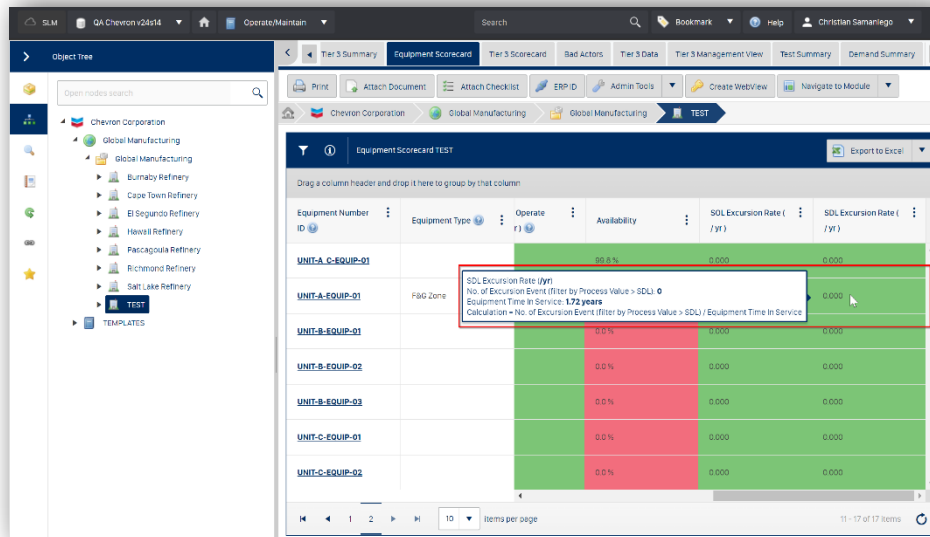
## Refinements & Usability Gap

### Project

- Deleted objects on the Project are unlinked if they are linked to other production objects that have not been checked-out.
- Deleted objects on the Project are deleted if all their production parents were checked-out.

### Operate/Maintain

- Allow display information on how the value is calculated, when hovering the cursor over values calculated in Equipment Scorecard View.



- Added calculation formula to the availability tooltip column in Tier 3 Scorecard Report

Fields marked with a red \* (asterisk) are required.

Business Unit \* Global Manufacturing

Major Area \* Global Manufacturing

Site \* TEST

Area \* TEST

Unit \* All Units

Tier 3 Scorecard for Test Unit

Unit Name	Function ID	Function Type	Failed to Operate Rate (/yr)	Demand Rate (/yr)	Fail on Test Rate (/yr)	Availability %	Spurious Trip Rate (/yr)
Unit-100	ALARM-1	Alarm	0.000	0.000	0.000	0.0 %	0.000
Unit-100	BPCS-1-1	PCS	0.000	0.000	0.000	0.0 %	0.000
Unit-100	FGS-IPS	FGF	0.925	0.925			1.650

Designed Demand Rate: 1.00 /yr  
No. of Process Demands: 1  
Time In Service: 1.08 years

- Added calculation formula to the availability tooltip column in Tier Scorecard for SIF report

Site Name	Unit Name	SIF ID	SIF Descr...	F	Consequence	Failed to Operate Rate (/yr)	Demand Rate (/yr)	Fail on Test Rate (/yr)	Availability %	Spurious Trip Rate (/yr)
Beverly Hills Facility	Agriscience	AGRI-IPL1	adfafddas	No					100.0 %	0.000
Beverly Hills Facility	Agriscience	AGRI-IPL1_C1	adfafddas	No		0.000	0.000	0.000	0.0 %	0.000
Beverly Hills Facility	Agriscience	AGRI-IPL1-IPL2	Combined SIS and BPCS Shutdown	No		0.000	0.000	0.000	0.0 %	0.000
Beverly Hills Facility	Alkylation Unit	FCC-SIF-101	First Stage Wet Gas Compress... High Vibration Shutdown	No		0.000	0.000	0.000	0.0 %	0.000
Beverly Hills Facility	Alkylation Unit	FCC-SIF		No		0.000	0.000	0.000	0.0 %	0.000

Installed Time: 1.84 years  
Time In Service: 1.84 years  
Calculation = Time In Service / Installed Time

## General

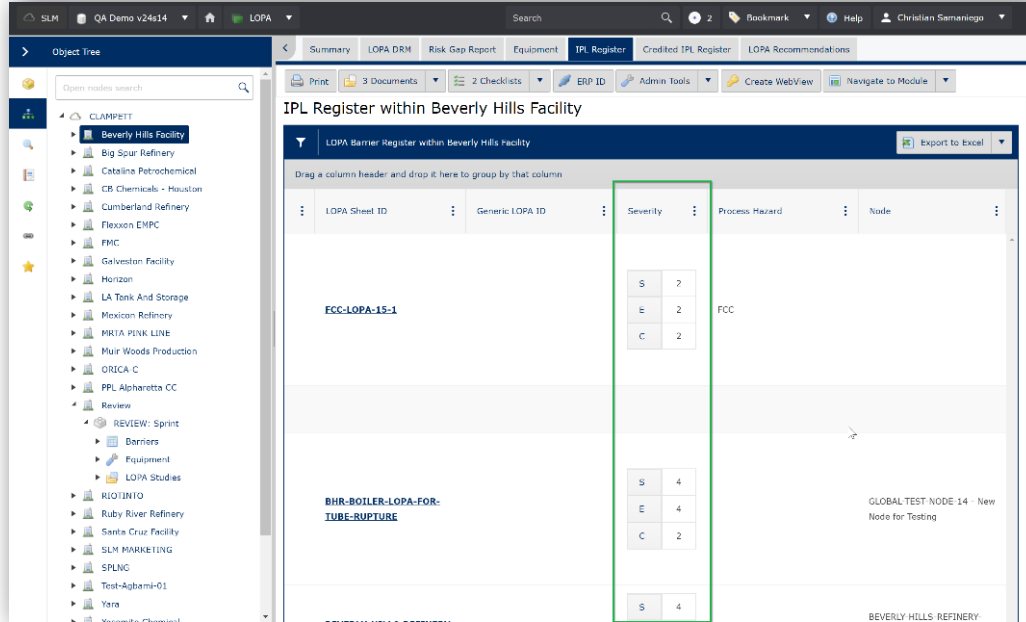
- Added a sort sequence indicator to display sorting groups at table grids

The screenshot shows a web interface for 'Related Sites'. At the top, there are buttons for 'Add Site' and 'Export to Excel'. Below the buttons is a header area with the text 'Drag a column header and drop it here to group by that column'. The table grid has three columns: 'Site ID (\*) ↓ 1', 'Site Name (\*) ↑ 3', and 'Site Type ↑ 2'. Each column header has a vertical ellipsis icon to its right. The table contains eight rows of data, each with a minus sign icon in the first column. The data rows are as follows:

Site ID (*) ↓ 1	Site Name (*) ↑ 3	Site Type ↑ 2
<a href="#">ZU-PUEB</a>	Zuni Pueblo	Training/Examples Site
<a href="#">Z-AUG-13-NEW-SITE</a>	Zediker Refinery	
<a href="#">YOSEM-CHEM</a>	Yosemite Chemical	Specialty Chemical Production
<a href="#">YARA</a>	Yara	
<a href="#">SLNG</a>	SLNG	
<a href="#">SLM-MARKETING-SUPPORT</a>	SLM MARKETING	Site for capture of demo data
<a href="#">RUBY-RIVER</a>	Ruby River Refinery	Refinery
<a href="#">REVIEW</a>	Review	

# LOPA

- Added "Severity" column between "Generic LOPA ID" and "Process Hazard" columns and updated it at export excel.

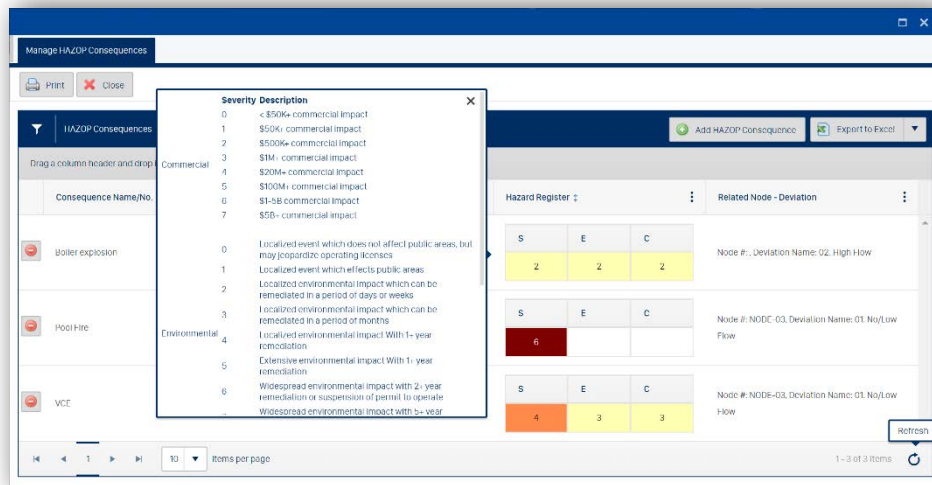
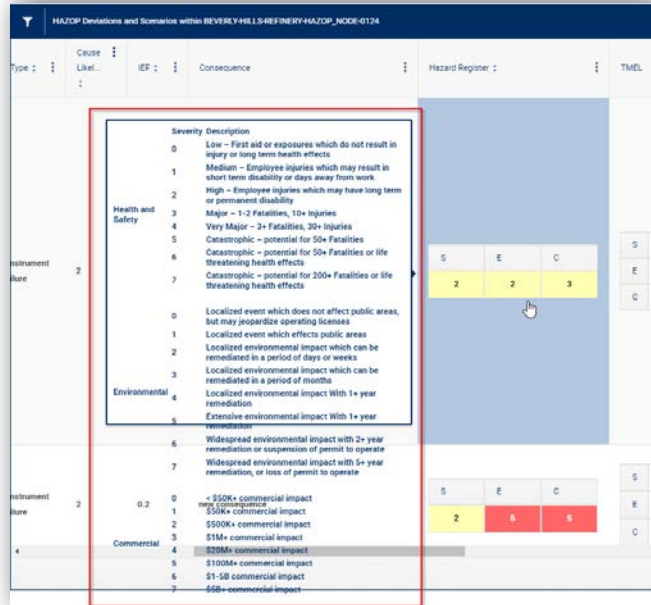


Barrier ID	Description	Barrier Logic Description	Barrier Type	Accumulated Freq	Assumed Freq	Function ID	Failure Type	LOPA Sheet ID	Global LOPA ID	Severity	Process Hazard	Node
FCC-LOPA-15-1_C1	Flow Rate Feed Flow Alarm	Alarm to alert operator that cooler flow is approaching the point where assist steam is required to maintain the catalyst flow. Set at 15000 MBH from Operator to set assist steam flow rate to minimum required for stable heat exchanger flow	Alarm w/ Operator Response	0.1	10			FCC-LOPA-15-1		S 2 E 2 C 2	FCC	
ALARA-022020	ALARA-022020	Alarm with Operator Response	Alarm w/ Operator Response	0.1	10			BHR-BOILER-LOPA-FOR-TUBE-RUPTURE		S 4		GLOBAL TEST NODE 14 - New Node for Testing
DLR-TAL-239	Flow Boiler Feed Water Alarm	Operator responds to flow alarm - indicates flow alarm by checking the performance of the 3 element flow control loop and covering the BHR-022020 established flow. If sufficient flow cannot be restored within 10 minutes, manual to the boiler	Alarm w/ Operator Response	0.01	100			BEVERLY-HILLS-REFINERY-LOPA-SHEET-15-1_C1		S 4 E 4 C 2	Conseq 2	BEVERLY-HILLS-REFINERY-LOPA-NODE-14- New Node for Testing
ALM1_1_C1	ALM1_1_C1		Alarm w/ Operator Response	0.1	10	173	Alarm	BEVERLY-HILLS-REFINERY-LOPA-SHEET-15-009		S 2 E 4 C 1		

# Fixes

## HAZOP

- Fixed an issue about information overflow on Severity Legend Tooltip Template.





## General

- New Code Editor was added.

The screenshot shows the 'Edit Template' interface. At the top, there are buttons for 'Preview', 'Save', 'Cancel', and 'Reset Template Data'. Below these, the title 'Edit Template' is followed by a note: 'Fields marked with a red \* (asterisk) are required.' The form contains the following fields:

- Name**: A text input field containing 'SIL Calc Summary'. Below it is the instruction: 'Provide the name of the template. The name appears in the tab list for each view rendered with this template.'
- ID**: A text input field containing 'sil\_calc'. Below it is the instruction: 'The template identifier must be unique and will be used by the system to reference the template.'
- Data Type**: A dropdown menu set to 'SIF'. Below it is the label 'Selected Data Type:'.

The 'Template Data' section features a code editor with the following content:

```
1 <block id="main">
2   {{remember:save:sif_hash:{{object:meta=hash}}}}
3   {{remember:save:sif_type_id:{{object:meta=type_id}}}}
4
5   <h1>SIL Calculations Summary for {{object:meta=label}}</h1>
6
7   {{ifBlock:{{count:kind=children:type_id=logicsolver}}:0:show_sil_calc_diagram}}
8
9   {{helper:id=sil_calc:std=render_sil_calc_table}}
10
11   {{grid:idesis_total_rtf}}
12 </block>
13
14 <block id="show_sil_calc_diagram">
15   {{report:report_id=sil_calc_diagram:report_scope={{object:meta=hash}}}}
16 </block>
```

Below the code editor, a note states: 'The system recognizes code in version 2.0 of the format. Code formatted in v1.0, used by SLM v1.0 or older must be converted over.'

The 'Show in Modules' section contains a table with the following columns: 'Is Visible', 'List Order', and 'Template Group'.

	Is Visible	List Order	Template Group
HAZOP	<input type="checkbox"/>	List Gr...	Template Group
Risk Graph SIL Determination	<input type="checkbox"/>	List Gr...	Template Group
LOPA	<input type="checkbox"/>	List Gr...	Template Group

# 2.4s15 Release Notes

These release notes for SLM 2.4s15 provide an overview of the release and document new features, improvements and known issues.

## Refinements & Usability Gap

### Instrumented Systems

- Add an “Achieved PFD” data field to the SIS Registry

The screenshot shows the SIS Registry interface with a table of instrumented systems. The table has the following columns: PFD ID, Description, PFD ID, Acknowledged, Achieved PFD, and Achieved PFD. The 'Achieved PFD' column is highlighted with a red box.

PFD ID	Description	PFD ID	Acknowledged	Achieved PFD	Achieved PFD
SP-001	SP-001	SP-001	1	1	1
SP-002	SP-002	SP-002	1	1	1
SP-003	SP-003	SP-003	1	1	1
SP-004	SP-004	SP-004	1	1	1
SP-005	SP-005	SP-005	1	1	1
SP-006	SP-006	SP-006	1	1	1
SP-007	SP-007	SP-007	1	1	1
SP-008	SP-008	SP-008	1	1	1
SP-009	SP-009	SP-009	1	1	1
SP-010	SP-010	SP-010	1	1	1
SP-011	SP-011	SP-011	1	1	1
SP-012	SP-012	SP-012	1	1	1
SP-013	SP-013	SP-013	1	1	1
SP-014	SP-014	SP-014	1	1	1
SP-015	SP-015	SP-015	1	1	1
SP-016	SP-016	SP-016	1	1	1
SP-017	SP-017	SP-017	1	1	1
SP-018	SP-018	SP-018	1	1	1
SP-019	SP-019	SP-019	1	1	1
SP-020	SP-020	SP-020	1	1	1
SP-021	SP-021	SP-021	1	1	1
SP-022	SP-022	SP-022	1	1	1
SP-023	SP-023	SP-023	1	1	1
SP-024	SP-024	SP-024	1	1	1
SP-025	SP-025	SP-025	1	1	1
SP-026	SP-026	SP-026	1	1	1
SP-027	SP-027	SP-027	1	1	1
SP-028	SP-028	SP-028	1	1	1
SP-029	SP-029	SP-029	1	1	1
SP-030	SP-030	SP-030	1	1	1
SP-031	SP-031	SP-031	1	1	1
SP-032	SP-032	SP-032	1	1	1
SP-033	SP-033	SP-033	1	1	1
SP-034	SP-034	SP-034	1	1	1
SP-035	SP-035	SP-035	1	1	1
SP-036	SP-036	SP-036	1	1	1
SP-037	SP-037	SP-037	1	1	1
SP-038	SP-038	SP-038	1	1	1
SP-039	SP-039	SP-039	1	1	1
SP-040	SP-040	SP-040	1	1	1
SP-041	SP-041	SP-041	1	1	1
SP-042	SP-042	SP-042	1	1	1
SP-043	SP-043	SP-043	1	1	1
SP-044	SP-044	SP-044	1	1	1
SP-045	SP-045	SP-045	1	1	1
SP-046	SP-046	SP-046	1	1	1
SP-047	SP-047	SP-047	1	1	1
SP-048	SP-048	SP-048	1	1	1
SP-049	SP-049	SP-049	1	1	1
SP-050	SP-050	SP-050	1	1	1
SP-051	SP-051	SP-051	1	1	1
SP-052	SP-052	SP-052	1	1	1
SP-053	SP-053	SP-053	1	1	1
SP-054	SP-054	SP-054	1	1	1
SP-055	SP-055	SP-055	1	1	1
SP-056	SP-056	SP-056	1	1	1
SP-057	SP-057	SP-057	1	1	1
SP-058	SP-058	SP-058	1	1	1
SP-059	SP-059	SP-059	1	1	1
SP-060	SP-060	SP-060	1	1	1
SP-061	SP-061	SP-061	1	1	1
SP-062	SP-062	SP-062	1	1	1
SP-063	SP-063	SP-063	1	1	1
SP-064	SP-064	SP-064	1	1	1
SP-065	SP-065	SP-065	1	1	1
SP-066	SP-066	SP-066	1	1	1
SP-067	SP-067	SP-067	1	1	1
SP-068	SP-068	SP-068	1	1	1
SP-069	SP-069	SP-069	1	1	1
SP-070	SP-070	SP-070	1	1	1
SP-071	SP-071	SP-071	1	1	1
SP-072	SP-072	SP-072	1	1	1
SP-073	SP-073	SP-073	1	1	1
SP-074	SP-074	SP-074	1	1	1
SP-075	SP-075	SP-075	1	1	1
SP-076	SP-076	SP-076	1	1	1
SP-077	SP-077	SP-077	1	1	1
SP-078	SP-078	SP-078	1	1	1
SP-079	SP-079	SP-079	1	1	1
SP-080	SP-080	SP-080	1	1	1
SP-081	SP-081	SP-081	1	1	1
SP-082	SP-082	SP-082	1	1	1
SP-083	SP-083	SP-083	1	1	1
SP-084	SP-084	SP-084	1	1	1
SP-085	SP-085	SP-085	1	1	1
SP-086	SP-086	SP-086	1	1	1
SP-087	SP-087	SP-087	1	1	1
SP-088	SP-088	SP-088	1	1	1
SP-089	SP-089	SP-089	1	1	1
SP-090	SP-090	SP-090	1	1	1
SP-091	SP-091	SP-091	1	1	1
SP-092	SP-092	SP-092	1	1	1
SP-093	SP-093	SP-093	1	1	1
SP-094	SP-094	SP-094	1	1	1
SP-095	SP-095	SP-095	1	1	1
SP-096	SP-096	SP-096	1	1	1
SP-097	SP-097	SP-097	1	1	1
SP-098	SP-098	SP-098	1	1	1
SP-099	SP-099	SP-099	1	1	1
SP-100	SP-100	SP-100	1	1	1

- Test interval fields of input and output objects will be display in the Input List and Output List templates grids.

Name	ID	Input Description	Input Type	PT	Interval	Object ID	Object Type
Agreement	III	INTERVAL	INTERVAL	10	INTERVAL	AGR-III-10	BP
Agreement	TTI	INTERVAL	INTERVAL	10	INTERVAL	AGR-TTI-10	BP
Agreement	TTI	INTERVAL	INTERVAL	10	INTERVAL	AGR-TTI-10	BP
Agreement	III	INTERVAL	INTERVAL	10	INTERVAL	AGR-III-10	BP
Agreement	III	INTERVAL	INTERVAL	10	INTERVAL	AGR-III-10	BP
Agreement	TTI	INTERVAL	INTERVAL	10	INTERVAL	AGR-TTI-10	BP
Agreement	TTI	INTERVAL	INTERVAL	10	INTERVAL	AGR-TTI-10	BP
Agreement	III	INTERVAL	INTERVAL	10	INTERVAL	AGR-III-10	BP
Agreement	III	INTERVAL	INTERVAL	10	INTERVAL	AGR-III-10	BP
Agreement	TTI	INTERVAL	INTERVAL	10	INTERVAL	AGR-TTI-10	BP
Agreement	TTI	INTERVAL	INTERVAL	10	INTERVAL	AGR-TTI-10	BP
Agreement	III	INTERVAL	INTERVAL	10	INTERVAL	AGR-III-10	BP
Agreement	III	INTERVAL	INTERVAL	10	INTERVAL	AGR-III-10	BP
Agreement	TTI	INTERVAL	INTERVAL	10	INTERVAL	AGR-TTI-10	BP
Agreement	TTI	INTERVAL	INTERVAL	10	INTERVAL	AGR-TTI-10	BP
Agreement	III	INTERVAL	INTERVAL	10	INTERVAL	AGR-III-10	BP
Agreement	III	INTERVAL	INTERVAL	10	INTERVAL	AGR-III-10	BP

Name	ID	Output Description	Output Type	PT	Interval	Object ID	Object Type
Agreement	III	INTERVAL	INTERVAL	10	INTERVAL	AGR-III-10	BP
Agreement	TTI	INTERVAL	INTERVAL	10	INTERVAL	AGR-TTI-10	BP
Agreement	TTI	INTERVAL	INTERVAL	10	INTERVAL	AGR-TTI-10	BP
Agreement	III	INTERVAL	INTERVAL	10	INTERVAL	AGR-III-10	BP
Agreement	III	INTERVAL	INTERVAL	10	INTERVAL	AGR-III-10	BP
Agreement	TTI	INTERVAL	INTERVAL	10	INTERVAL	AGR-TTI-10	BP
Agreement	TTI	INTERVAL	INTERVAL	10	INTERVAL	AGR-TTI-10	BP
Agreement	III	INTERVAL	INTERVAL	10	INTERVAL	AGR-III-10	BP
Agreement	III	INTERVAL	INTERVAL	10	INTERVAL	AGR-III-10	BP
Agreement	TTI	INTERVAL	INTERVAL	10	INTERVAL	AGR-TTI-10	BP
Agreement	TTI	INTERVAL	INTERVAL	10	INTERVAL	AGR-TTI-10	BP
Agreement	III	INTERVAL	INTERVAL	10	INTERVAL	AGR-III-10	BP
Agreement	III	INTERVAL	INTERVAL	10	INTERVAL	AGR-III-10	BP
Agreement	TTI	INTERVAL	INTERVAL	10	INTERVAL	AGR-TTI-10	BP
Agreement	TTI	INTERVAL	INTERVAL	10	INTERVAL	AGR-TTI-10	BP
Agreement	III	INTERVAL	INTERVAL	10	INTERVAL	AGR-III-10	BP
Agreement	III	INTERVAL	INTERVAL	10	INTERVAL	AGR-III-10	BP

## General

- Enhancement to Custom Template. A checkbox to double verify edition of the template was added.  
List order can be modified.

The screenshot shows the 'Edit Template' dialog box. At the top, there are buttons for 'Preview', 'Save', 'Cancel', and 'Reset Template Data'. Below these, the title 'Edit Template' is followed by a note: 'Fields marked with a red \* (asterisk) are required.' The form contains several fields: 'Name' (MOC Overview), 'ID' (moc\_summary), and 'Data Type' (Unit). A red box highlights the 'Update Template Data' checkbox, which is currently unchecked. Below this is a table with columns: 'Show in Modules', 'Is Visible', 'List Order', and 'Template Group'. The table lists several modules with their respective visibility and list order options.

Show in Modules	Is Visible	List Order	Template Group
HAZOP	<input type="checkbox"/>	List Or...	Template Group
Risk Graph SIL Determination	<input type="checkbox"/>	List Or...	Template Group
LOPA	<input type="checkbox"/>	List Or...	Template Group
PSI	<input type="checkbox"/>	List Or...	Template Group
Row Tie	<input type="checkbox"/>	List Or...	Template Group
Instrumented Systems	<input type="checkbox"/>	List Or...	Template Group
Relief Systems	<input type="checkbox"/>	List Or...	Template Group

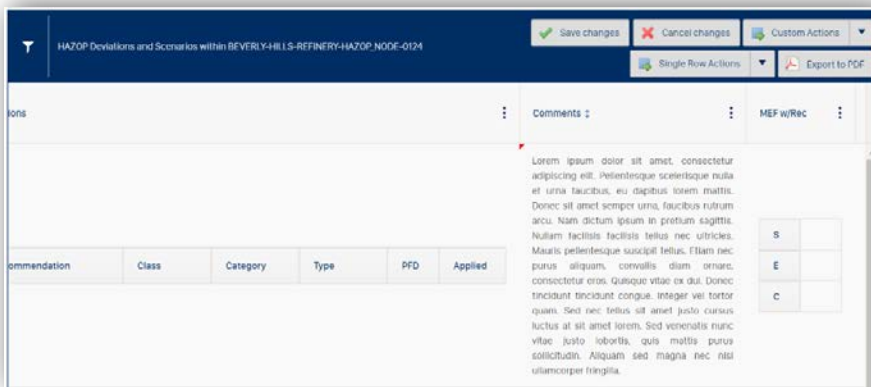
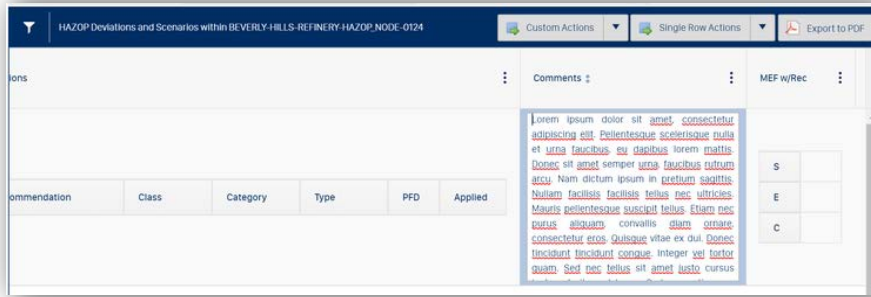
The screenshot shows the 'Edit Template' dialog box with the 'Update Template Data' checkbox checked. A red box highlights the 'Update Template Data' section, which includes a text area for 'Template Data' containing the following code:

```
1 <!-- main template - required -->
2 = <block id="main">
3   <{{subview: id=moc_overview}}
4 </block>
```

Below the text area, a note states: 'The system recognizes code in version 2.0 of the format. Code formatted in v1.0, used by SLM v4.0 or older must be converted over.' The table below this section is partially visible, showing the same columns as the first screenshot.

Show in Modules	Is Visible	List Order	Template Group
HAZOP	<input type="checkbox"/>	List Or...	Template Group
Risk Graph SIL Determination	<input type="checkbox"/>	List Or...	Template Group
LOPA	<input type="checkbox"/>	List Or...	Template Group

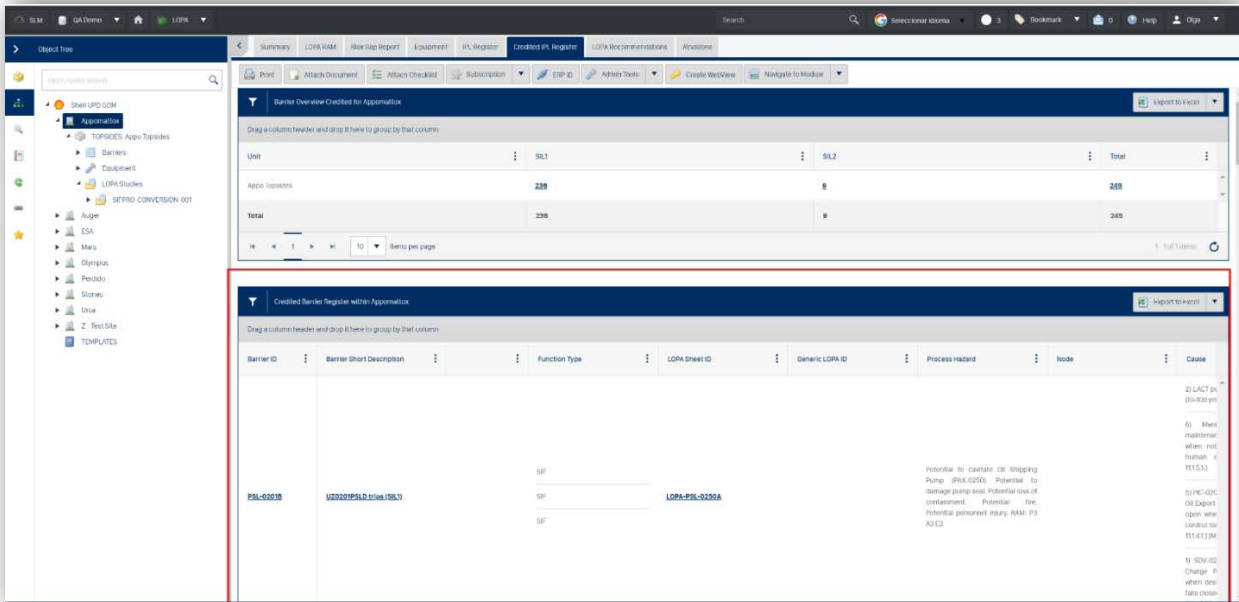
- Font spacing is changed to maintain consistency between all form components.



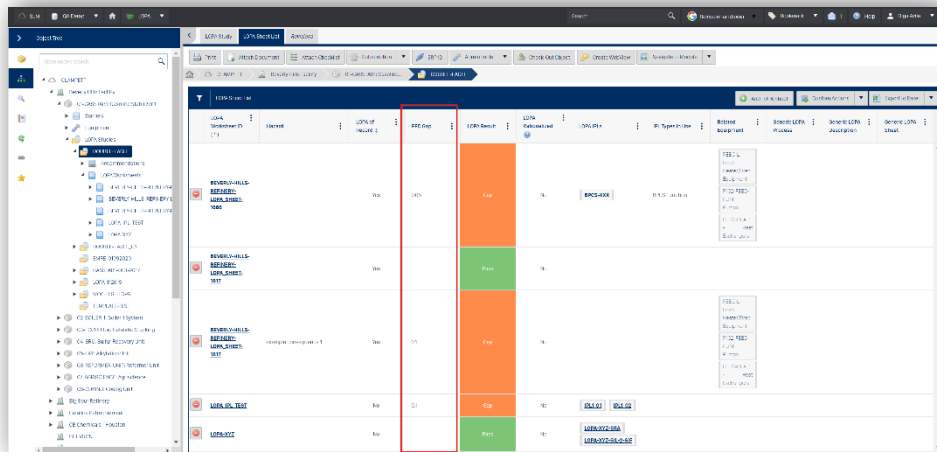
- The Test Deferral Authorization objects are displayed in tables at Pending Approvals tab, if the event status are Created, Submittal or Disapproved.

# LOPA

- At Credit Barrier Register grid can filter using any type of filter

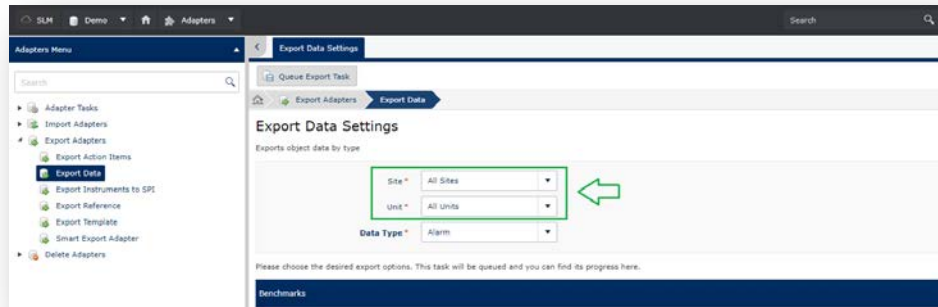


- Display the inverse value of the RRF field of the LOPA Worksheet object in the grid.



## Adapters

- Upgrading the Smart Import adapter to allow updating objects with no parent references in the CSV file.
- Adding scope fields to the Export Data adapter.





# 2.4s16 Release Notes

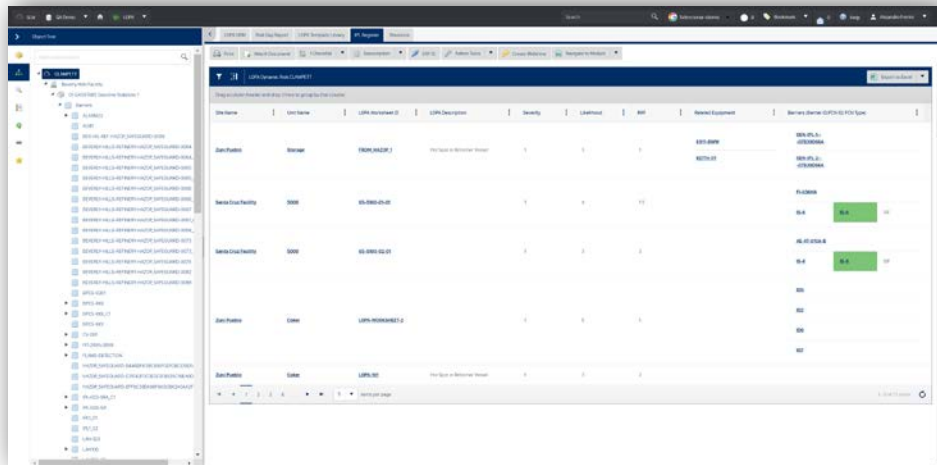
These release notes for SLM 2.4s16 provide an overview of the release and document new features, improvements and known issues.

## New Features

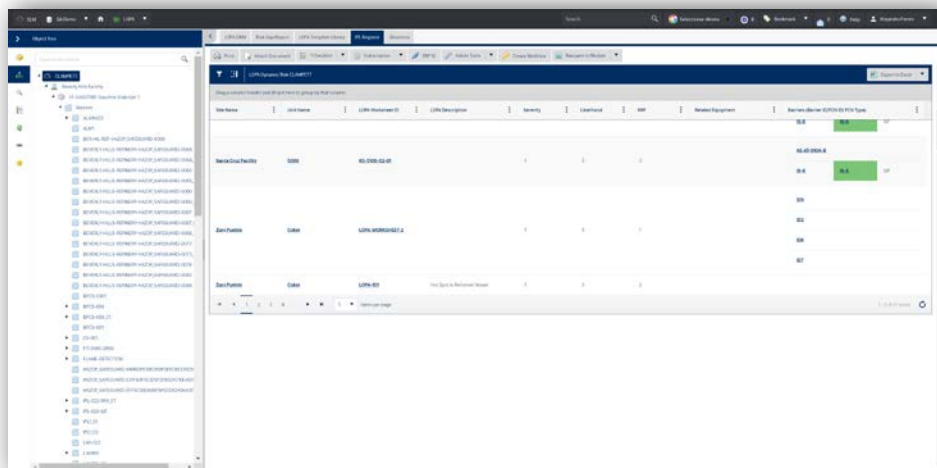
### General

- Fixed Headers on Scroll was added

No scrolling



On Scrolling



- Top horizontal scroll was added to the Grid

LOM IPM Overview for CLAMPETT

Export to Excel

Drag a column header and drop it here to group by that column.

Site Name	Unit Name	Alarm w/ Operator Response	BPCS Function	Check Valve	Continuous
Beverly Hills Facility	Abriscience	0	0	0	0
Beverly Hills Facility	Alkylation Unit	4	0	0	0
Beverly Hills Facility	Boiler 1 System	2	2	0	2
Beverly Hills Facility	Coking Unit	1	1	0	0
Beverly Hills Facility	Fluid Cracking	4	0	0	0
Total		60	25	3	3

1 - 5 of 30 items

- The option to hide or show the vertical scroll was added to the Grid

Show Vertical Scroll

CLAMPETT

LOM IPM Overview for CLAMPETT

Export to Excel

Drag a column header and drop it here to group by that column.

Site Name	Unit Name	Alarm w/ Operator Response	BPCS Function	Check Valve	Continuous
Beverly Hills Facility	Abriscience	0	0	0	0
Beverly Hills Facility	Alkylation Unit	4	0	0	0
Beverly Hills Facility	Boiler 1 System	2	2	0	2
Beverly Hills Facility	Coking Unit	1	1	0	0
Beverly Hills Facility	Fluid Cracking	4	0	0	0
Total		60	25	3	3

1 - 5 of 30 items

Hide Vertical Scroll CLAMPETT

LOPA IPL Overview for CLAMPETT Export to Excel

Drag a column header and drop it here to group by that column:

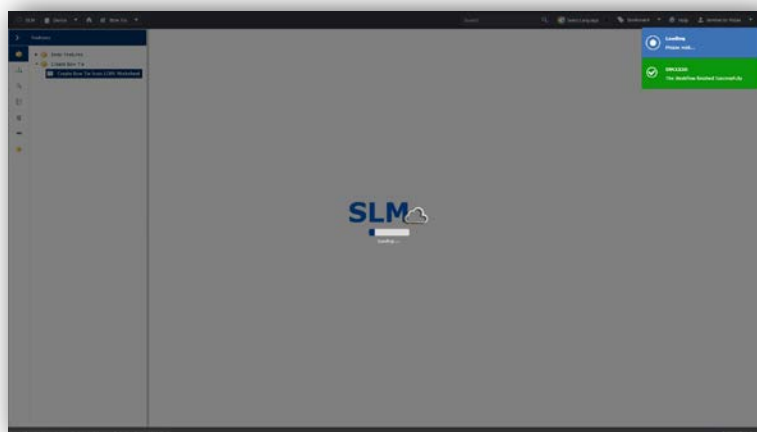
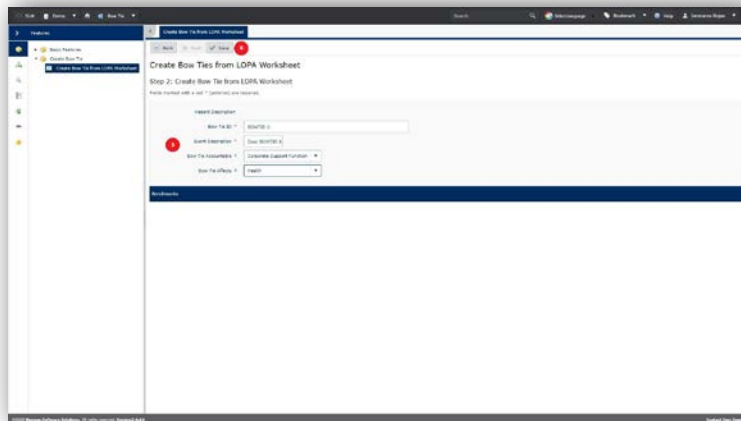
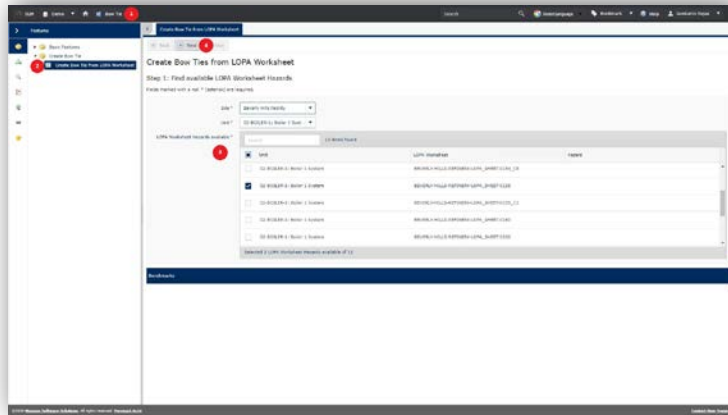
Site Name	Unit Name	Alarm w/ Operator Response	BPCS Function	Check Valve	Continuous
<a href="#">Beverly Hills Facility</a>	<a href="#">Agrisience</a>	0	0	0	0
<a href="#">Beverly Hills Facility</a>	<a href="#">Alkylation Unit</a>	4	0	0	0
<a href="#">Beverly Hills Facility</a>	<a href="#">Boiler 1 System</a>	2	3	0	3
<a href="#">Beverly Hills Facility</a>	<a href="#">Coking Unit</a>	1	1	0	0
<b>Total</b>		<b>60</b>	<b>25</b>	<b>3</b>	<b>3</b>

1 2 3 4 ... 5 Items per page
 1 - 5 of 36 items

# Fixes

## Bow Tie

- Fixed error on *Create Bow Ties from LOPA Worksheet* displayed after Save.



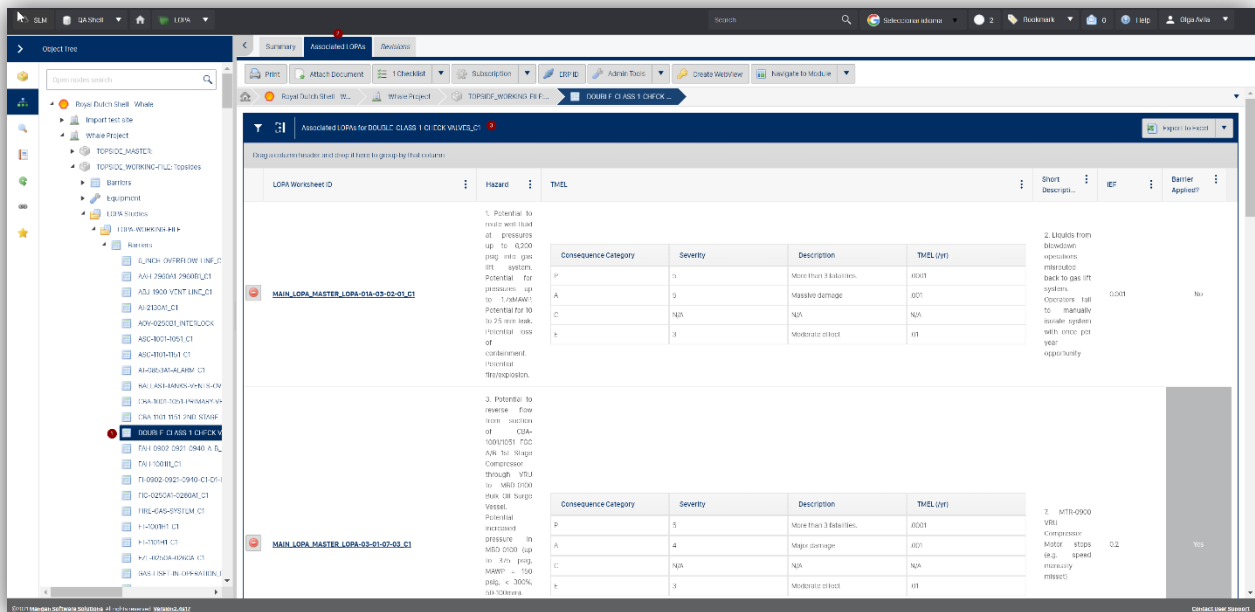
# 2.4s17 Release Notes

These release notes for SLM 2.4s17 provide an overview of the release and document new features, improvements and known issues.

## New Features

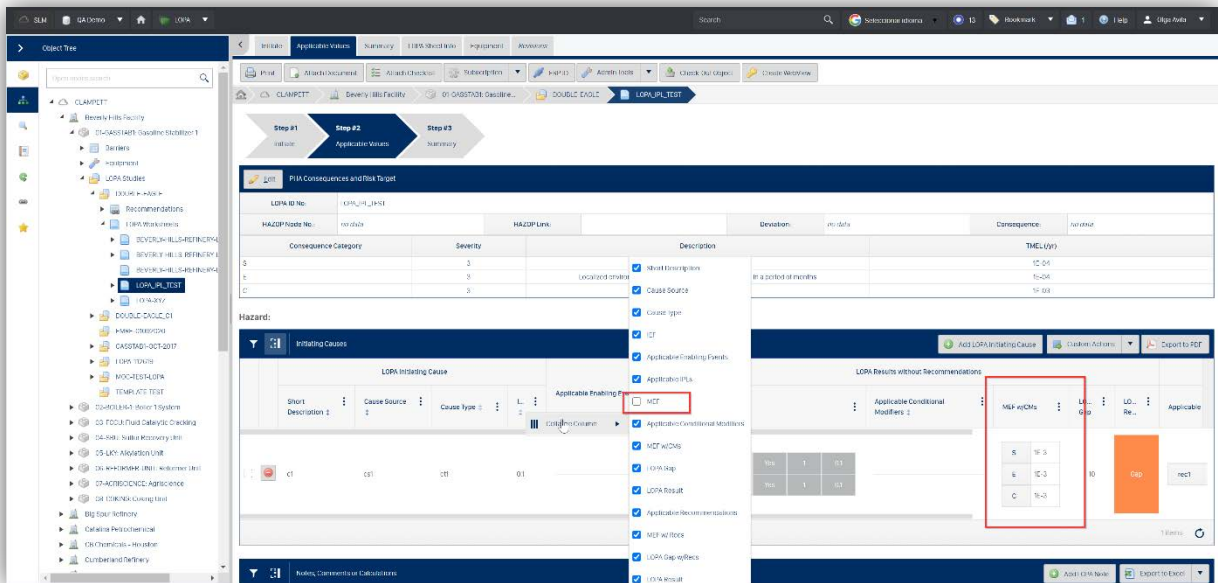
### LOPA

- Added the new template that will display in a table all of the LOPA Sheet parents of the current barrier object, whether or not the barrier is applied, this is for Shell



# Refinements & Usability Gap

- Change Field Name of iel\_conditional field of the lopa\_ic\_scenario object type from “MEF w/Conditional Modifiers” to “MEF w/CMs”, display the iel\_conditional field in the Initiating Causes table on the Applicable Values template of the LOPA Worksheet object. Additionally, deselect the MEF field from the table by default.



- Fix Next Test Due Date calculation for the device

The screenshot displays a software interface for device management. The left sidebar shows a tree view of the facility hierarchy, with the path: CI AMP/FIT > Beverly Hills Facility > 06-REFORMER-UNIT: Reformer Unit > 01-SIF-LAHH107 > LT107A. The main panel shows the 'Device O - M View' for 'LT107A LT107A for SIFLAH107 T101 Gasoline Stabilizer'. The 'Device Data' section lists various attributes such as Device ID, Service Description, Device Type, Manufacturer, and Certification. The 'Testing Data' section shows test requirements for On-Line and Off-Line testing. A table below this section is highlighted with a red border, showing the following data:

Device Testing:	Last Test Date	Test Interval	Next Test Due Date
On-Line	Sep-01-2020	1 mo	Oct-01-2020
Off-Line	May-06-2020	3 yr	May-06-2023

The 'Test Status' is indicated as 'Current'.

## General

- Display the Site parameter options in correct alpha-numeric order.

Fields marked with a red \* (asterisk) are required.

Site \* Beverly Hills Facility

Unit \*

Severity \*

Equipment

24 Items found

Boiler

BOILER-EQ-23

C234

Selected 0 Equipment of 24

Show Bypassed Scenarios

Generate

	0	1	
Severity	Common Occurrence - Typically yearly	Similar event has occurred or is likely to occur in the process	Similar event
	0	0	0

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# Fixes

## Instrumented Systems

- Fixed space gap between the headers and the contents of each of the html sub-blocks in the SIF Testing Requirements container.

The screenshot displays the 'Instrumented Systems' application interface. On the left is an 'Object Tree' with a search bar and a list of nodes including 'Royal Dutch Shell - Whale', 'Import test site', 'SIFs', and 'Equipment'. The main area shows the 'SIF Overview' for 'WH-RU location'. Below this, the 'SIF Testing Requirements' section is visible, containing a table with testing intervals and logic solvers. A red box highlights the table content.

SIF Testing Intervals		
Tag	PTI	
FST-0341A	3 mo	

Logic Solver		
Tag	PTI	
YOKOGAWA-LOGIC-SOLVER	10 yr	

Outputs		
Tag	PTI	PSTI
TCV-0341A3	1 yr	no data

Partial Stroke Testing Required? No

LOPA Reference

Drag a column header and drop it here to group by that column

LOPA Barrier ID	LOPA ID	LOPA Barrier Description
There is no data on current		

50 items per page

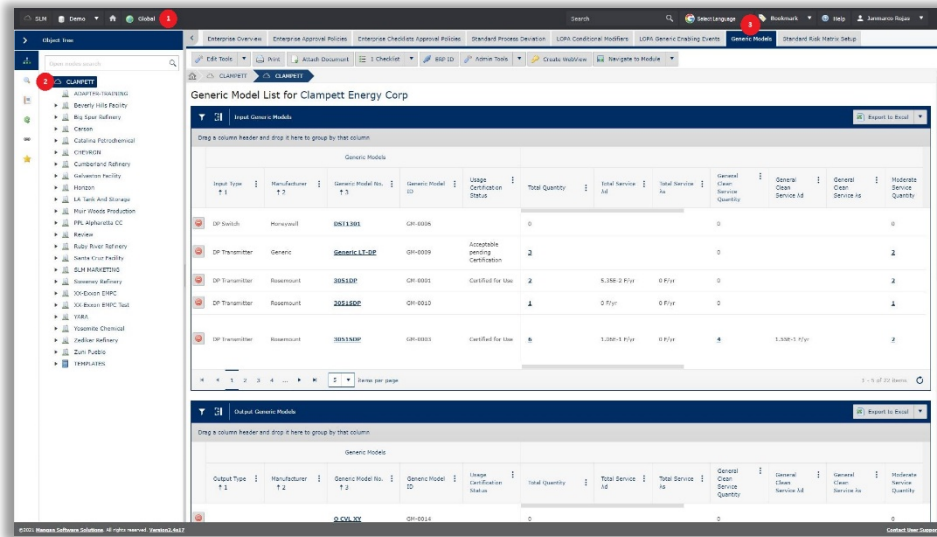
Associated Barriers

# 2.4s18 Release Notes

## Refinements & Usability Gap

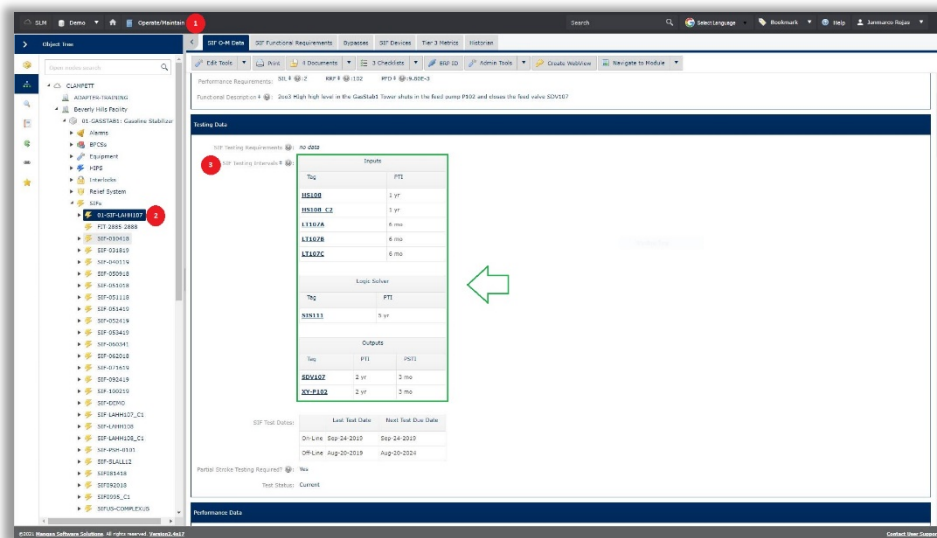
### Global

- Adding the *Generic Models* template to the *Global* module.



### Operate/Maintain

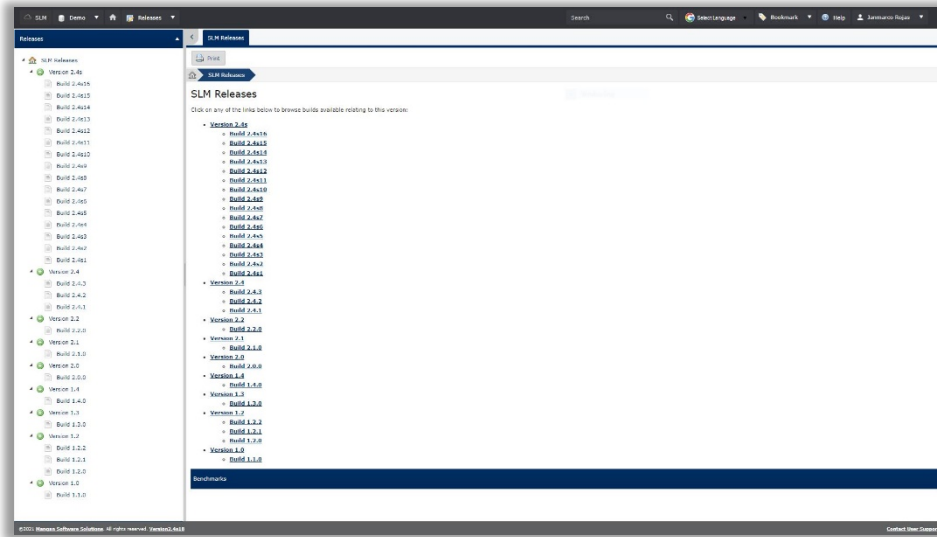
- Replicating the *SIF Testing Intervals* table used by *Instrumented Systems* in the *OMI* module (SIF level).



# General Fixes

## Releases

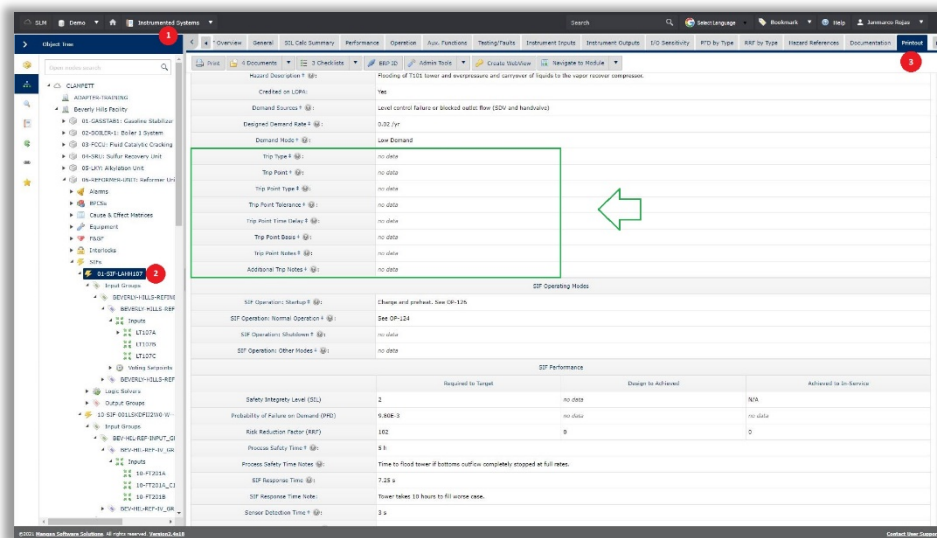
- Fixed *SLM Releases* ordering.



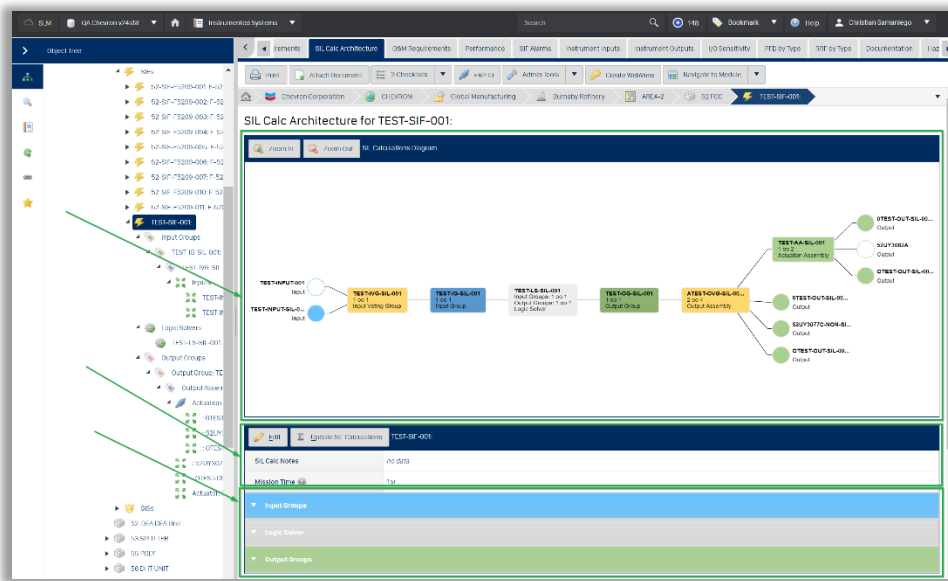
# New Features

## Instrumented Systems

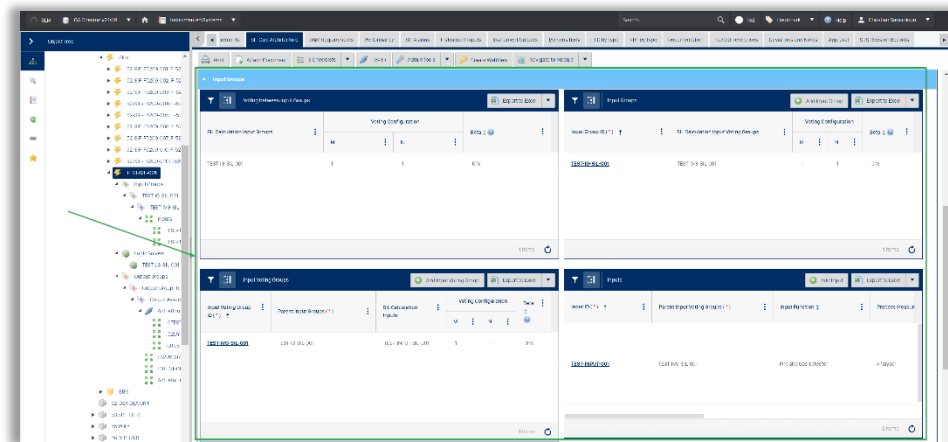
- Fixed printout fields for the *SIF* object.



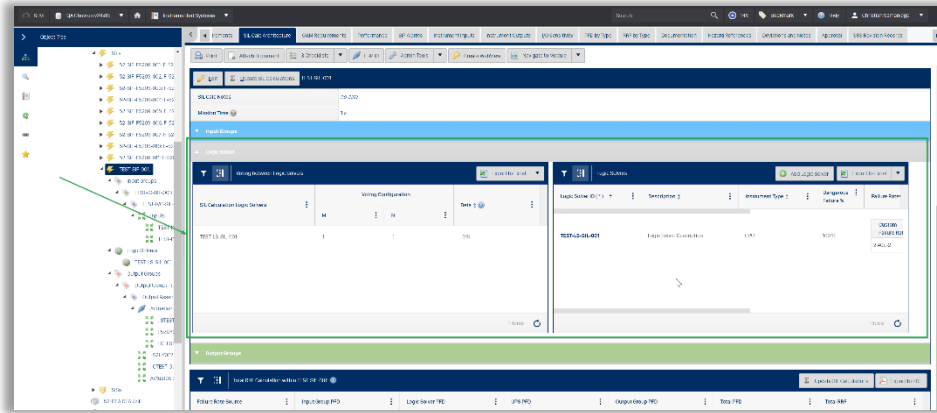
- In *SIL Calc Architecture* tab, there are features added the same at *SIL Calc Summary* tab in CORE.



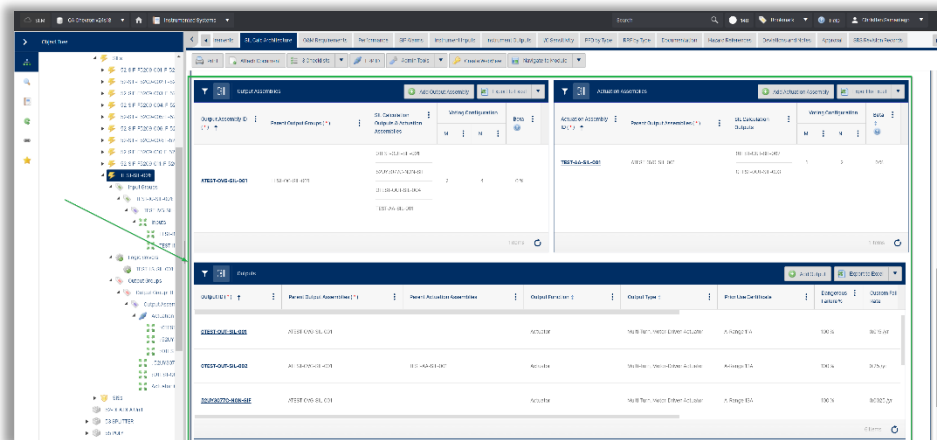
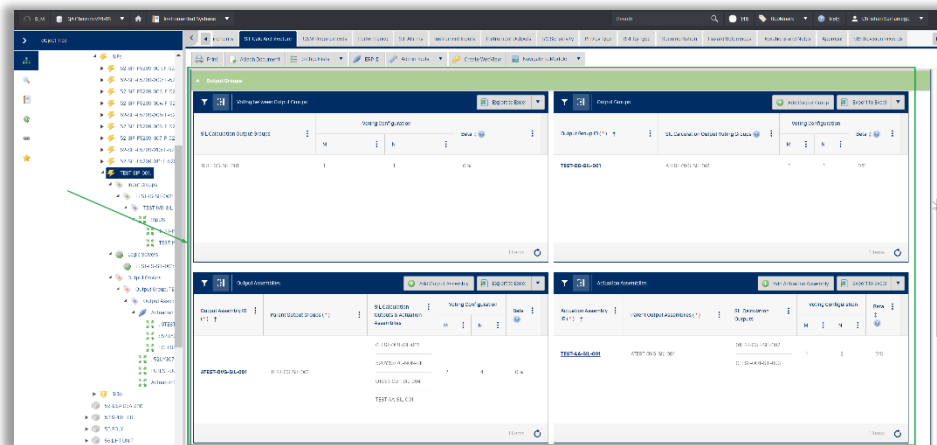
- In *SIL Calc Architecture* tab, the *Input Groups* section is composed of *Voting between Input Groups*, *Input Groups*, *Input Voting Groups* and *Inputs* tables.



- In *SIL Calc Architecture* tab, the *Logic Solver* section is composed of *Voting between Logic Solvers* and *Logic Solvers* tables.

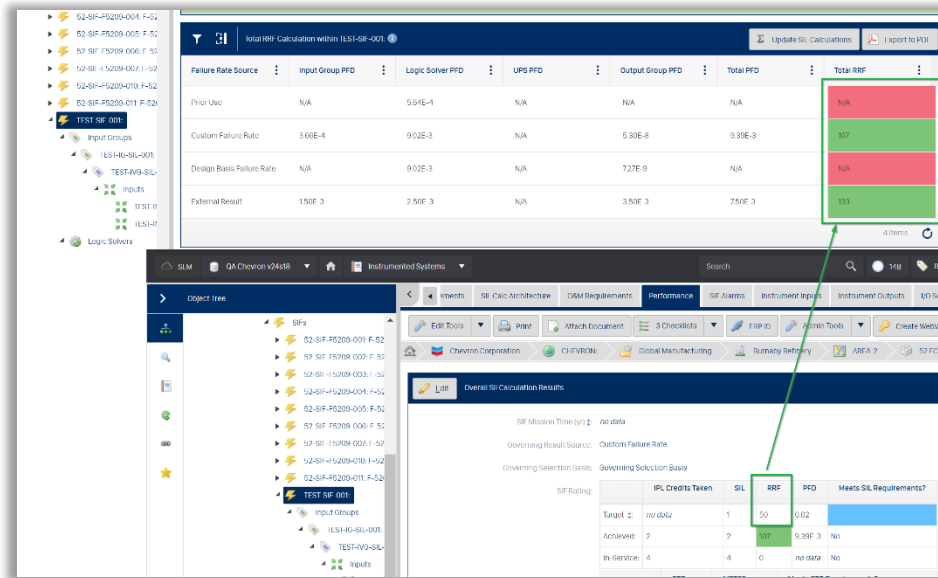


- In *SIL Calc Architecture* tab, the *Output Groups* section is composed of *Voting between Output Groups*, *Output Groups*, *Output Assemblies*, *Actuation Assemblies (CHEVRON)* and *Outputs* tables.

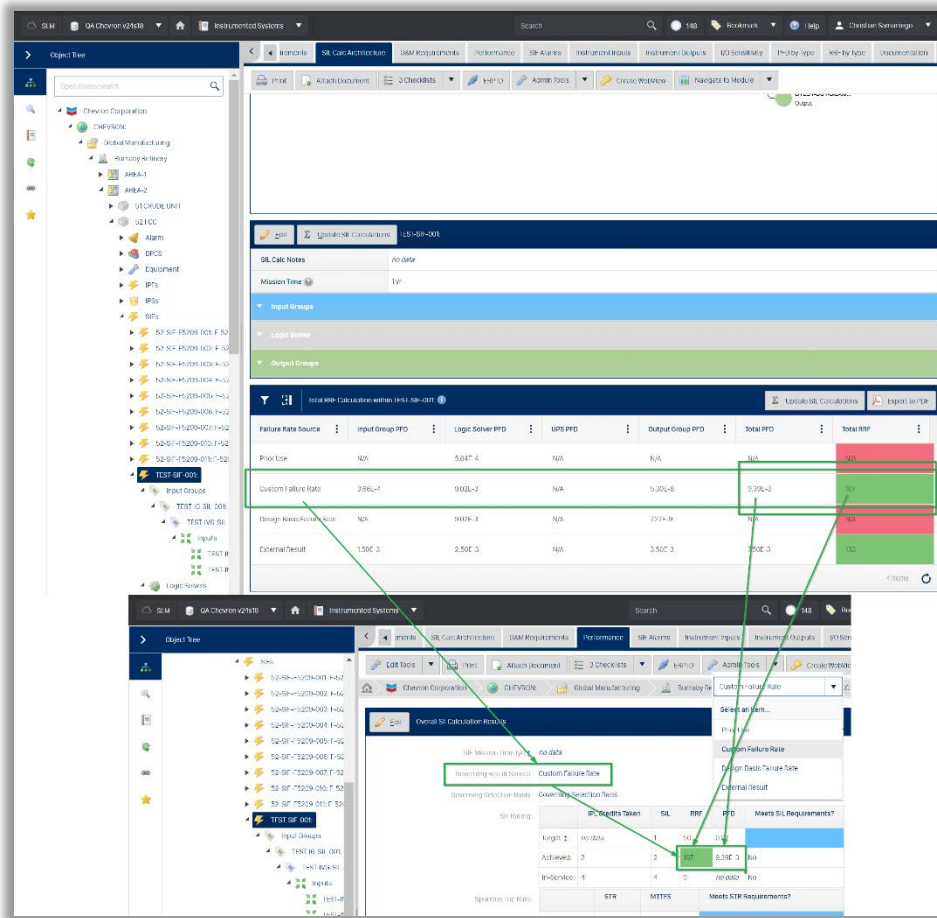


- Added color conditions at Total RRF column at Total RRF Calculation table using the target RRF field from Performance Tab.

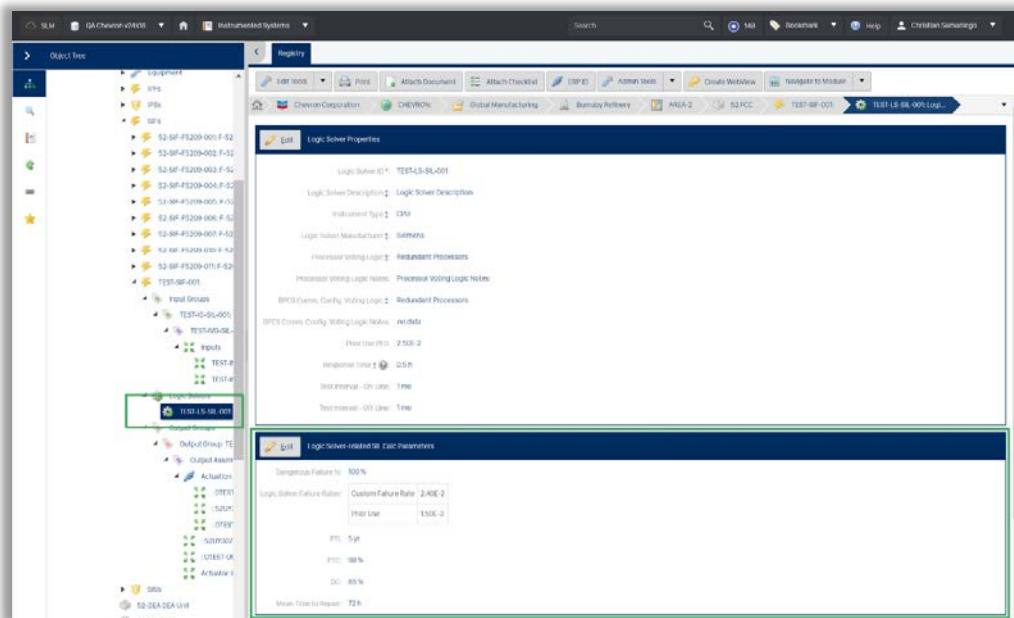
- The background cell color is set to red if the calculated RRF is less or equal than target RRF.
- The background cell color is set to green if the calculated RRF is greater than target RRF.



- Added *Governing Result Source* and *Governing Selection Basis* fields at *Performance* Tab.
- The fields allow update *Achieved RRF* and *Achieved PFD* fields from selection of *Total RRF* in *SIL Calculation Failure Rate Source*.



- Added *SIL Calc Parameters* in Registry Logic Solver.



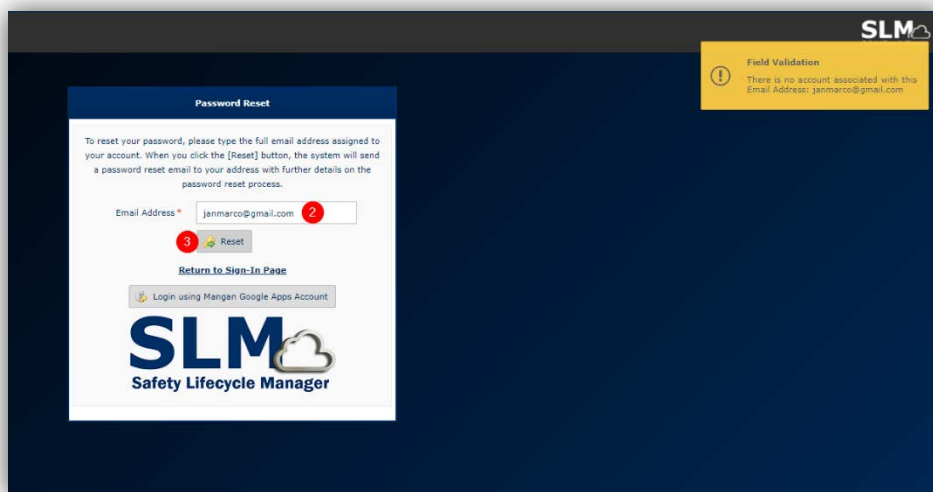
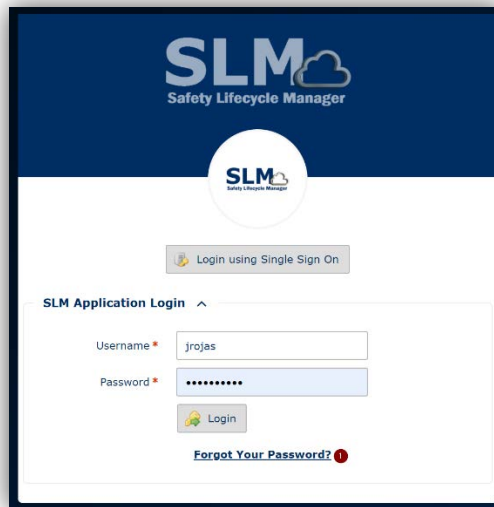
# 2.4s19 Release Notes

The release notes for SLM 2.4s19 provide an overview of the release and document new features, improvements and known issues.

## Refinements & Usability Gap

### Password Reset

- Displaying an error message when the *Email Address* is not associated with any user account.





- *SIF List* report has new columns (*SIF description*, *Input PTI* and *Output PTI* columns).

The screenshot shows the SIF List report for the 'Bevelly Hills Facility' at '01-GASSTAB1: Gasoline St...'. The report is filtered for 'SIFs within 01-GASSTAB1: Gasoline Stabilizer 1'. The main table has the following columns: SIF ID, Hazard #, SIF Description, Hazard Description, Trip Point, and Process Safety Time. A green box highlights the 'SIF Description' column, and a green arrow points to the 'SIFs within 01-GASSTAB1: Gasoline Stabilizer 1' filter.

SIF ID	Hazard #	SIF Description	Hazard Description	Trip Point	Process Safety Time
01-SIF-LAHH107		GasStab1 Tower High Level	Flooding of T101 tower and overpressure and carryover of liquids to the vapor recover compressor.	125 barg deviation psig	5h

The screenshot shows the detailed SIF List report for the same facility and filter. The table includes columns for Tag, PTI, Sensor Voting, Input Voting, Group, Logic Solver, P&ID Reference, Outputs, Final Voting, Element Output Logic, and Group. Two green boxes highlight the 'PTI' column and the 'Final Voting' column, with green arrows pointing to them from the filter area above.

Tag	PTI	Sensor Voting	Input Voting	Group	Logic Solver	P&ID Reference	Outputs	Final Voting	Element Output Logic	Group
LT107A	3 yr							XY-P103	2 yr	
LT107B	3 yr	2oo3						SDV107	2 yr	
LT107C	3 yr		2oo2							
HS108	3 yr					PID-00002				
HS108_C2	3 yr	2oo2		SIS111		PID-00275				
REV-HIL-REF-IV-GRO-0001-2_SIL_1	2.5 yr					PID-00001				
REV-HIL-REF-IV-GRO-0001	2.5 yr	1oo2	1oo1							

SIF ID	PHA Hazard #	SIF Description	Hazard Description	Trip Point	Process Safety Time	SIF Response Time	Loop Response Time	Safety Critical (YES/NO)	IL Type	RRF Required	SIL Required	SIL Achieved	RRF	Input Tag	PTI	Sensor Voting	Input Group Votes	Logic Solver	P&ID Reference	Outputs Tag	PTI	Final Element Logic	Output Group Logic	Interlock Description
SIF-051118				0				Yes	None Selected	0	N/A	0		33-FT-81007A_C2		1oo3	1oo1	LS-SIF-051118_SIL_1	PID-0002	BEVERLY-HILLS-REFINERY-OV_GROU-P-0084-1_SIL_1		1oo1	1oo2	
SIFUS-COMPLEX-US		Complex SIF test		0				Yes	None Selected	0	N/A	0		BEVERLY-HILLS-REFINERY-OV_GROU-P-0096-1_SIL_1 BEVERLY-HILLS-REFINERY-OV_GROU-P-0096-2_SIL_1 HS-111		TBD	1oo2	SIS111	PID-48275	XV160		1oo5	1oo1	
														HS108 TI111C TI111D TI111H TI111G TI111B TI111E TI111A 33-TT-478 PT111B PT111A	3 yr	2oo2		PID-0005 PID-0001	XV127 XV126 XV124 XV176 XV114 XV119 XV-111 XY-111					
SIF-062018				0				Yes	None Selected	0	N/A	0		BEVERLY-HILLS-REFINERY-OV_GROU-P-0072-1_SIL_1		1oo1	1oo1	LS-SIF-062018_SIL_1		BEVERLY-HILLS-REFINERY-OV_GROU-P-0089-1_SIL_1		1oo1	1oo2	

- Updated label field at Functional Requirements section and added Caution sign (w/ tool tip) to the left of RRF, if Achieved RRF is less than Target RRF.

The screenshot displays the 'SIF Overview - FIT-2885-2888' window. In the 'SIF Functional Requirements' section, the 'Performance Achieved' field is 'SIL # @ N/A'. The 'RRF # @ 3' field is highlighted with a green box and has a yellow caution icon to its left. A tooltip for the caution icon is visible, showing 'TEST321 Input Groups: 00 0 Output Groups: 00 0 Logic Solver'. Below this, the 'Process Safety Time' is 'No Data' and the 'Equipment' is 'GASOLINE-STABILIZER1'.

- Enable update SIL calculation using Voting between Logic Solvers configuration.

**Voting Configuration**

SIL Calculation Logic	M	N	Beta #
LS-SIF081418_SIL_1 SIS111	1	2	15 %

**Logic Solvers**

Logic Solver ID (*)	Description #	Instrument Ty
LS-SIF081418_SIL_1	TEST 1	AI Module
SIS111	TEST 2	AO Module

**Total RRF Calculation within 01-SIF-LAH1107**

Failure Rate Source	Input Group PFD	Logic Solver PFD	UPS PFD	Output Group PFD	Total PFD	Total RRF
Prior Use	N/A	6.32E-5	N/A	1.59E-1	N/A	N/A
Custom Failure Rate	8.72E-3	3.31E-5	N/A	3.78E-3	1.25E-2	80
Design Basis Failure Rate	N/A	3.31E-5	N/A	2.07E-2	N/A	N/A
External Result	4E-4	4E-4	N/A	3.40E-3	4.20E-3	238

**Voting Configuration**

SIL Calculation Logic	M	N	Beta #
LS-SIF081418_SIL_1 SIS111	2	2	0 %

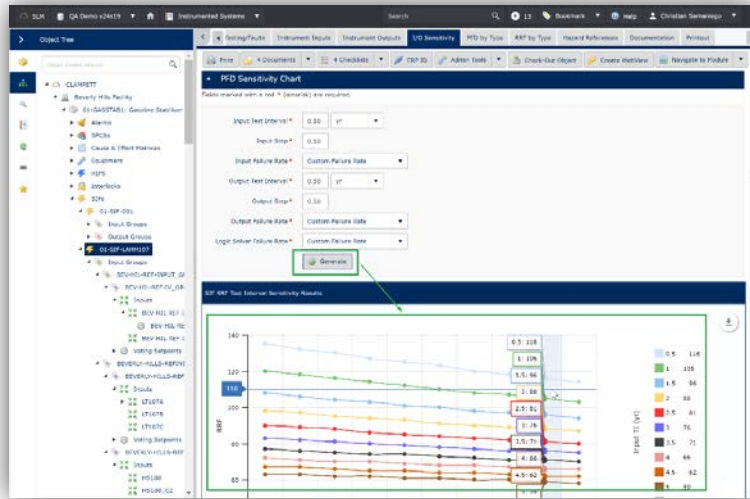
**Logic Solvers**

Logic Solver ID (*)	Description #	Instrument Ty
LS-SIF081418_SIL_1	TEST 1	AI Module
SIS111	TEST 2	AO Module

**Total RRF Calculation within 01-SIF-LAH1107**

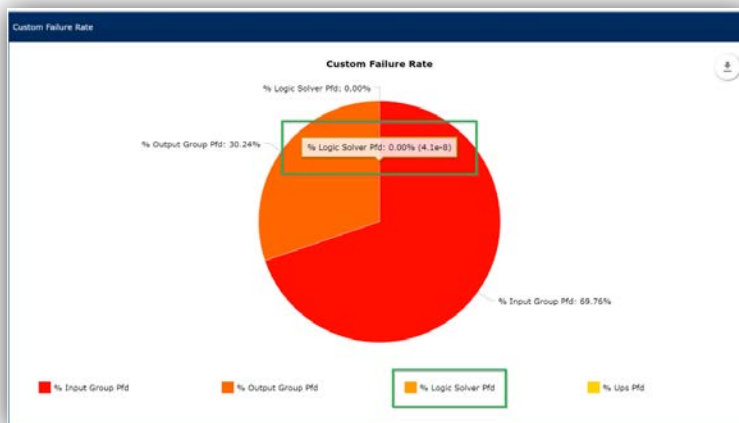
Failure Rate Source	Input Group PFD	Logic Solver PFD	UPS PFD	Output Group PFD	Total PFD	Total RRF
Prior Use	N/A	6.55E-4	N/A	1.59E-1	N/A	N/A
Custom Failure Rate	8.72E-3	4.07E-4	N/A	3.78E-3	1.29E-2	77
Design Basis Failure Rate	N/A	4.07E-4	N/A	2.07E-2	N/A	N/A
External Result	4E-4	4E-4	N/A	3.40E-3	4.20E-3	238

- The updated PFD values of Logic Solvers in SIL Calculation are displayed at I/O Sensitivity, PFD by Type and RRF by Type tabs.



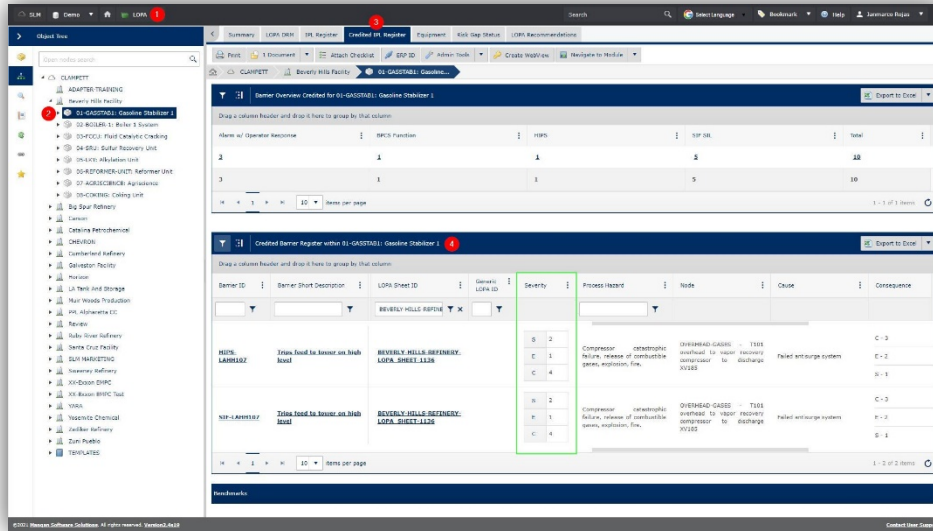
The screenshot shows the 'PFD by Type' table for unit 01-SIF-LAH107. The table lists various failure modes and their corresponding PFD values. A green box highlights the 'Logic Solver PFD' column.

Failure Mode	Input Group PFD	Logic Solver PFD	UPS PFD	Output Group PFD	Total PFD	Total RRF
Power Loss	N/A	9.58E-8	N/A	9.58E-8	N/A	1.0E+1
Power Loss	N/A	9.58E-8	N/A	9.58E-8	N/A	1.0E+1
Custom Failure Rate	8.72E-3	4.13E-8	N/A	3.76E-2	1.24E-2	80
Design Basis Failure Rate	N/A	4.13E-8	N/A	2.02E-2	N/A	50.4
External Result	4E-4	4E-4	N/A	3.46E-3	4.2E-3	236

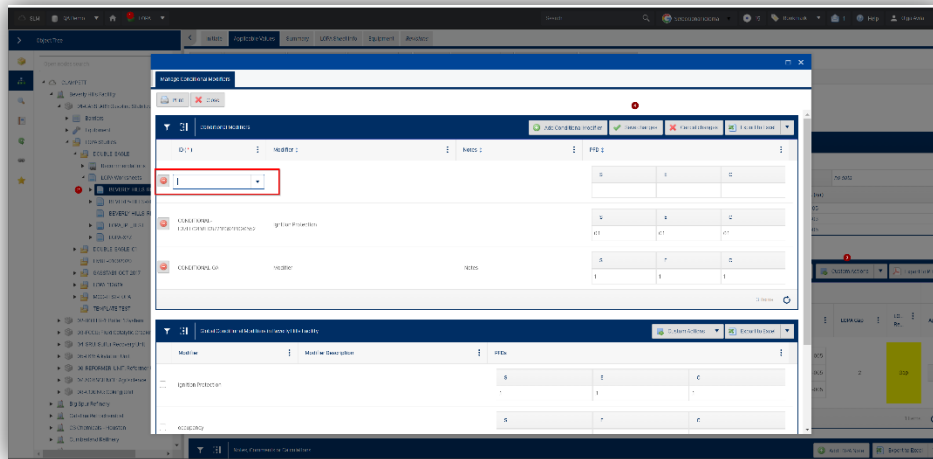


# LOPA

- Severity column has been added to the Credited Barrier Register table (Credited IPL Register).



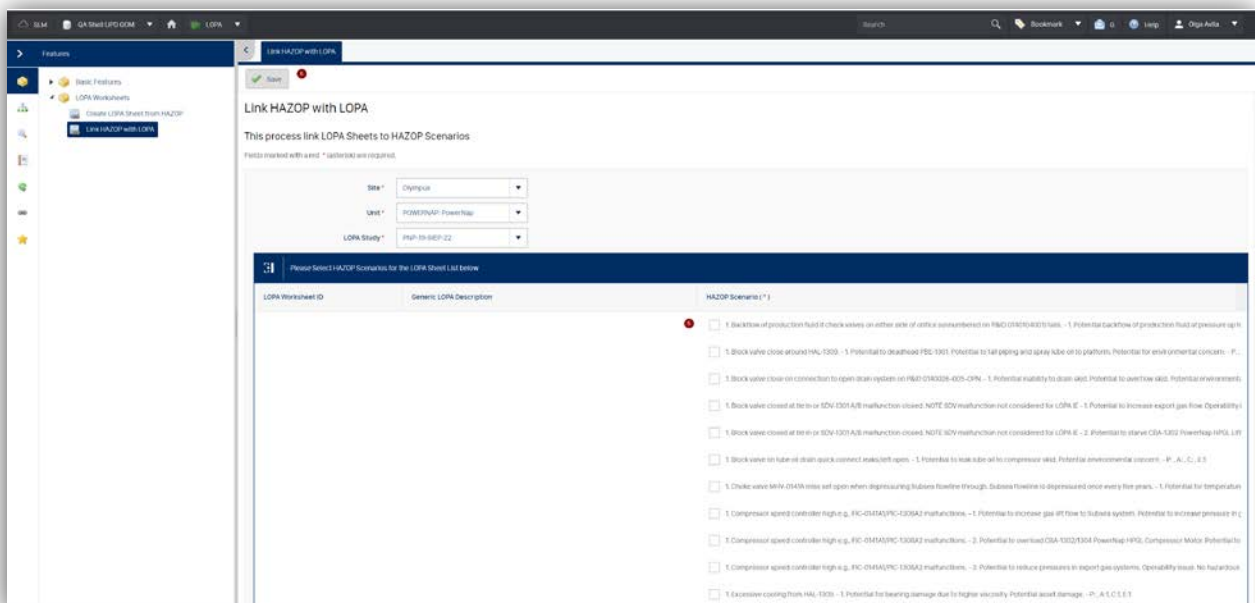
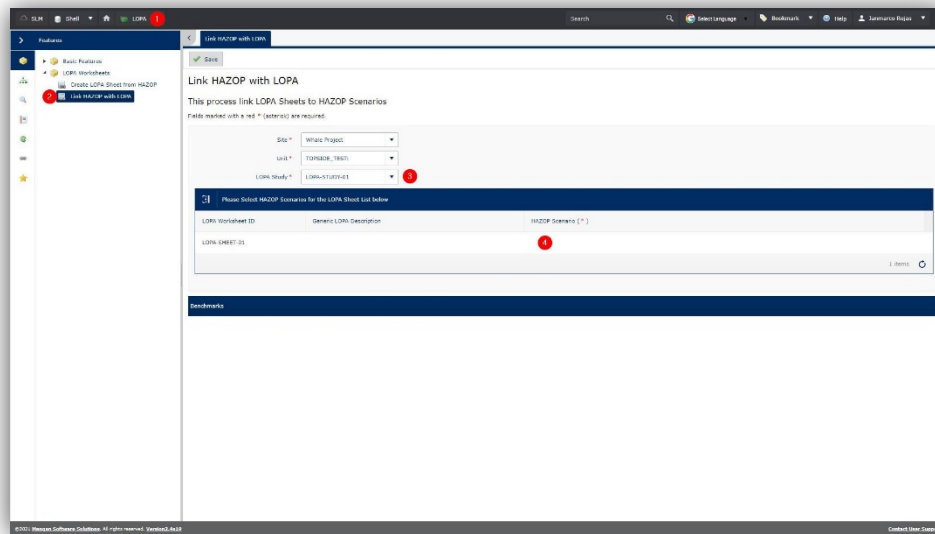
- Made Conditional Modifier and Enabling ID field as a combo box of existing objects of the respective type within the current scope, with the ability to type in a new object id as well.



# Fixes

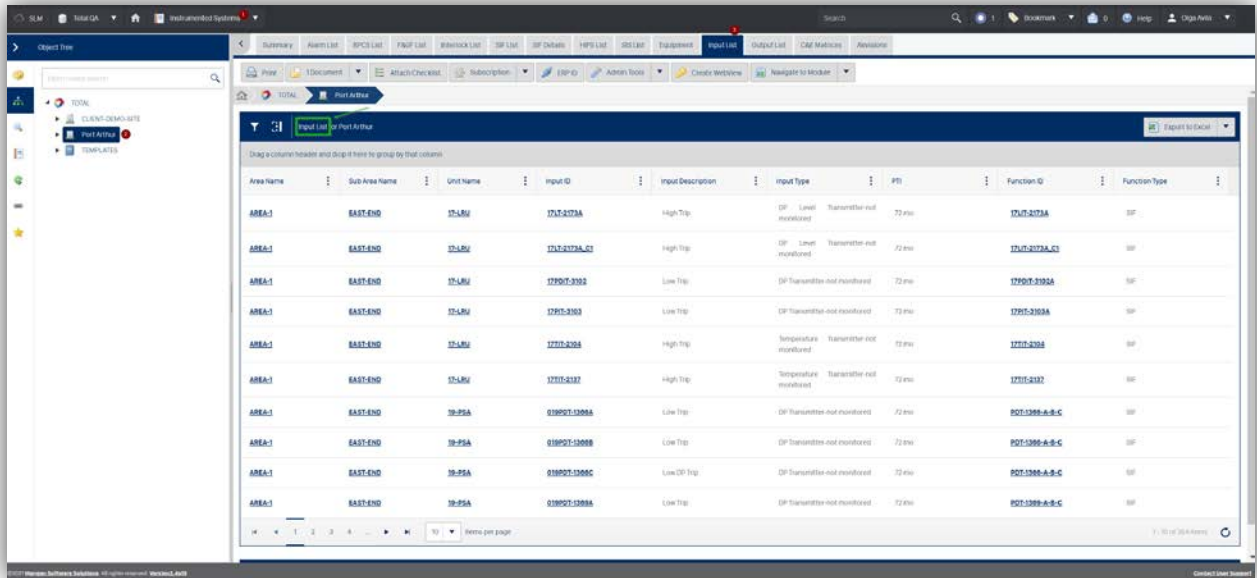
## LOPA

- The feature *Link HAZOP with LOPA* has been fixed. The old functionality was not showing all the HAZOP Scenarios after selecting the filters.



## Instrumented Systems

- Fixed table name for the *Input List*.



The screenshot displays a software interface with a table titled "Input List of Port Arthur". The table contains the following data:

Area Name	Sub Area Name	Unit Name	Input ID	Input Description	Input Type	PSI	Function ID	Function Type
AREA-1	EAST-END	175-LBU	175T-2173A	High Trip	DP Level Transmitter not monitored	72psi	175T-2173A	SP
AREA-1	EAST-END	175-LBU	175T-2173A-C1	High Trip	DP Level Transmitter not monitored	72psi	175T-2173A-C1	SP
AREA-1	EAST-END	175-LBU	175T-2192	Low Trip	DP Transmitter not monitored	72psi	175T-2192	SP
AREA-1	EAST-END	175-LBU	175T-2193	Low Trip	DP Transmitter not monitored	72psi	175T-2193	SP
AREA-1	EAST-END	175-LBU	175T-2194	High Trip	Temperature Transmitter not monitored	72psi	175T-2194	SP
AREA-1	EAST-END	175-LBU	175T-2192	High Trip	Temperature Transmitter not monitored	72psi	175T-2192	SP
AREA-1	EAST-END	18-PSA	018PDT-1088A	Low Trip	DP Transmitter not monitored	72psi	PDT-1088-A-A-C	SP
AREA-1	EAST-END	18-PSA	018PDT-1088B	Low Trip	DP Transmitter not monitored	72psi	PDT-1088-A-A-C	SP
AREA-1	EAST-END	18-PSA	018PDT-1088C	Low/DP Trip	DP Transmitter not monitored	72psi	PDT-1088-A-A-C	SP
AREA-1	EAST-END	18-PSA	018PDT-1088A	Low Trip	DP Transmitter not monitored	72psi	PDT-1088-A-A-C	SP

# New Features

## Instrumented Systems

- New Report: SIF Success Criteria. This report displays Inputs and Outputs objects that are contributors to the SIF's SIL Calc.

The screenshot shows a software interface for generating and viewing SIF Success Criteria reports. The main window is titled "SIF Success Criteria" and includes a "Generate" button. Below the title, there are dropdown menus for "Site" (Catalina Petrochemical) and "Unit" (CTU-REF: Catalytic Reform...). A table titled "SIF Success Criteria within CTU-REF: Catalytic Refor..." displays the following data:

SIF ID	SIF Description	Inputs	Outputs
SIF-001A	Flow Control Loop	23-FI-1200 23-FI-120A	23-UV-9750 23-UV-975A
SIF-001B	Flow Control Loop	23-FI-1200 23-FI-120A	23-UV-9750 23-UV-975A
SIF-002	Pressure Control Loop	23-FI-125E 23-FI-125C 23-FI-1250	23-UV-9750 23-UV-975A
SIF-003	Level Control Loop	23-LI-120E 23-LI-120C 23-LI-1200	23-UV-9150 23-UV-915C 23-UV-9150
SIF-004	No. 2 Interheater High Outlet Temperature via FT-81011A/B/C (Low) does XV-82013A and XV-82013B	23-TT-81011A 23-TT-81011B 23-TT-81011C	23-XV-82013A 23-XV-82013B
SIF-005	ULP - Low H2 Flow via FT-82007A (Low) does XV-82013A and XV-82013B	23-FI-81007A	23-XV-82013A 23-XV-82013B

The interface also includes a sidebar with a "Reports" menu, a search bar, and a footer with copyright information: "© 2022 Emerson Software Solutions. All rights reserved. Version 2.0.12".

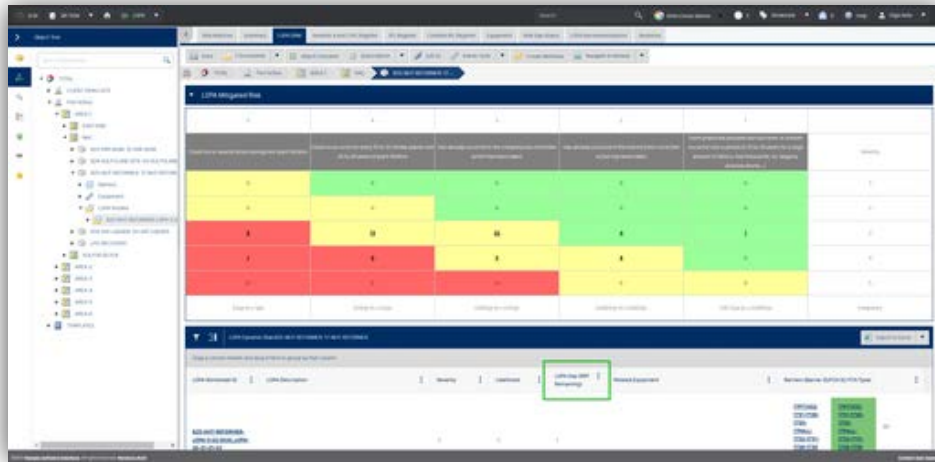


# 2.4s20 Release Notes

These release notes for SLM 2.4s20 provide an overview of the release and document new features, improvements and known issues.

## LOPA

- Changed header "RRF" to "LOPA Gap (RRF Remaining)" in LOPA Dynamic Risk report for all clients



# New features

## Instrumented Systems

- New template and report (SSRS report) was created for Core instance, using the SIF Design SRS template and report as a reference

Name	Status	Date
SIF Entities	Active	1/1/2018
SIF Entities (1)	Active	1/1/2018
SIF Entities (2)	Active	1/1/2018
SIF Entities (3)	Active	1/1/2018
SIF Entities (4)	Active	1/1/2018
SIF Entities (5)	Active	1/1/2018
SIF Entities (6)	Active	1/1/2018
SIF Entities (7)	Active	1/1/2018
SIF Entities (8)	Active	1/1/2018
SIF Entities (9)	Active	1/1/2018
SIF Entities (10)	Active	1/1/2018
SIF Entities (11)	Active	1/1/2018
SIF Entities (12)	Active	1/1/2018
SIF Entities (13)	Active	1/1/2018
SIF Entities (14)	Active	1/1/2018
SIF Entities (15)	Active	1/1/2018
SIF Entities (16)	Active	1/1/2018
SIF Entities (17)	Active	1/1/2018
SIF Entities (18)	Active	1/1/2018
SIF Entities (19)	Active	1/1/2018
SIF Entities (20)	Active	1/1/2018
SIF Entities (21)	Active	1/1/2018
SIF Entities (22)	Active	1/1/2018
SIF Entities (23)	Active	1/1/2018
SIF Entities (24)	Active	1/1/2018
SIF Entities (25)	Active	1/1/2018
SIF Entities (26)	Active	1/1/2018
SIF Entities (27)	Active	1/1/2018
SIF Entities (28)	Active	1/1/2018
SIF Entities (29)	Active	1/1/2018
SIF Entities (30)	Active	1/1/2018
SIF Entities (31)	Active	1/1/2018
SIF Entities (32)	Active	1/1/2018
SIF Entities (33)	Active	1/1/2018
SIF Entities (34)	Active	1/1/2018
SIF Entities (35)	Active	1/1/2018
SIF Entities (36)	Active	1/1/2018
SIF Entities (37)	Active	1/1/2018
SIF Entities (38)	Active	1/1/2018
SIF Entities (39)	Active	1/1/2018
SIF Entities (40)	Active	1/1/2018
SIF Entities (41)	Active	1/1/2018
SIF Entities (42)	Active	1/1/2018
SIF Entities (43)	Active	1/1/2018
SIF Entities (44)	Active	1/1/2018
SIF Entities (45)	Active	1/1/2018
SIF Entities (46)	Active	1/1/2018
SIF Entities (47)	Active	1/1/2018
SIF Entities (48)	Active	1/1/2018
SIF Entities (49)	Active	1/1/2018
SIF Entities (50)	Active	1/1/2018

# 2.4s21 Release Notes

These release notes for SLM 2.4s21 provide an overview of the release and document new features, improvements and known issues.

## Refinements & Usability Gap

### Authentication

- **Expired Password Security:** If the current password has expired and user attempts login, send forgot password link to the user email, and notify that account login has expired.
- **Allowed Domains Security:** Allow any users who have an account email address associated with an “Allowed Local Login Domain” to login using the Local Login feature and denied login for those account emails not in the allowed domains.

## Instrumented Systems

- Regular User with specific Approve/Reject Permission has access to add an Input Voting Group, Input, Output Voting Group or Output in SIL Calc Architecture.

The screenshot shows the 'Edit Role' form in a web application. The form has a blue header with navigation tabs: 'Edit Role', 'Module Access', 'Data Editing', 'Action Item Editing', 'Generic Model Editing', 'Documents/DMS', 'Checklists', 'Module Dashboards', 'Module Features', and 'Module Reports'. Below the header are 'Save' and 'Cancel' buttons. The main content area is titled 'Edit Role' and includes a note: 'Fields marked with a red \* (asterisk) are required.' The 'Name' field is highlighted with a green box and contains the text 'Celanese Trial'. The 'Description' field contains 'Celanese Trial'. There are three checkboxes: 'Is Default Role for New SSO?' (unchecked), 'Adapters?' (unchecked), and 'Documents?' (unchecked). Below these is a 'Role Bookmarks' section with a search bar, '0 items found', and a 'Select All' checkbox. At the bottom, it says 'Selected 0 Role Bookmarks of 0'.

The screenshot shows the 'Edit Role' form with the 'Scope Objects' dropdown highlighted by a green box, set to 'Beverly Hills Facility'. Below this is a table with two columns: 'Data Editing' and 'Permissions'. The 'Data Editing' column lists various system components, and the 'Permissions' column shows the assigned permissions for each. The first row, 'All Data Types', is highlighted with a green box and has 'Approve/Reject Permission' assigned. The other rows have 'Select an item...' as the permission.

Data Editing	Permissions
All Data Types	Approve/Reject Permission
Alarm	Select an item...
Alarm Group	Select an item...
Associated Equipment	Select an item...
Associated IPL	Select an item...
Audit/Analysis Event	Select an item...
Avoidance (P) Parameter	Select an item...
Barrier	Select an item...
Blast Wall	Select an item...
Blowout Panel	Select an item...

Data Editing - 168 Items

**Edit Account**

Save Cancel

Username \* **csamaniego\_test**  
The username must be unique and different for every account.

Password

Confirm Password

Full Name \* **Christian Samaniego Test**  
Provide the full name, usually first and last name for the account holder.

Email \* **samaniego@gmail.com**  
The email address must be unique for every account and be a real email address for the user. The email address is used for notifications as well as security verification and password reset purposes. For this reason group addresses or email lists are discouraged.

SSO ID

Account Type \* **Regular User**  
Administrators have full access to the application, including this control module and any other administrative features. Regular users are subject to role based permissions.

AER Subscribed?

Is Disabled?

Users with disabled accounts cannot log into the application.

Roles

Search  51 Items found

Select All

AmSty

CEC Enterprise Read Access

Celanese Trial

Object Tree

- CLAMPET
  - Beverly Hills Facility
    - 01-GASSTAR: Gasoline Stabilizer
      - Alarms
      - EPCs
      - Equipment
      - Causes & Effect Matrices
      - HIPIs
      - Interlocks
      - SIFs
        - 01-SIF-001
        - 01-SIF-CLAMPET107
          - Input Groups
          - Logic Solvers
          - Output Group
          - FTI-2863-2888
          - FLAME DETECTION
          - SIF-010418
          - SIF-031819
          - SIF-040119
          - SIF-050918
          - SIF-051018
          - SIF-031118
          - SIF-031419
          - SIF-032419
          - SIF-033419
          - SIF-060343
          - SIF-060318
          - SIF-071819
          - SIF-092419
          - SIF-100219
          - SIF-112619
          - SIF-03090

General SIL Calc Architecture

Voting between Input Groups

SIL Calculation Input Groups	M	N	Data	Vote
BEV-HIL-REF-INPUT_GROUP-0013	1	1		0%

Input Groups

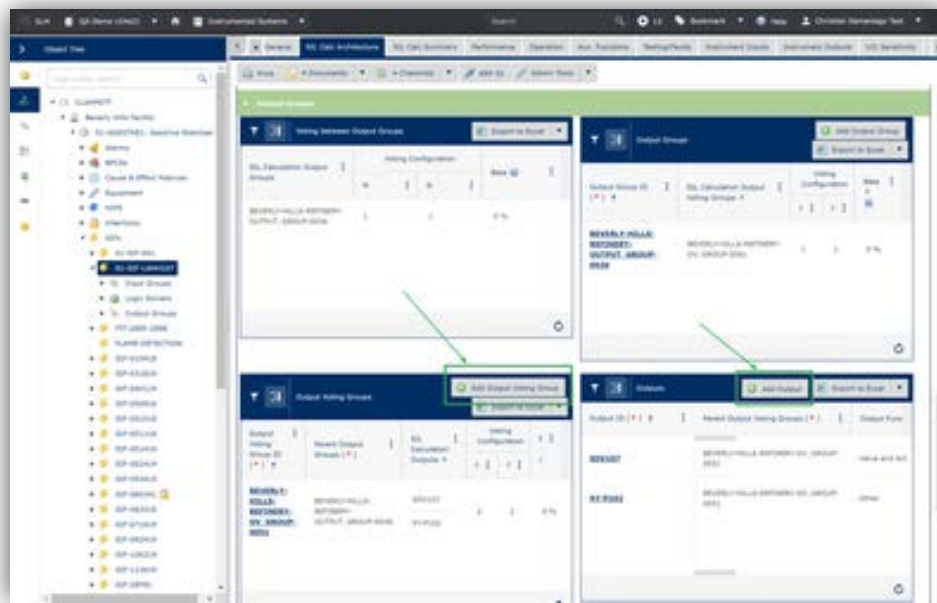
Input Group ID	SIL Calculation Input Voting Groups #	Voting Configuration	Vote
BEV-HIL-REF-INPUT_GROUP-0015	BEV-HIL-REF-IV_GROUP-0015	1 1	0%
BEVERLY-HILLS-REFINERY-INPUT_GROUP-0042	BEVERLY-HILLS-REFINERY-IV_GROUP-0044	2 2	0%

Input Voting Groups

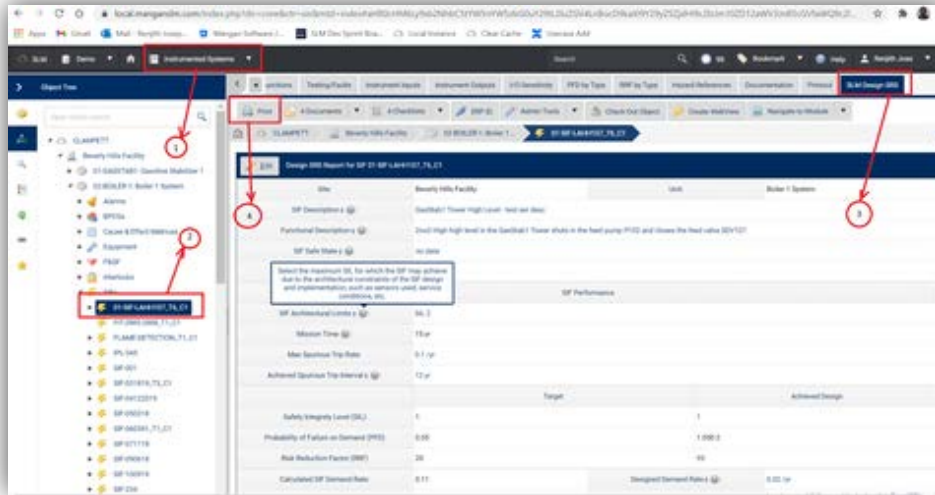
Input Voting Group ID (*)	Parent Input Groups (*)	SIL Calculation Inputs #	Voting Configuration	Vote
BEV-HIL-REF-IV_GROUP-0015	BEV-HIL-REF-INPUT_GROUP-0013	1	2	15%

Inputs

Input ID (*)	Parent Input Voting Groups (*)	Input Function
BEV-HIL-REF-IV_GROUP-0015-1_SIL_1	BEV-HIL-REF-IV_GROUP-0015	Transmitter
BEV-HIL-REF-IV_GROUP-0015-2_SIL_1	BEV-HIL-REF-IV_GROUP-0015	Transmitter
HIS108	BEVERLY-HILLS-REFINERY-IV_GROUP-0044	Manual



- The Design SRS SSRS report.



Design SRS Report  
 Clampett Energy Corp - Beverly Hills Facility - Gasoline Stabilizer 1  
 SIF : 01-SIF-001

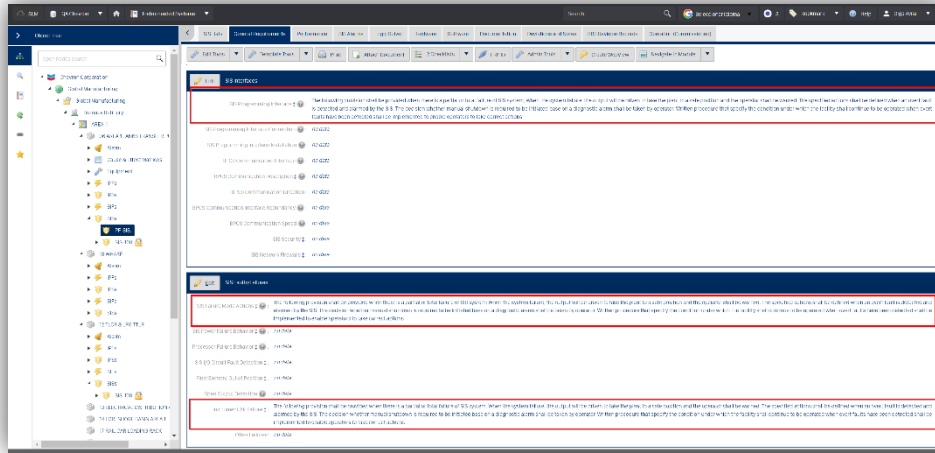


## Clampett Energy Corp Design SRS Report

01-SIF-001



- Increase the character length for the following fields: Maintenance Overrides (Bypass Switches), Instrument Air Failure, SIS Failure Mode Actions and SIS Programming Interface in Instrumented system.



## HAZOP

- Frequency column was added to HAZOP DRM

The screenshot shows a HAZOP Dynamic Risk Matrix table. A red box highlights the 'Frequency' column, which has been added to the matrix.

HAZOP Item/Issue	Severity	Consequence	Frequency	Risk	Control	Residual Risk
1. Failure of the SIS logic to detect a process upset.	5	5	5	125	High	125
2. Failure of the SIS logic to initiate a shutdown.	4	3	3	36	Medium	36
3. Failure of the SIS logic to maintain a safe state.	3	3	3	27	Medium	27
4. Failure of the SIS logic to provide an alarm.	2	2	2	8	Low	8
5. Failure of the SIS logic to provide a shutdown.	1	1	1	1	Very Low	1
Summary	1	1	1	1	Very Low	1



# 2.4s22 Release Notes

These release notes for SLM 2.4s22 provide an overview of the release and document new features, improvements and known issues.

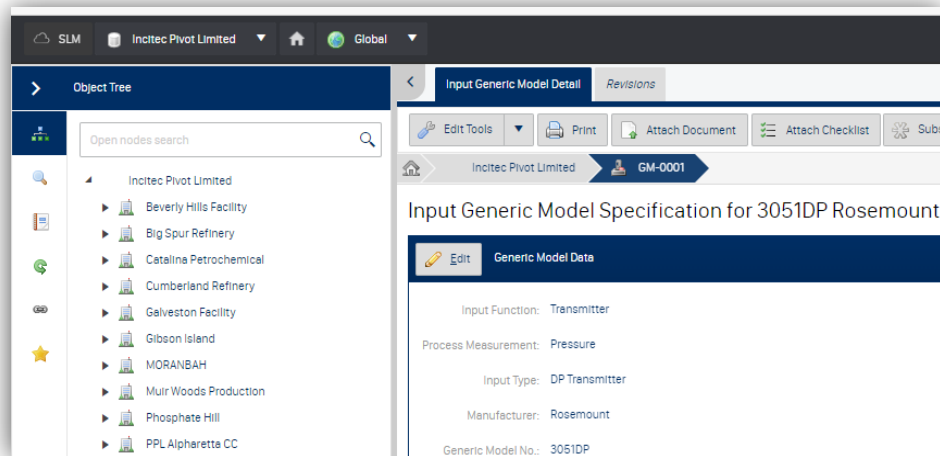
## Refinements & Usability Gap

### Adapters

- The Smart Import has been fixed for processing documents.

### Global

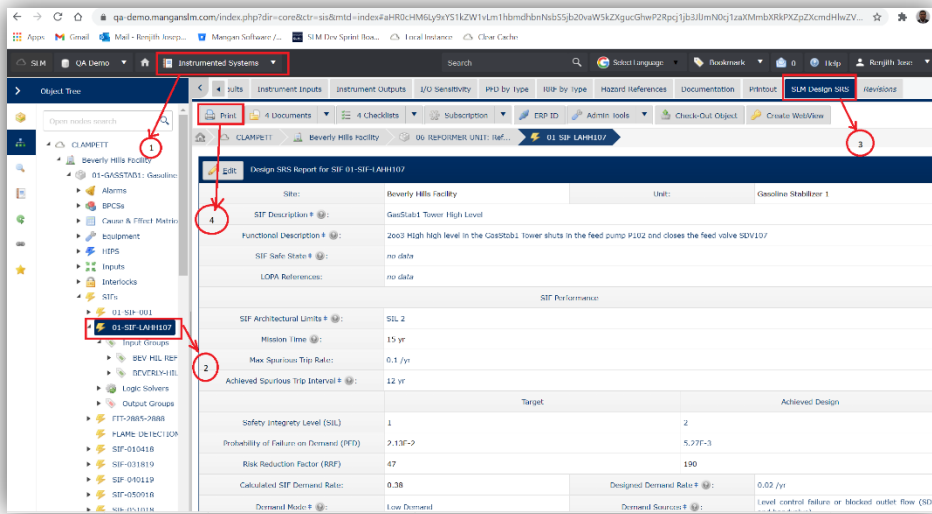
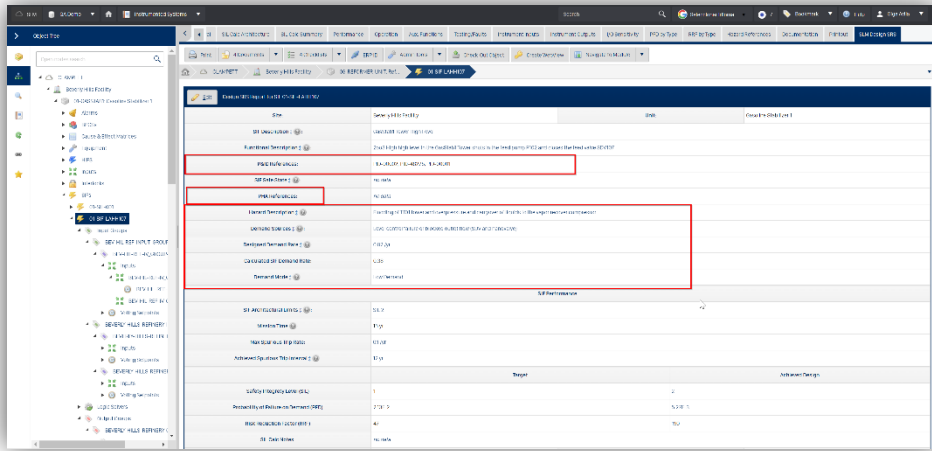
- Generic model objects now loads Generic Model template instead of default template.



### Instrumented Systems

Updating the core SLM Design SRS SSRS report with the following changes

- The ordering display of the Groups, Voting Groups, and Inputs/Outputs are now formatted in a proper hierarchical structure.
- New fields are added to the SSRS report (P&ID field at the SIF level, Hazard Description, SIF Operation: Startup, SIF Operation: Normal Operation, etc.), rename the field label for fields (PHA References), and move the location of some fields.



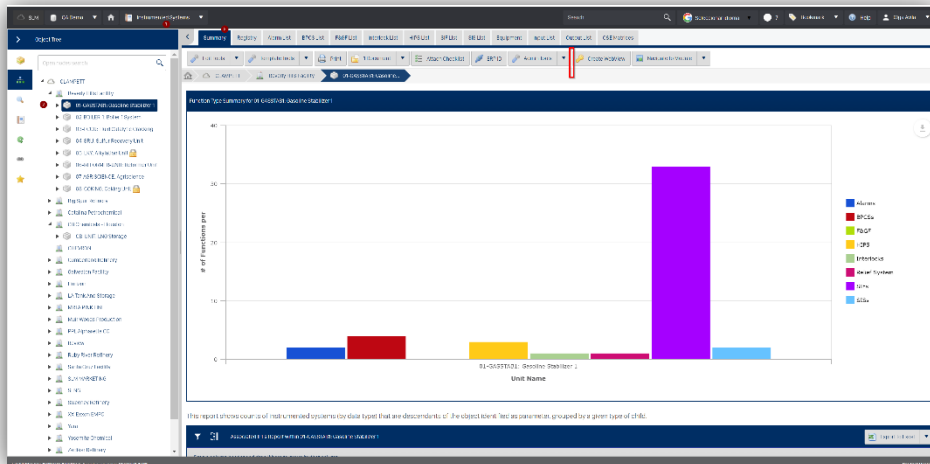
Design SPD Report  
 Caswell Energy Corp - Beverly Hills Facility - Gasline Station 1, Refinery Unit  
 SP: 01-SF-LA04107

SLM

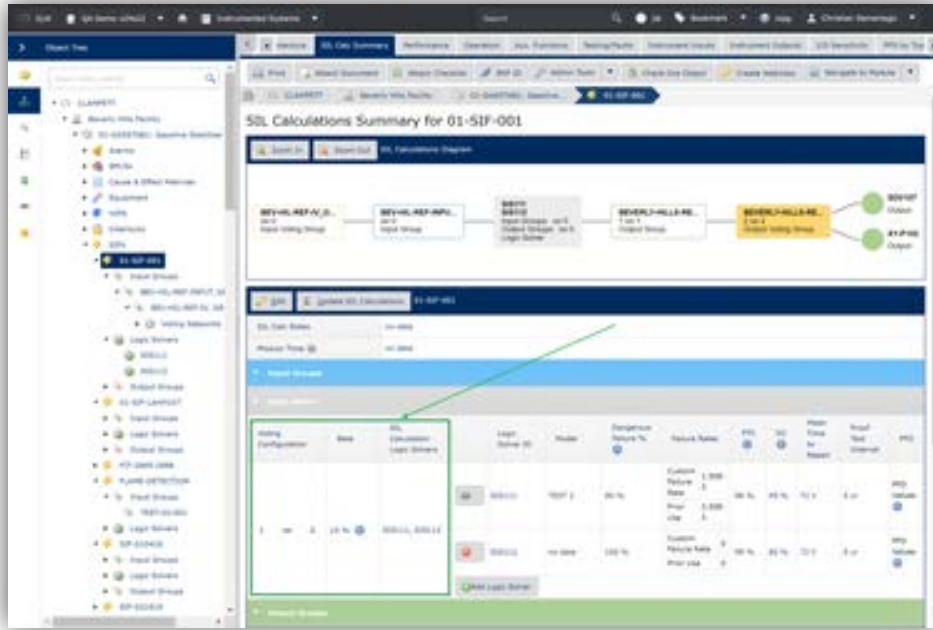
**SP: 01-SF-LA04107**

Site:	Beverly Hills Facility	Unit:	Gasline Station 1
SP ID:	01-SF-LA04107		
SP Description:	Gasline1 Tower High Level		
Functional Description/Design Intent:	2nd High high level in the Gasline1 Tower shuts in the feed pump P102 and closes the feed valve 30V-107		
SP Safety State:			
FIELD Reference:	FD-00011, FD-00002, FD-00021, FD-00005, FD-00275		
PIVA Reference:			
Hazard Description:	Flooding of T101 lower and overpressure and collapse of liquids to the vapor recovery compressor.		
Demand Sources:	Level control failure or blocked outlet line (30V and transmitters)		
Designed Demand Rate:	0.00 /yr		
Calculated SP Demand Rate:	0.38		
Demand Mode:	Low Demand		
SP Performance			
SP Architectural Limits:	34.2		
Mission Time:	10 yr		
Site Spurious Trip Rate:	0.1 /yr		
Achieved Spurious Trip Interval:	12 yr		
	Target	Achieved Design	
Safety Integrity Level (SIL)	1	3	
Probability of Failure on Demand (PFD)	0.130-000	0.270-000	
Risk Reduction Factor (RRF)	47	180	
SIL Calc Notes:			
Process Safety Time:	0.6	Process Safety Time Index:	Time to Feed Inverter if bottom valve completely stopped at full rates
Sensor Detection Time:	0.4	Trip Point:	120 mg
Trip Point Type:	Deviation	Trip Point Time Delay:	0 s
Trip Point Tolerance:	1 %	Logic Solenoid Processing Time:	250 ms

- Remove the option to check out Units in Projects.



- The *Beta*, *Voting Configuration M*, *Voting Configuration N* and *SIL Calculation Logic Solvers* fields have added to Logic Solvers collapsible section in SIF's *SIL Calc Summary* template.



## Operate/Maintain

- Adding the target SIL/RRF/PFD to *SIF O-M Data* tab on the *Operate/Maintain* module.

**SIF Functional Requirements**

SIF ID\*: SIF-001A

SIF Description: Flow Control Loop

Asset Protection Category: IPL

Protective Category:

S	E	C
No	No	No

SIF Corrective Action: no data

Performance Target: SIL: 2 RRF: 100 PFD: 0.01

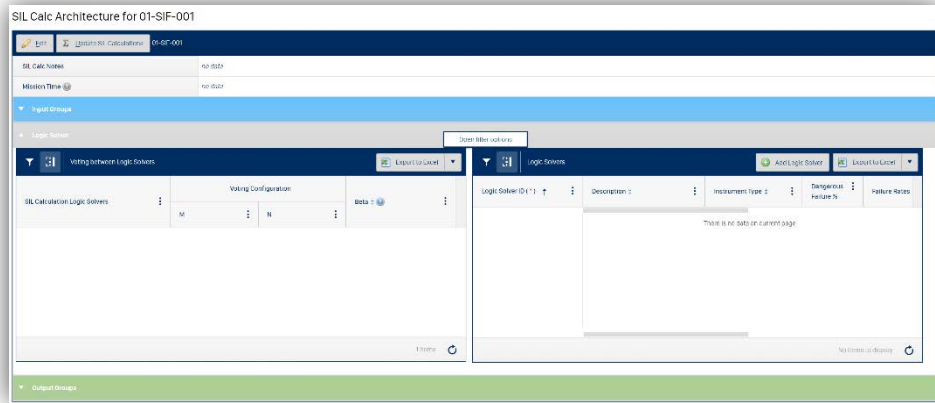
Performance Achieved: Achieved SIL: 2 Achieved RRF: 833 Achieved PFD: 1.20E-3

Process Safety Time: 20 min

Units: PF1, PF2

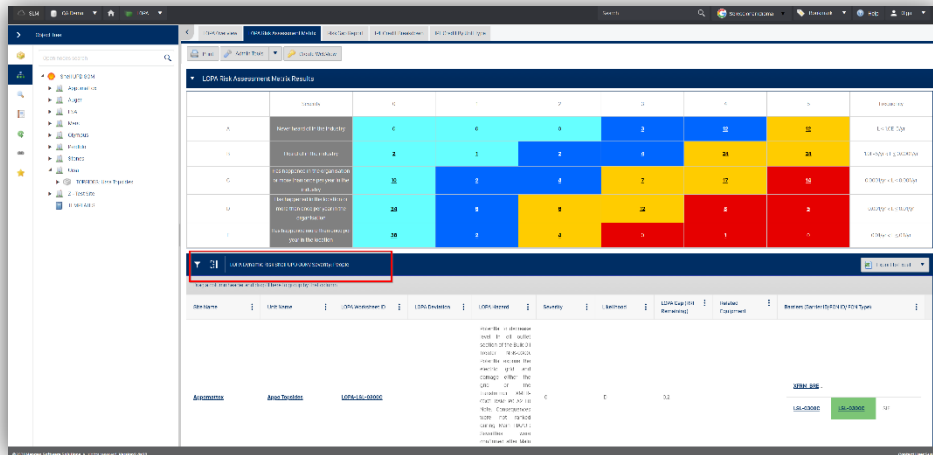
Equipment: no data

- Fixes to horizontal top scroll of SIL Calc Architecture Grids in Input Groups, Logic Solver and Output Groups.



## LOPA

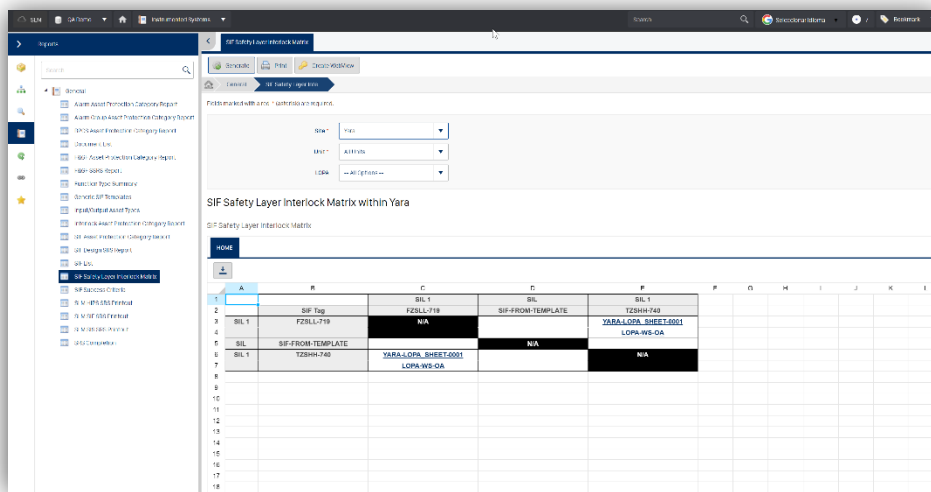
- Display Severity option on the top of LOPA Dynamic Risk report



# New features

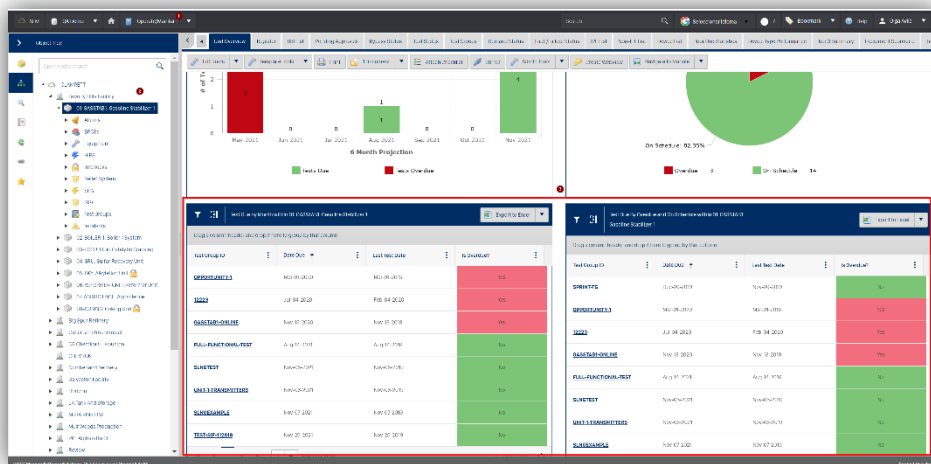
## Instrumented Systems

- A new report was added to show all Sif objects within the Unit and LOPA Study parameters selections and return a combination matrix of the Sif's. In the intersection of the same Sif object will return a value of N/A. Where the intersection is differing Sif objects, the report will query the parent barrier object of the Sif and return any LOPA Sheet object ids where the barrier object is "Applied" to the same scenario.



## Operate/ Maintain

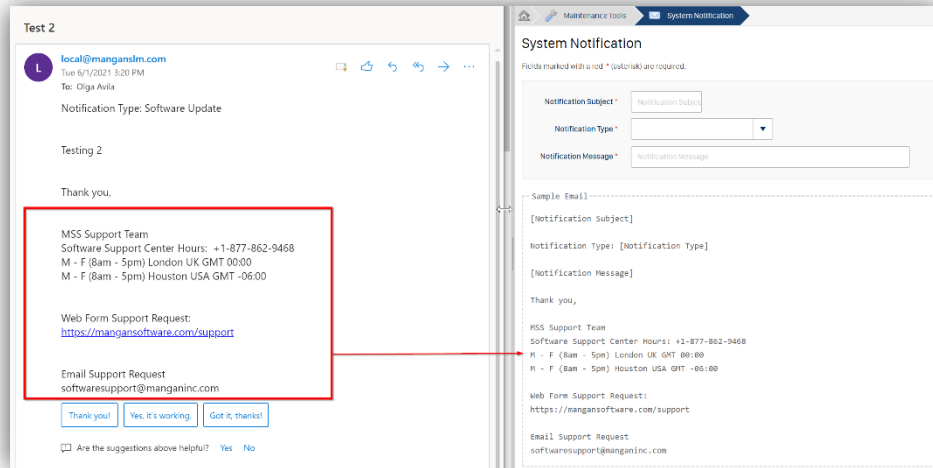
- New grids were added to show tests overdue, associated with the Graphics at the Enterprise, Site, Area, Sub Area, and Unit overview.



# Fixes

## System

- Fix PHP warning due to no declared variables in notification email body.



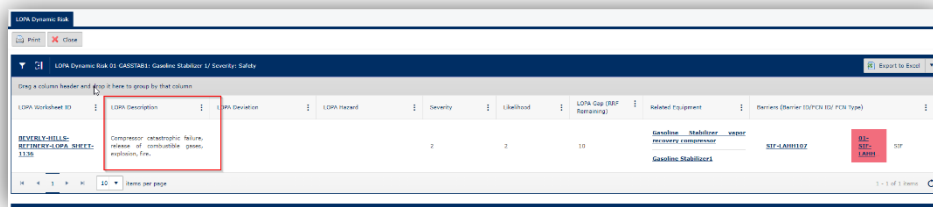
# 2.4s23 Release Notes

These release notes for SLM 2.4s23 provide an overview of the release and document new features, improvements, and known issues.

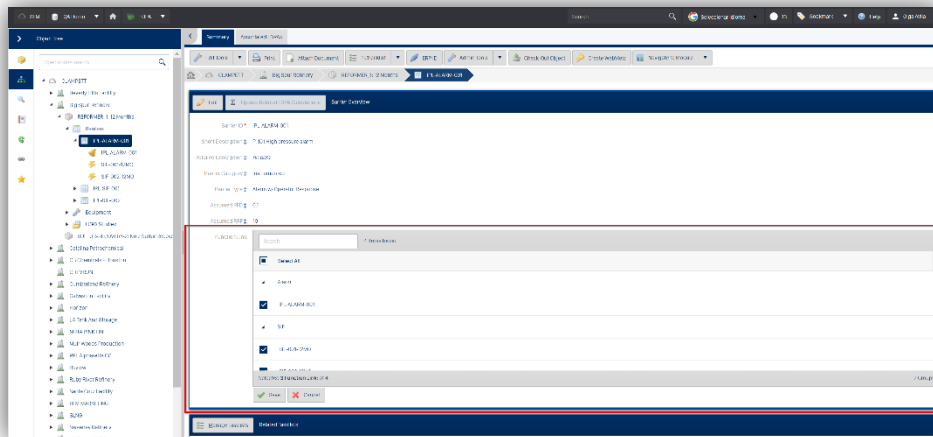
## Refinements & Usability Gap

### LOPA

- Added LOPA Description back to the scenario table from the DRM



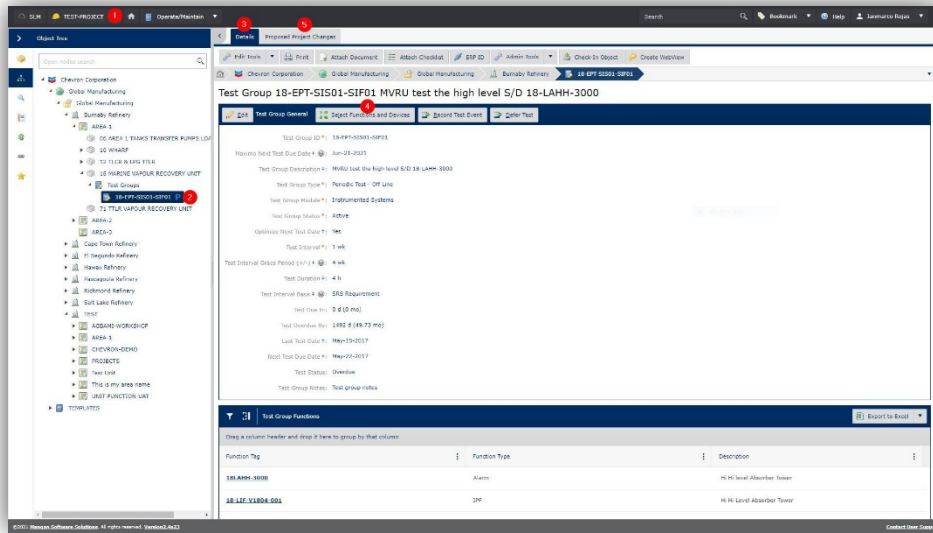
- Added the ability to link multiple functions to a barrier



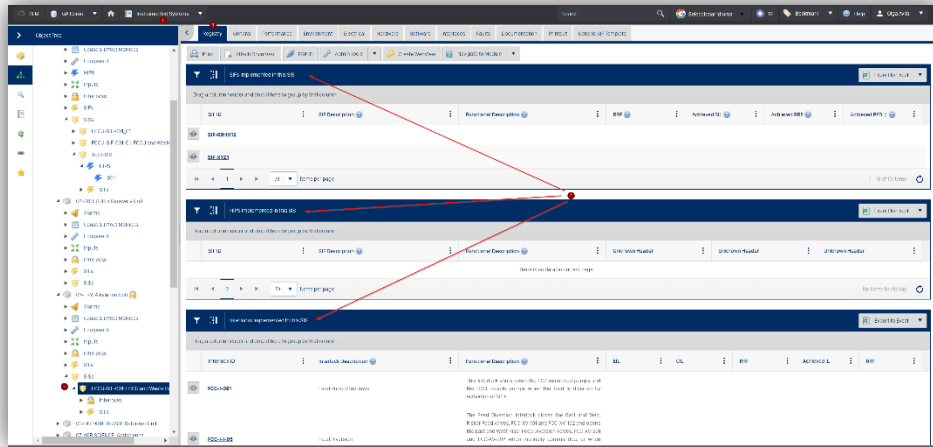


## Operate/Maintain

- Hashes displayed in the Proposed Project Changes on the associated Functions and I/O Devices were replaced by Type: Object ID values.



- Fixed the following reports, there were not populated as expected: "Interlocks Implemented in this SIS", "SIFs Implemented in this SIS" and "HIPs Implemented in this SIS"



# New features

## Instrumented Systems

- New reports in Instrumented Systems (Target vs Achieved Audit Report):
  - SIL Calc Opt:
    - SIFs Failing Target RRF.
    - SIFs Exceeding Target RRF.
  - Non-Linked Functions: Functions classified as an IPL that do not have a link to a HAZOP/LOPA Barrier/IPL.

Unit Name	SIF ID	SIF Description	SIL Target		SIL Achieved		Result Delta	Delta %	Governing Result Source
			SIL	RRF	SIL	RRF			
Apurimac	AGM-001	Combined SIL and RRF Shutdown	2	500	0	0	500	100.0%	
Alkathene Unit	ESC-SIF-001		1	10	0	0	10	100.0%	
Coltine Unit	11-SIF-002	Function like a function	4	10000	0	0	10000	100.0%	
Fluid Catalytic Cracking	FCC-SIF-01		2	100	0	0	100	100.0%	
Gasoline Stabilizer 1	04-SIF-001		1	10	0	0	10	100.0%	Custom Failure Rate

Unit Name	Function ID	Function Description	Function Type
Alkathene Unit	ESC-FAL-100	Low Flood Flow to East Tower	Alarm
Alkathene Unit	TAN-000-1	Crude Tower Distillate High Temperature	Alarm
Alkathene Unit	FCC-0-001	Feed Pump Shutdown	Interlock
Alkathene Unit	FCC-1-001	Feed Diversion	Interlock
Alkathene Unit	VNT-001	High Vibration on (2nd) VENT-001-001 shuts down compressor	Interlock
Alkathene Unit	SNT-000	Surge Protection: SDCB100-SUR100, FTT-0100, FTT-0200, FTT-0300, FTT-0400 and TCT-0000	Interlock
Alkathene Unit	VNT-002	High level shutdown (Interlock) L20H4255	Interlock
Alkathene Unit	SIF-000	Charge Heater High Outlet Temperature Shutdown	SIF
Alkathene Unit	SIF-001	Line Subcooler Tower Level via 2nd URO010A/NTC close XRB001	SIF
Alkathene Unit	SIF-000	No. 2 Interheater High Outlet Temperature via FT-0101A/D (2nd) close XV-02013A and XV-02013B	SIF
Alkathene Unit	SIF-000341	SLP - Low HD Flow via FT-0101A (2nd) close XV-02013A and XV-02013B	SIF
Boiler 1 System	SIF-31		Alarm
Boiler 1 System	BPCS-V1F		BPCS
Boiler 1 System	BPCS-V1F_C1		BPCS
Boiler 1 System	BPCS-V1F_C2		BPCS
Boiler 1 System	TST-01F-01		PLDP

## HAZOP

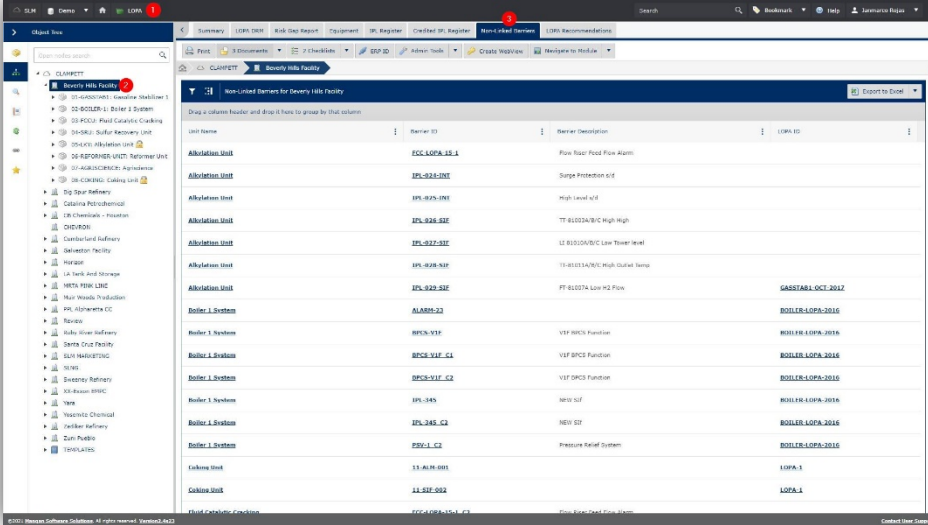
- Non-Linked Barriers Report: Barriers that have not been synched to a Function (SIF, Alarm, BPCS)

The screenshot displays a software interface for a HAZOP analysis. The main window is titled 'Non-Linked Barriers Report'. The left-hand pane shows a hierarchical tree view of the project structure, with 'Non-Linked Barriers' highlighted. The central pane contains a table with the following columns: Barrier ID, Barrier Description, and Function ID. The table lists several barriers, including 'Barrier 1001', 'Barrier 1002', 'Barrier 1003', 'Barrier 1004', 'Barrier 1005', 'Barrier 1006', 'Barrier 1007', 'Barrier 1008', 'Barrier 1009', and 'Barrier 1010'. The right-hand pane shows a search bar and a list of barrier details, including 'Barrier 1001', 'Barrier 1002', 'Barrier 1003', 'Barrier 1004', 'Barrier 1005', 'Barrier 1006', 'Barrier 1007', 'Barrier 1008', 'Barrier 1009', and 'Barrier 1010'.

Barrier ID	Barrier Description	Function ID
Barrier 1001	Barrier 1001 Description	Function 1001
Barrier 1002	Barrier 1002 Description	Function 1002
Barrier 1003	Barrier 1003 Description	Function 1003
Barrier 1004	Barrier 1004 Description	Function 1004
Barrier 1005	Barrier 1005 Description	Function 1005
Barrier 1006	Barrier 1006 Description	Function 1006
Barrier 1007	Barrier 1007 Description	Function 1007
Barrier 1008	Barrier 1008 Description	Function 1008
Barrier 1009	Barrier 1009 Description	Function 1009
Barrier 1010	Barrier 1010 Description	Function 1010

## LOPA

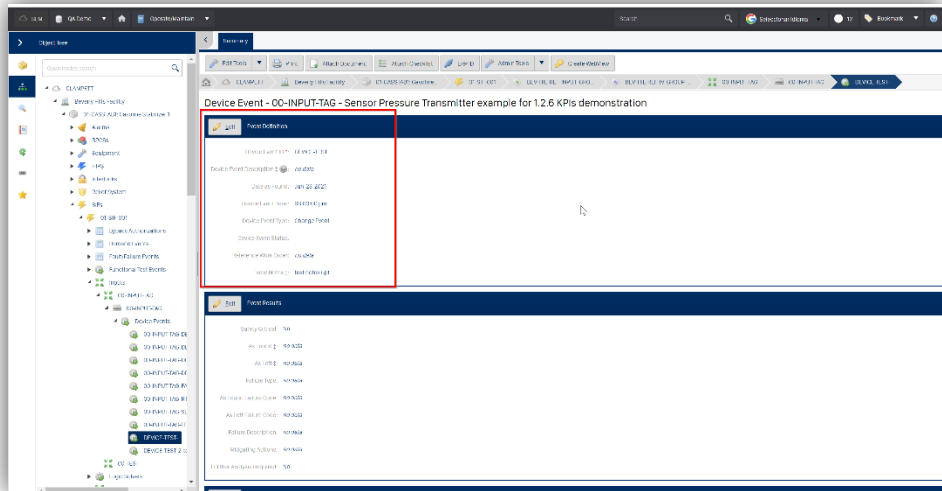
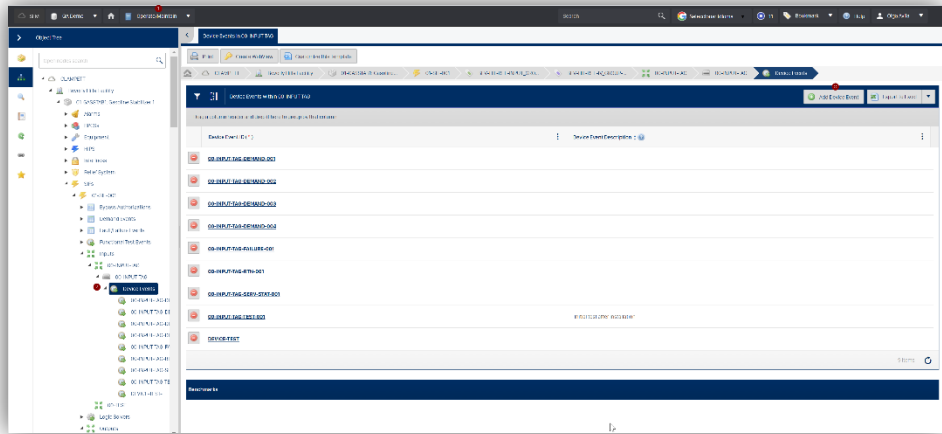
- Non-Linked Barriers Report: Barriers that have not been synched to a Function (SIF, Alarm, BPCS).



Unit Name	Barrier ID	Barrier Description	LOPA ID
Abatement Unit	FCC-LOPA-15-1	Flare Rider Feed Pipe Alarm	
Abatement Unit	IP-024-INT	Surge Protection coil	
Abatement Unit	IP-025-INT	High Level 4/8	
Abatement Unit	IP-026-SIF	TT E10224/8/C High High	
Abatement Unit	IP-027-SIF	L2 B1020/8/C Low Tripper Level	
Abatement Unit	IP-028-SIF	TS-B1021A/8/C High Outlet Temp	
Abatement Unit	IP-029-SIF	PT E10274 Low H2 Flow	GASSTAB-1 OCT-2017
Boiler_1 System	ALARM-23		BOILER-LOPA-2016
Boiler_1 System	BPCS-V1F	V1F BPCS Function	BOILER-LOPA-2016
Boiler_1 System	BPCS-V1F-C1	V1F BPCS Function	BOILER-LOPA-2016
Boiler_1 System	BPCS-V1F-C2	V1F BPCS Function	BOILER-LOPA-2016
Boiler_1 System	IP-145	NEO coil	BOILER-LOPA-2016
Boiler_1 System	IP-245-C2	NEO SIP	BOILER-LOPA-2016
Boiler_1 System	PRR-1-C2	Pressure Relief System	BOILER-LOPA-2016
Locking Unit	13-ALM-001		LOPA-1
Locking Unit	11-SIF-002		LOPA-1

## Operate/ Maintain

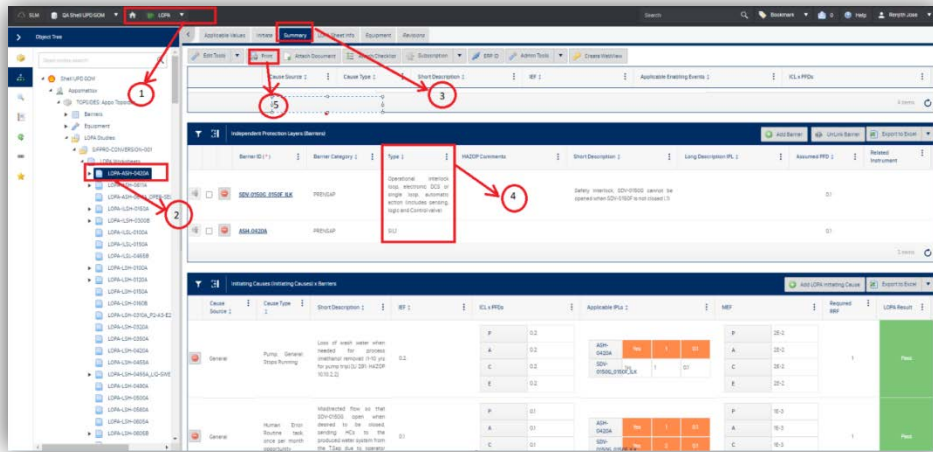
- Allow device events to be created on the device objects manually.



# Fixes

## LOPA

Column width increased for the Type column of Barriers table for LOPA Sheet and LOPA Study SSRS Reports.



					E	2E-001
					P	5E-001
					A	5E-001
					C	5E-001
					E	5E-001
<b>Sum of IEPs</b>						
		0.5	<b>Sum of IEPs x PFDs</b>			
<b>Independent Protection Layers (Barriers) may be common to more than one Initiating Cause</b>						
Barrier ID	Category	Type	Short Description	Detailed Description	Assumed PFD	Related Instrument
ASH-0402A	PRENSAP	SIL1			0.1	
SDV-0150G_0150F_I_LN	PRENSAP	Operational interlock loop, electronic DCS or single loop, automatic action (includes sensing, logic and Control valve)	Safety interlock, SDV-0150G cannot be opened when SDV-0150F is not closed		0.1	
<p>8/10/2021 2:40:36 PM Enterprise: Shell UPD-DCM Site: Appomattox Unit: TOPSIDES: Appo Topside</p> <p>Note: Uncontrolled document when printed</p> <p>SLM</p> <p>Sheet 3 of 6</p>						
<b>Initiating Causes (Initiating Causes) &amp; Barriers</b>						
IC	Event Description	IEC	Contributable IEPs	IEPs	Required	LOPA

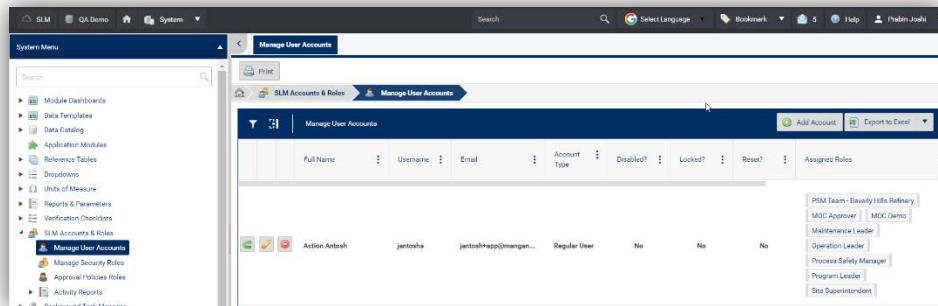
# 2.4s24 Release Notes

These release notes for SLM 2.4s24 provide an overview of the release and document new features, improvements, and known issues.

## Refinements & Usability Gap

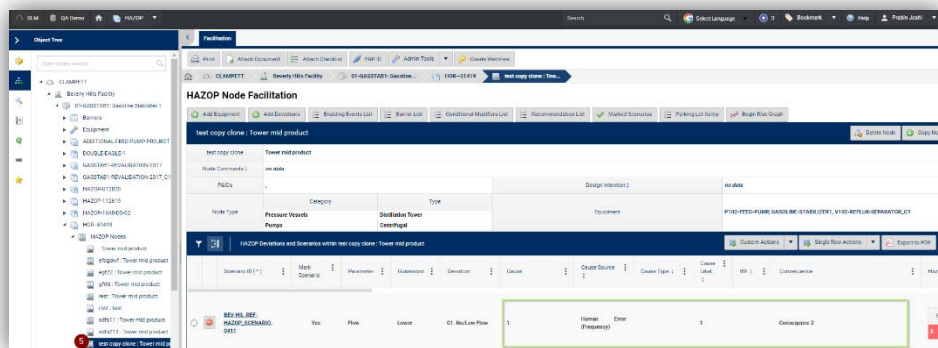
### SYSTEM

- Modifications to System Account table. Removed the user details sub view and enable export of roles



### HAZOP

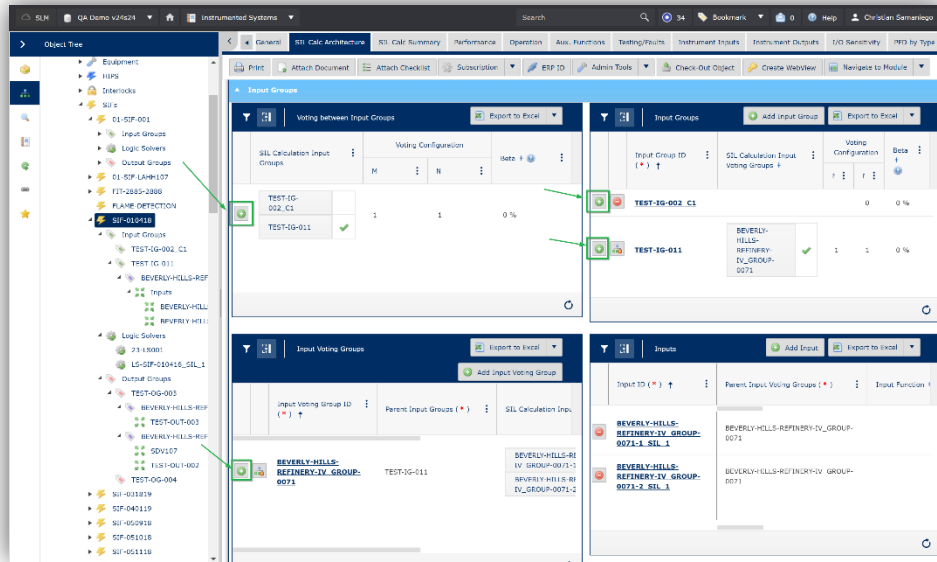
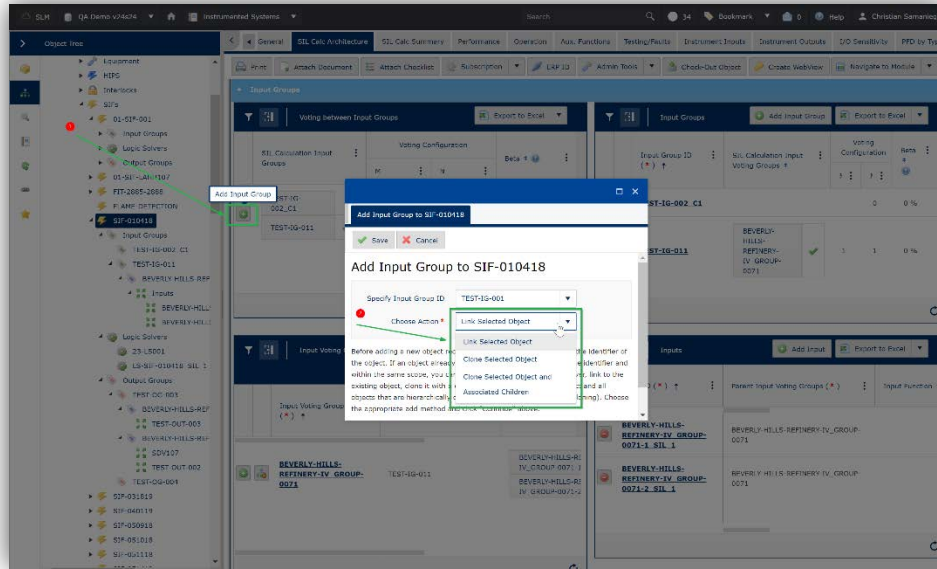
- When cloning HAZOP Node, the recommendation and barrier data does not copy over anymore. It was copying over before

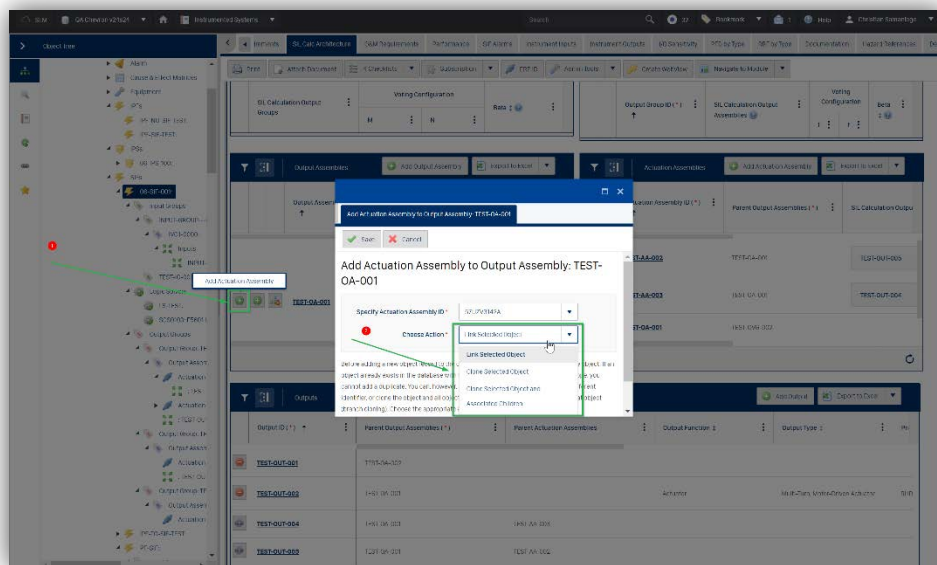
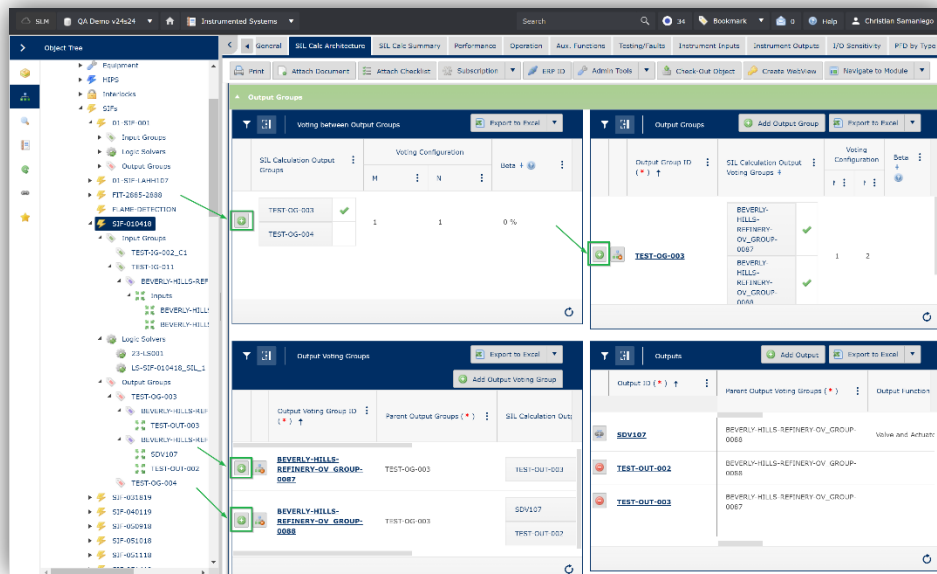
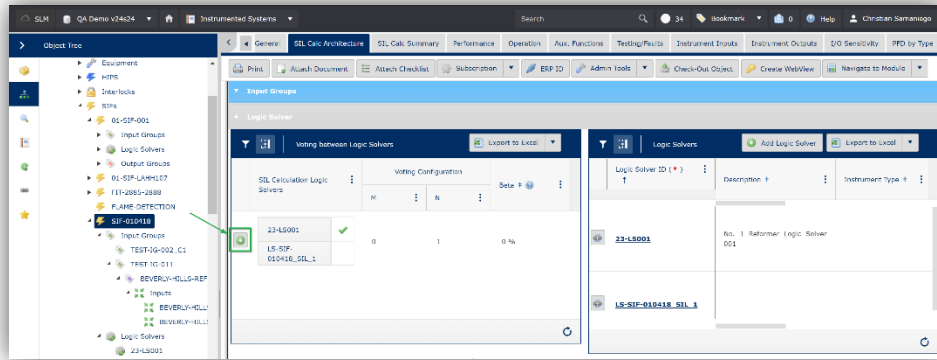




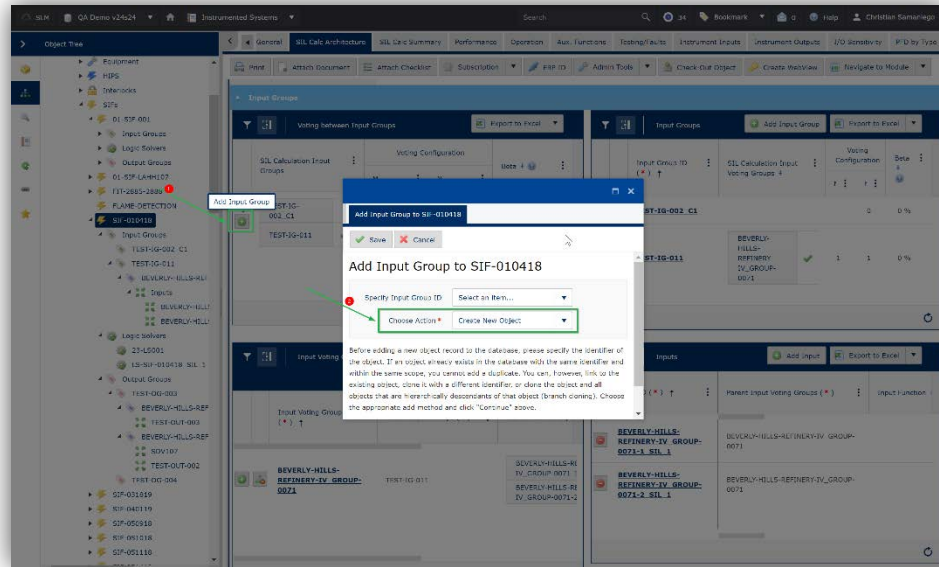
# Instrumented Systems

- Added ability to link object, clone object and clone object with associated children from related parent (SIL Calc Architecture).

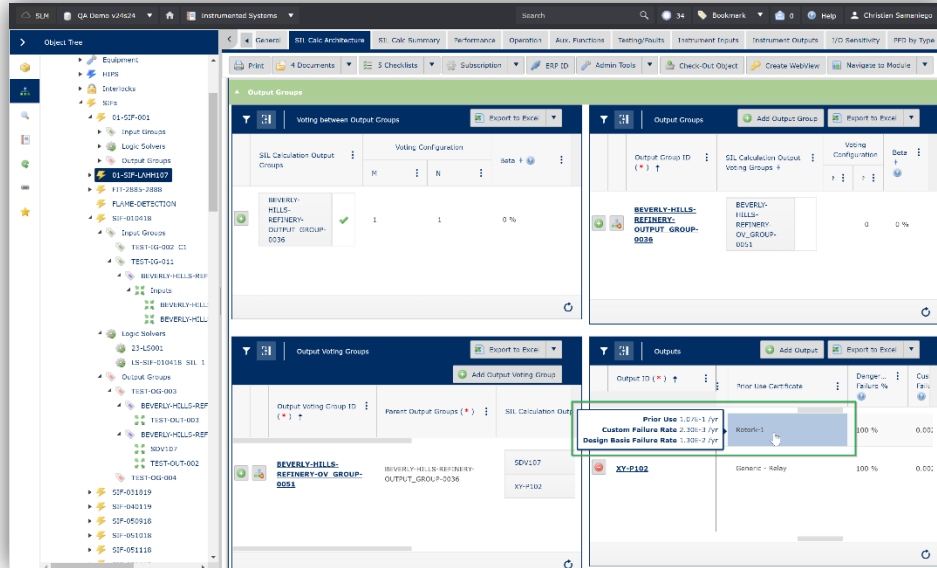
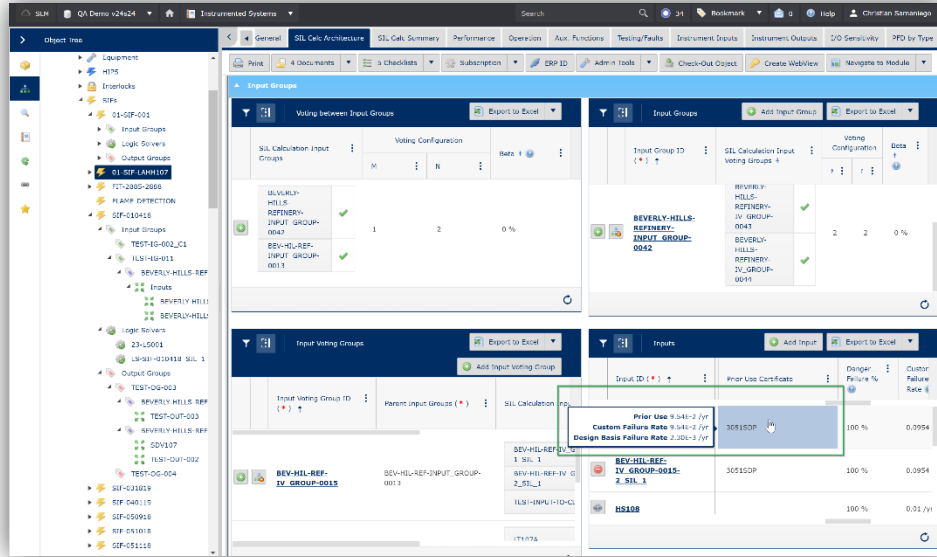




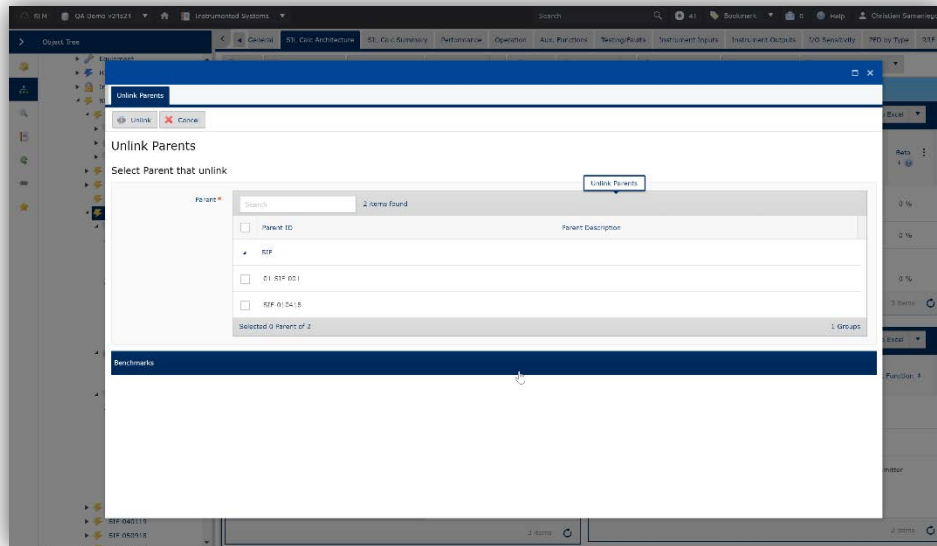
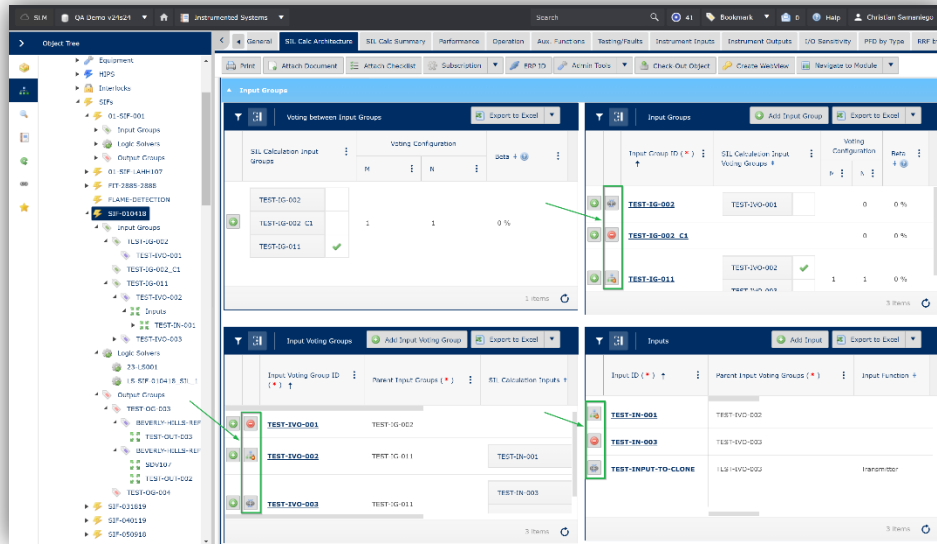
- Added ability to add new object from related parent (SIL Calc Architecture).



- Added ability to see Tool Tips for PIU/Custom Failure Rate, ETC (SIL Calc Architecture).



- Added ability to delete/unlink objects (SIL Calc Architecture).



You are about to delete "Input Group" object from the database. Please check breadcumbs for any data linkages that may be removed.

Accept Cancel

Input Groups

Voting between Input Groups

SEL Calculation Input Groups	Voting Configuration	State	Rate
TEST-IG-002	M	N	0 %
TEST-IG-001			

TEST-IG-002\_CI

TEST-IG-001

TEST-IG-002

TEST-IG-001

Input Voting Groups

Input Voting Group ID	Parent Input Groups (*)	SEL Calculation Inputs
TEST-IVG-001	TEST-IG-002	
TEST-IVG-002	TEST-IG-001	TEST-IN-001
TEST-IVG-003	TEST-IG-001	TEST-IN-003

Inputs

Input ID	Parent Input Voting Groups (*)	Input Function
TEST-IN-001	TEST-IVG-002	
TEST-IN-003	TEST-IVG-003	
TEST-INPUT-TO-CLONE	TEST-IVG-003	Transmitter

Delete and Cascade TEST-IG-001

Confirm Cancel Print

**WARNING:** The delete and cascade feature makes significant permanent changes to the database. The table below shows a list of all the objects that may be deleted or unlinked during this process. This process will run in background and will take a while, depending on the number of objects to be processed. Please do not modify any of the objects listed below, as any modifications to the objects below during the process may result in unexpected behavior and data loss.

Delete and Cascade

Object ID	Label	Deleted Action
<b>Data Type: Input - Total: 3</b>		
TEST-IN-003	TEST-IN-003	Unlink
TEST-IN-001	TEST-IN-001	Delete
TEST-INPUT-TO-CLONE	TEST-INPUT-TO-CLONE	Unlink
<b>Data Type: Input Setpoint - Total: 1</b>		
DEV-HIL-REF-INPUT-SETPOINT-0003	DEV-HIL-REF-INPUT-SETPOINT-0003	Delete
<b>Data Type: Input Voting Group - Total: 2</b>		
TEST-IVG-002	TEST-IVG-002	Delete
TEST-IVG-003	TEST-IVG-003	Unlink

1 of 6 objects

Delete Logic Solver

Confirm Cancel Print

Logic Solvers

Voting between Logic Solvers

SEL Calculation Logic Solvers	Voting Configuration	Jobs	Rate
23-LS001	M	N	0 %
TEST-LS-002			

23-LS001

TEST-LS-002

Logic Solvers

Logic Solver ID (*)	Description #	Instrument Type #
23-LS001	No. 1 Referrer Logic Solver 001	
TEST-LS-002		

Screenshot of the Instrumented Systems software interface showing the configuration of Output Groups. The interface includes a navigation pane on the left, a top menu bar, and several main panels.

**Output Groups Panel:** This panel displays a table of output groups. A green box highlights the 'TEST-OG-001' row, and a green arrow points to its 'Voting Configuration' column.

Output Group ID (*)	SIL Calculation Output Voting Groups #	Voting Configuration	Rate
TEST-OG-001	1	1	0%
TEST-OG-003	1	1	0%
TEST-OG-004	1	1	0%

**Output Voting Groups Panel:** This panel shows a table of output voting groups. A green box highlights the 'TEST-OVG-001' row, and a green arrow points to its 'SIL Calculation Outputs #' column.

Output Voting Group ID (*)	Parent Output Group (*)	SIL Calculation Outputs #
TEST-OVG-001	TEST-OG-001	1
TEST-OVG-005	TEST-OG-001	1
TEST-OVG-006	TEST-OG-002	1

**Outputs Panel:** This panel displays a table of outputs. A green box highlights the 'SDV102' row, and a green arrow points to its 'Power Output Voting Groups (#)' column.

Output ID (*)	Power Output Voting Groups (#)	Output Function #
SDV102	1	1
TEST-OUT-002	1	1
TEST-OUT-003	1	1

Second screenshot of the Instrumented Systems software interface, showing the configuration of Output Assemblies. The interface includes a navigation pane on the left, a top menu bar, and several main panels.

**Output Assemblies Panel:** This panel displays a table of output assemblies. A green box highlights the 'TEST-OA-001' row, and a green arrow points to its 'SIL Calculation' column. A tooltip 'Delete Action Assembly and Remove Children' is visible over the 'TEST-OA-002' row.

Output Assembly ID (*)	Parent Output Group (*)	SIL Calculation
TEST-OA-001	TEST-OG-001	1
TEST-OA-002	TEST-OG-001	1
TEST-OA-003	TEST-OG-002	1

**Actions Assemblies Panel:** This panel displays a table of action assemblies. A green box highlights the 'TEST-AA-002' row, and a green arrow points to its 'Parent Output Assemblies (\*)' column.

Action Assembly ID (*)	Parent Output Assemblies (*)	SIL Calculation Output
TEST-AA-002	TEST-OA-001	1
TEST-AA-003	TEST-OA-001	1
TEST-AA-001	TEST-OA-002	1

**Outputs Panel:** This panel displays a table of outputs. A green box highlights the 'TEST-OUT-001' row, and a green arrow points to its 'Parent Output Assemblies (\*)' column.

Output ID (*)	Parent Output Assemblies (*)	Parent Action Assemblies	Output Function #	Output Type #	No.
TEST-OUT-001	TEST-OA-002				
TEST-OUT-005	TEST-OA-001		Acuator	1	1
TEST-OUT-004	TEST-OA-001	TEST-AA-001			
TEST-OUT-002	TEST-OA-001	TEST-AA-002			

- All objects are shown in the Voting Selection fields (SIL Calc Architecture).

The screenshot displays the 'SIL Calc Architecture' interface. It is divided into four main panels:

- Top Left: Voting between Input Groups** - Shows a table with columns for 'SIL Calculation Input Groups', 'M', 'N', and 'Beta'. It lists 'TEST-IG-002\_CI' and 'TEST-IG-011' with a '1' in the 'M' column and '0%' in the 'Beta' column.
- Top Right: Input Groups** - Shows a table with columns for 'Input Group ID', 'SIL Calculation Input Voting Groups #', 'M', 'N', and 'Beta'. It lists 'TEST-IG-002\_CI' and 'TEST-IG-011'. A 'BEVERLY-HILLS REFINERY-IV\_GROUP-0071' is also listed with a '1' in the 'M' column and '0%' in the 'Beta' column.
- Bottom Left: Input Voting Groups** - Shows a table with columns for 'Input Voting Group ID', 'Parent Input Groups #', and 'SIL Calculation Inputs #'. It lists 'BEVERLY-HILLS-REFINERY-IV\_GROUP-0071' and 'TEST-IG-011'.
- Bottom Right: Inputs** - Shows a table with columns for 'Input ID', 'Parent Input Voting Groups #', 'Input Function #', and 'Process #'. It lists 'BEVERLY-HILLS-REFINERY-IV\_GROUP-0071-1\_SIL\_1' and 'BEVERLY-HILLS-REFINERY-IV\_GROUP-0071-2\_SIL\_1'.

Green arrows indicate relationships between objects across these panels, showing how specific input groups and voting groups are linked to specific inputs.

The screenshot displays the 'Logic Solvers' interface. It is divided into two main panels:

- Left Panel: Voting between Logic Solvers** - Shows a table with columns for 'SIL Calculation Logic Solvers', 'M', 'N', and 'Beta'. It lists '23-L5001' and 'LS-SIF-010418\_SIL\_1' with a '0' in the 'M' column and '0%' in the 'Beta' column.
- Right Panel: Logic Solvers** - Shows a table with columns for 'Logic Solver ID', 'Description #', 'Instrument Type #', 'Dangerous Failure %', and 'Failure R'. It lists '23-L5001' (No. 1 Referrer Logic Solver 001) and 'LS-SIF-010418\_SIL\_1' (100% failure rate).

A green arrow points from the '23-L5001' entry in the left panel to the '23-L5001' entry in the right panel, indicating a direct link between the voting configuration and the logic solver details.



SLM QA Demo v24624 Instrumented Systems

General SIL Calc Architecture SIL Calc Summary Performance Operation Act. Functions Testing/Faults Instrument Inputs Instrument Outputs I/O Sensitivity PFD by Type RIF by Type Hazard References Documentation

Print Attach Document Attach Checklist Subscription ERP ID Admin Tools Check Out Object Create Webview Navigate to Module

### Output Groups

Voting between Output Groups

SIL Calculation Output Groups	M	N	Rate %
TEST-OG-003	1	1	0%
TEST-OG-004			

Export to Excel

Output Groups

Output Group ID (*)	SIL Calculation Output Voting Groups #	Voting Configuration	Rate %
TEST-OG-003	2	1 1	0%
TEST-OG-004	0		0%

BEVERLY-HILLS-REFINERY-OV\_GROUP-0087  
BEVERLY-HILLS-REFINERY-OV\_GROUP-0088

Export to Excel

### Output Voting Groups

Output Voting Group 13

Parent Output Groups (*)	SIL Calculation Output #
BEVERLY-HILLS-REFINERY-OV_GROUP-0087	TEST-OUT-002
BEVERLY-HILLS-REFINERY-OV_GROUP-0088	TEST-OUT-002

TEST-OUT-003

SOV107

TEST-OUT-002

Export to Excel

### Outputs

Output ID (*)	Parent Output Voting Groups (*)	Output Function #	Output Type
SOV107	BEVERLY-HILLS-REFINERY-OV_GROUP-0087	Valve and Actuator	Ball Valve + Piston Actua
TEST-OUT-002	BEVERLY-HILLS-REFINERY-OV_GROUP-0088		
TEST-OUT-003	BEVERLY-HILLS-REFINERY-OV_GROUP-0087		

Export to Excel

SLM QA Demo v24624 Instrumented Systems

General SIL Calc Architecture SIL Calc Summary Performance Operation Act. Functions Testing/Faults Instrument Inputs Instrument Outputs I/O Sensitivity PFD by Type RIF by Type Hazard References Documentation

Print Attach Document Attach Checklist Subscription ERP ID Admin Tools Check Out Object Create Webview Navigate to Module

### Output Assemblies

Output Assembly ID (\*)

Parent Output Groups (*)	SIL Calculation Outputs & Actuation Assemblies
TEST-OG-003	TEST-AA-003
TEST-OG-004	TEST-AA-003

TEST-OUT-002

TEST-OUT-003

Export to Excel

### Actuation Assemblies

Actuation Assembly ID (*)	Parent Output Assemblies (*)	SIL Calculation Outputs
TEST-AA-003	TEST-OG-003	TEST-OUT-003
TEST-AA-003	TEST-OG-004	TEST-OUT-003
TEST-OG-001	TEST-OG-001	

Export to Excel

### Outputs

Output ID (*)	Parent Output Assemblies (*)	Parent Actuation Assemblies	Output Function #	Output Type #	Prior Use Certificate	Dampening Factor %	Custom P. Time
TEST-OUT-001	TEST-OG-002					100%	
TEST-OUT-002	TEST-OG-003		Actuator	Multi Turn Ball Valve Actuator	PH2,250	100%	
TEST-OUT-004	TEST-OG-003	TEST-AA-003				100%	
TEST-OUT-005	TEST-OG-003	TEST-AA-003				100%	

Export to Excel

- The Logic Solver block is been dashed when not filled out completely with voting (SIL Calc Architecture).

The screenshot shows the 'SIL Calc Architecture' interface for SIF-010418. The central diagram illustrates the logic solver architecture, including input groups, a logic solver, and output groups. Below the diagram, the 'Voting Configuration' table is visible:

SIL Calculation Logic Solvers	M	N	Beta
23-L5001 LS-SF-010418_SIL_1	0	0	0%

The 'Logic Solvers' table below shows the configuration for the logic solver:

Logic Solver ID (*)	Description	Instrument Type
23-L5001	No. 1 Referrer Logic Solver 001	

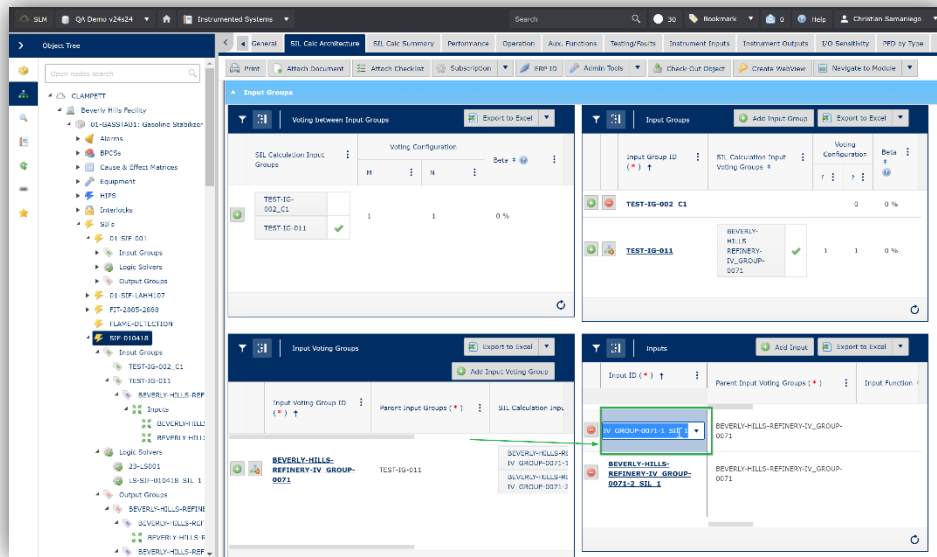
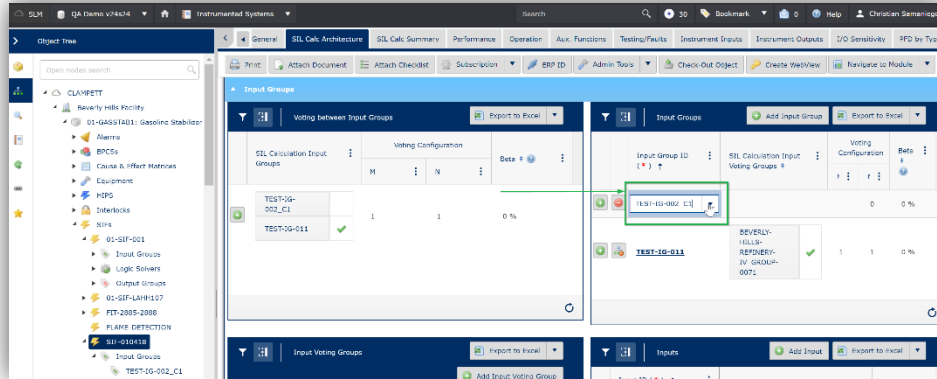
The screenshot shows the same 'SIL Calc Architecture' interface for SIF-010418. The central diagram is identical to the previous screenshot. However, the 'Voting Configuration' table now shows a '2' in the 'N' column and '0%' in the 'Beta' column, indicating that the logic solver is now fully configured with voting:

SIL Calculation Logic Solvers	M	N	Beta
23-L5001 LS-SF-010418_SIL_1	0	2	0%

The 'Logic Solvers' table remains the same as in the previous screenshot:

Logic Solver ID (*)	Description	Instrument Type
23-L5001	No. 1 Referrer Logic Solver 001	

- All object ID's are editable (SIL Calc Architecture).



## Operate/Maintain

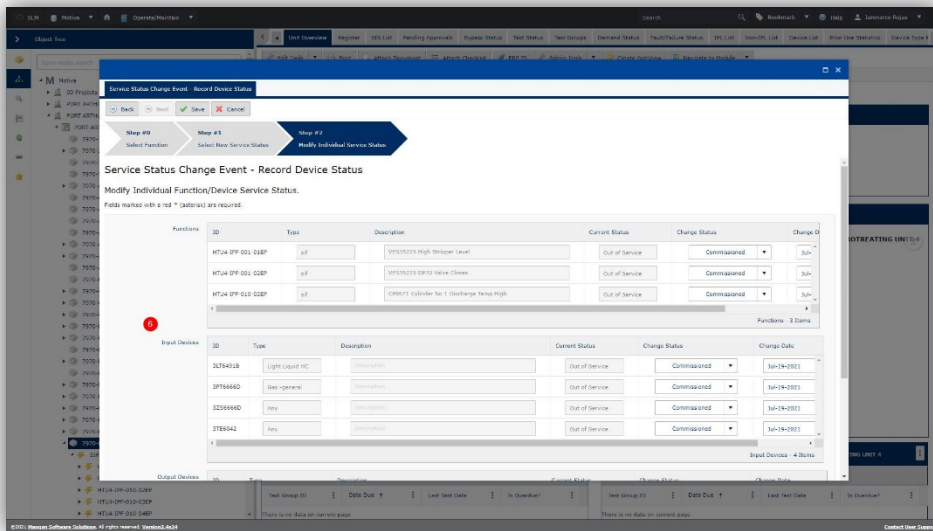
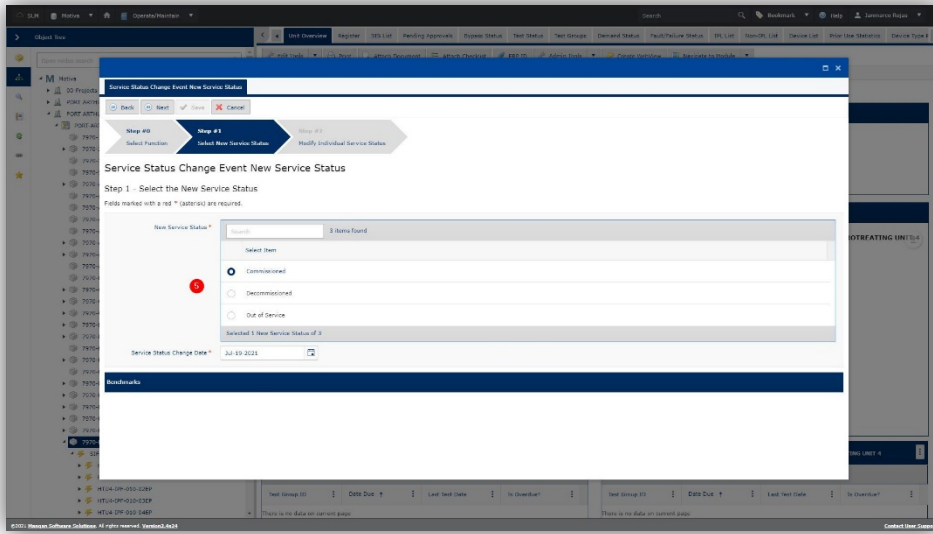
- Creating a new scheduled task when multiple functions are selected for commissioning from the Unit level.

The screenshot shows the 'UNIT Overview' for 'TREATING UNIT 4'. The left sidebar contains a tree view of units, with '7970-HTU4: HYDROTREATING UNIT 4' selected. The main content area displays a calendar view for 'Test Groups' from July 2021 to December 2021. The calendar shows 'Test Due' (green) and 'Test Overdue' (red) markers. Below the calendar is a table with columns for 'Test Group ID', 'Date Due', and 'Is Overdue?'. The right-hand panel shows a graph titled 'Test Groups By Overdue and On Schedule within 7970-HTU4: HYDROTREATING UNIT 4' and a table with the same columns as the main table.

The screenshot shows the 'Service Status Change Event - Select Function' dialog box. The dialog has a search bar with '66 items found'. Below the search bar is a list of functions with checkboxes. The selected functions are:

Function ID	Function Description
<input checked="" type="checkbox"/> SPS	
<input checked="" type="checkbox"/> HTU4-09-001-02EP	VSS3229 High Skipper Level
<input checked="" type="checkbox"/> HTU4-09-001-02EP	VSS3229 EP10 Valve Closure
<input checked="" type="checkbox"/> HTU4-09-010-02EP	CR827 Cylinder No 1 Discharge Temp High
<input type="checkbox"/> HTU4-09-010-02EP	CR827 Cylinder No 2 Discharge Temp High

At the bottom of the dialog, there is a 'Selected 2 Function of 66' and a '1 Group' button.

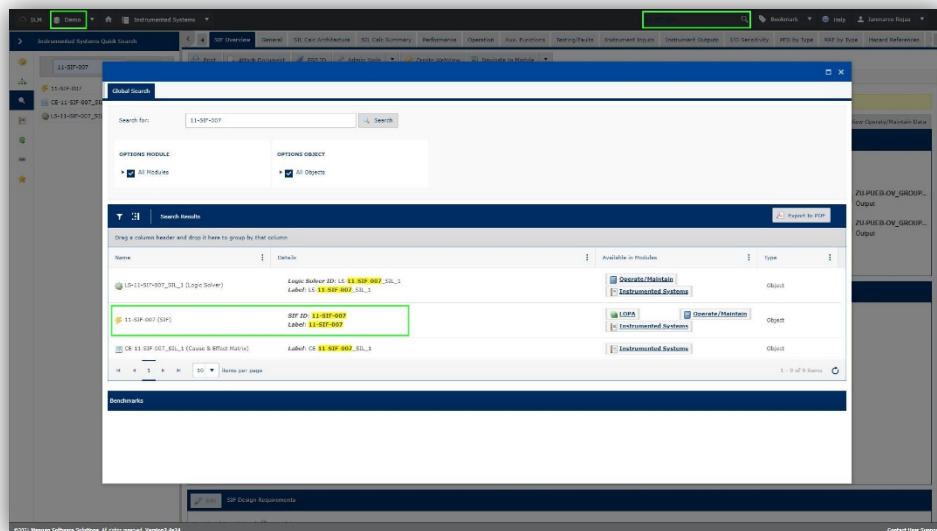
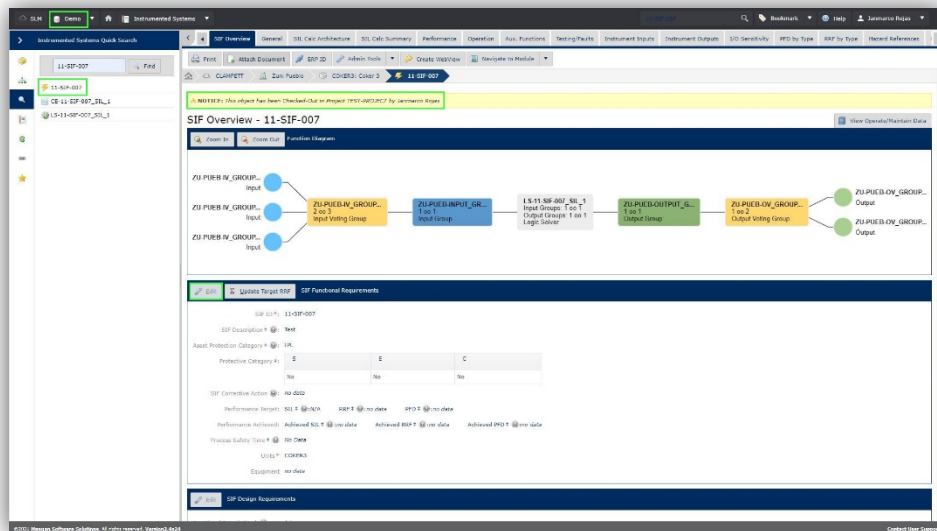


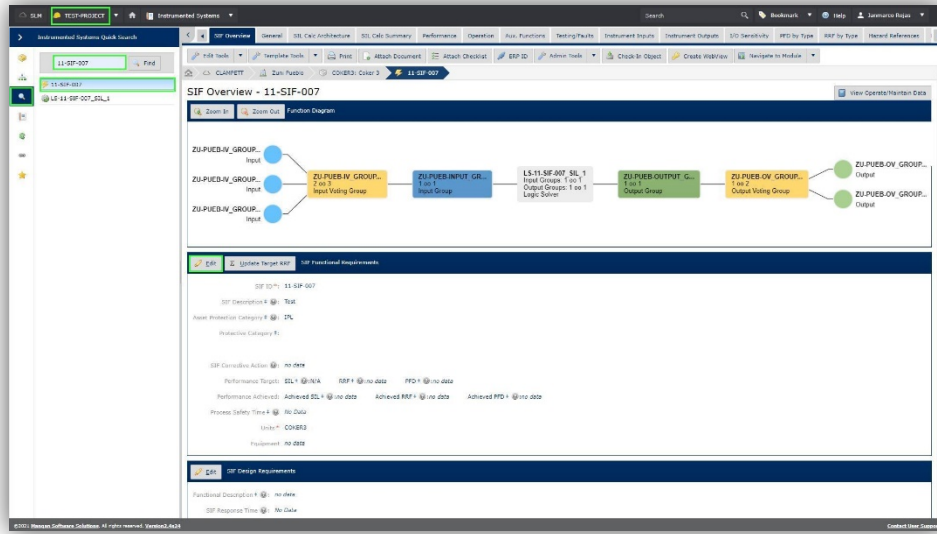


# Fixes

## General

- The Quick Search and the Global Search has been fixed. The search results will show objects belonging to the current context: Project or Production.





**Global Search**

Search for: 11-SIF-007

OPTIONAL MODULE: All Modules  
 OPTIONAL OBJECT: All Objects

Search Results

Drag a column header and drop it here to group by that column.

Name	Details	Available in Modules	Type
11-SIF-007 (SIF)	SIF ID: 11-SIF-007 Label: 11-SIF-007	LOTA Instrumental Systems	Object Operate/Maintain
LS-11-SIF-007_IL_1 (Logic Solver)	Logic Solver ID: LS-11-SIF-007_IL_1 Label: LS-11-SIF-007_IL_1	Instrumental Systems	Object Operate/Maintain

1 - 2 of 2 items

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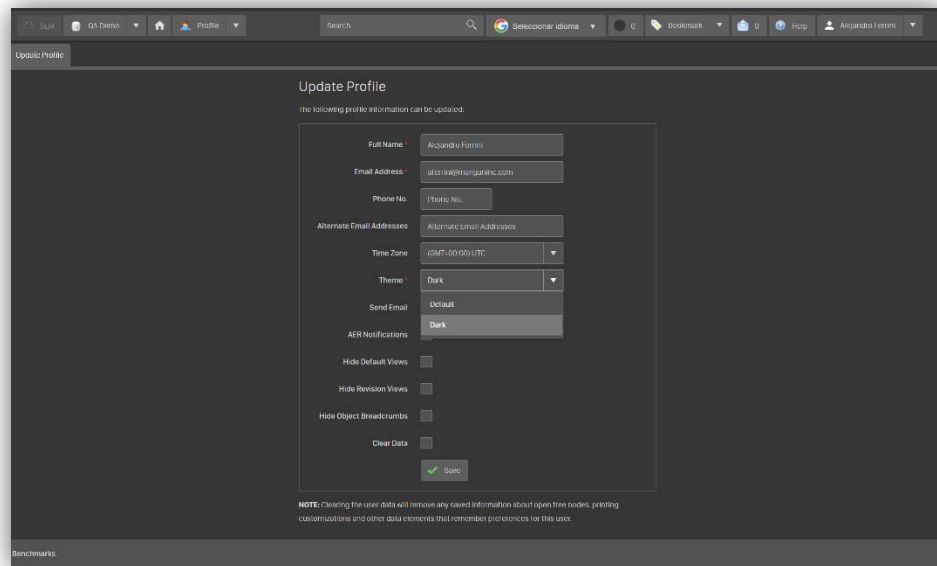
# 2.4s25 Release Notes

These release notes for SLM 2.4s25 provide an overview of the release and document new features, improvements, and known issues.

## Refinements & Usability Gap

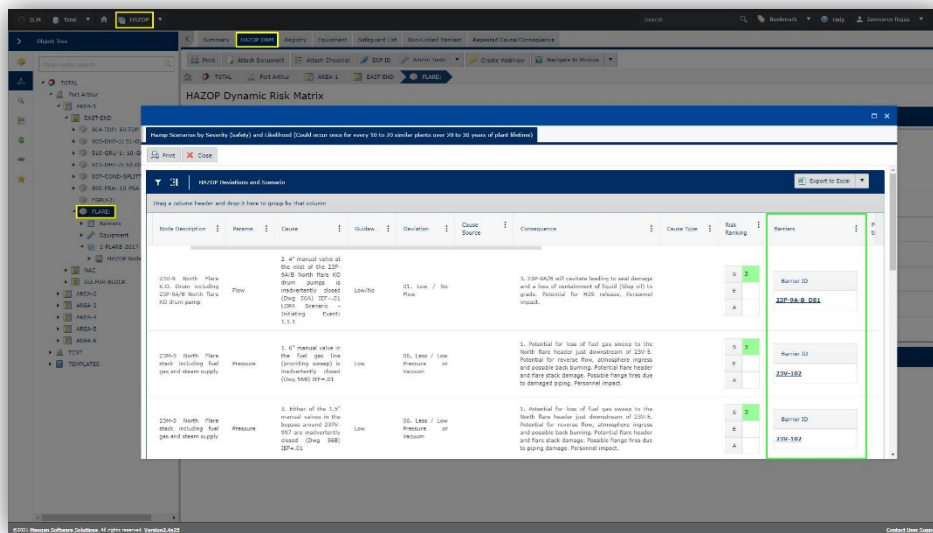
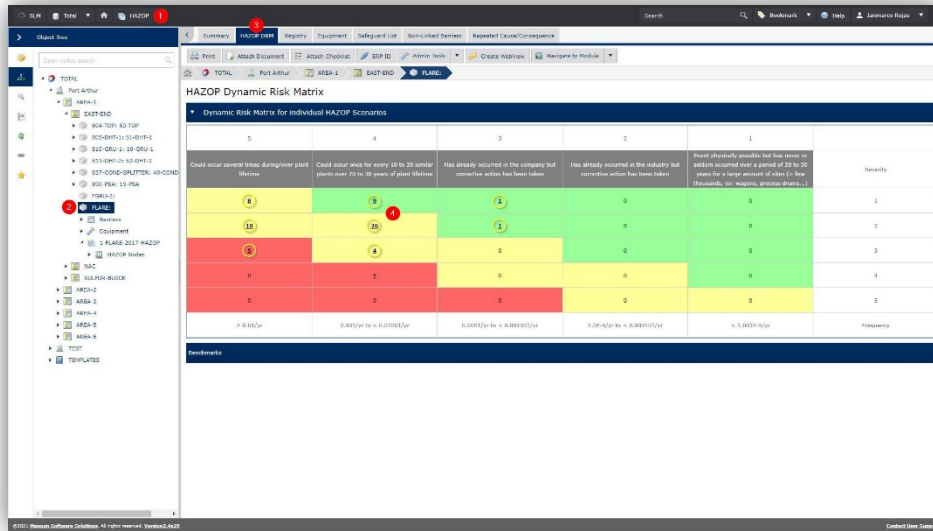
### SYSTEM

- The option to configure the theme of the application has been added, this can be configured in the user's profile by changing the theme field. You have the default and dark options to assign.

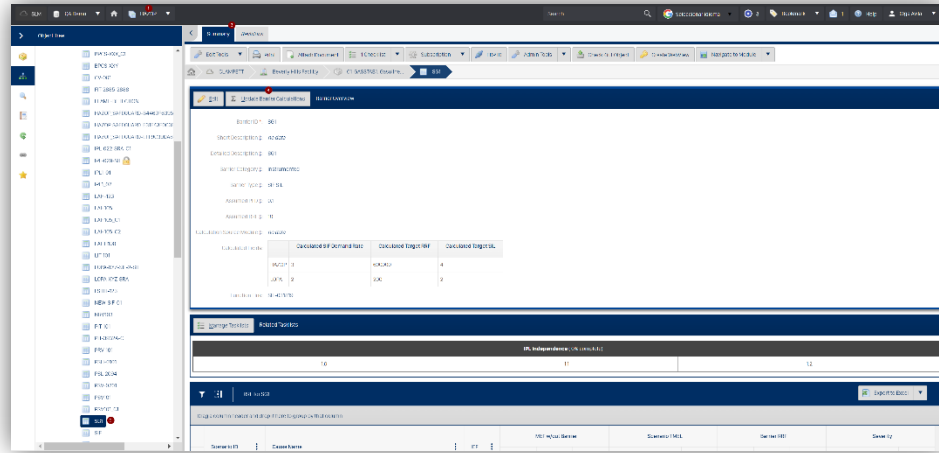


# HAZOP

- Displaying Barriers column in the *HAZOP Scenarios and Deviations* table.

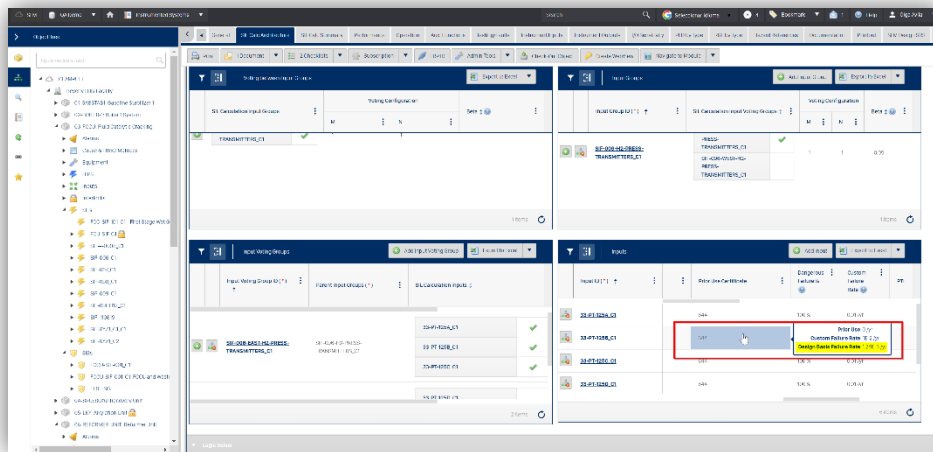


- A new template was added to be displayed in the HAZOP module at the barrier object level. Update barrier calculations, RRF of the barrier and Barrier Diagram were done using HAZOP information



## Instrumented Systems

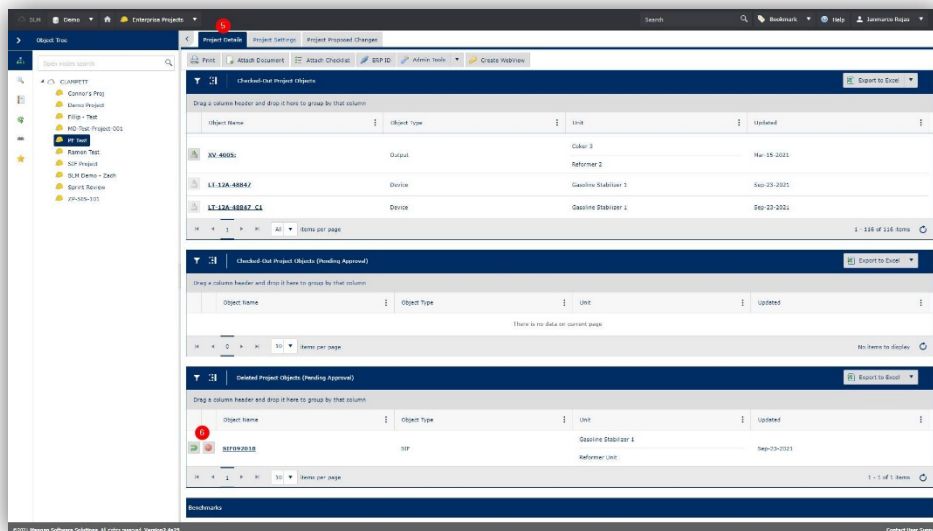
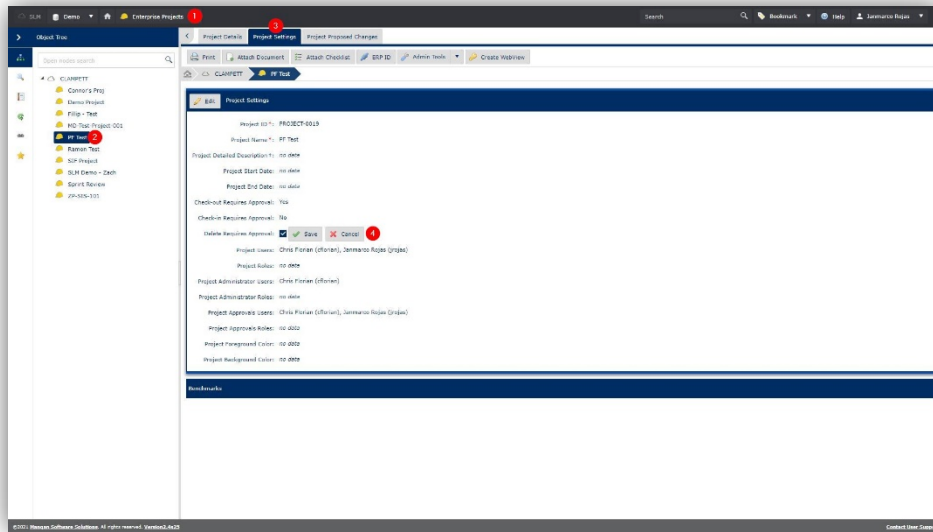
- Fixed prior use certificate tooltip, it wasn't showing failure rate in Input and Output object



# New features

## Project

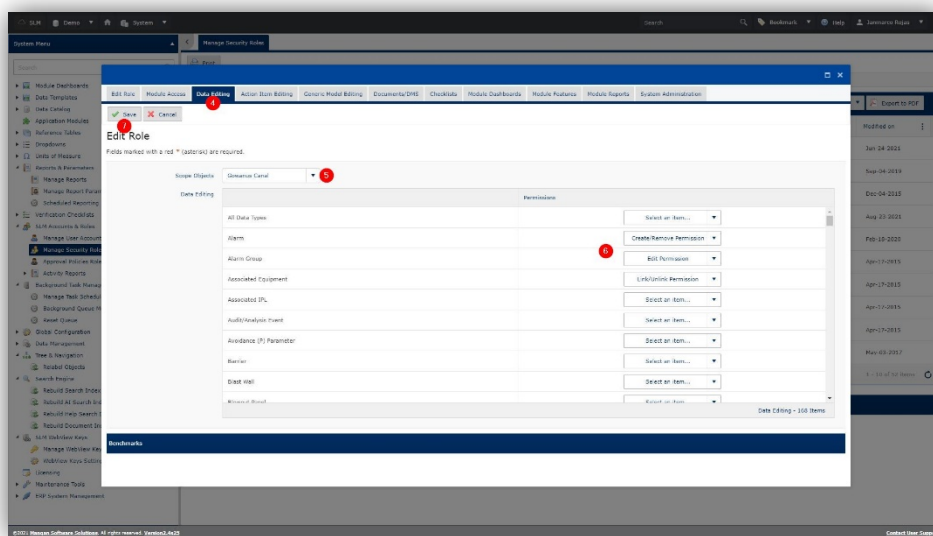
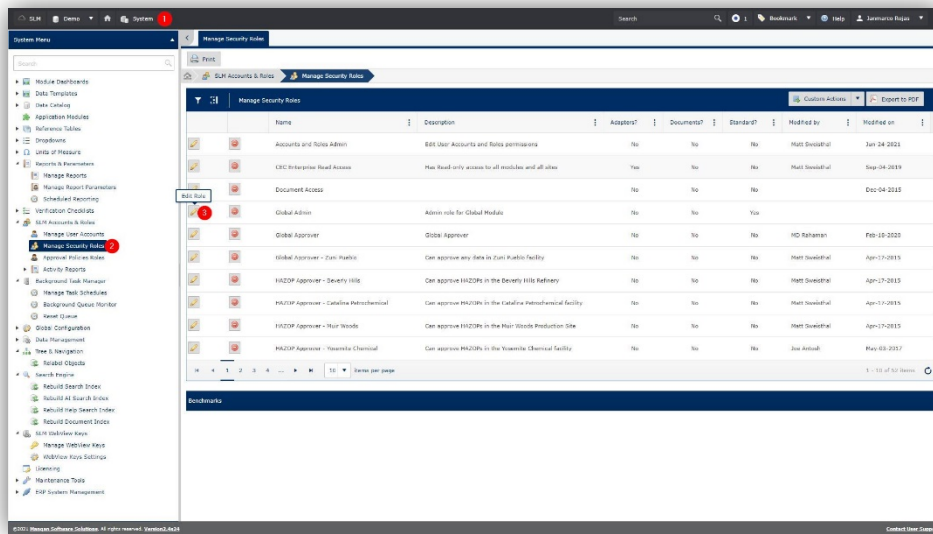
- New Project Setting: *Delete Requires Approval.*
- New Project Details table: *Deleted Project Objects (Pending Approval)*



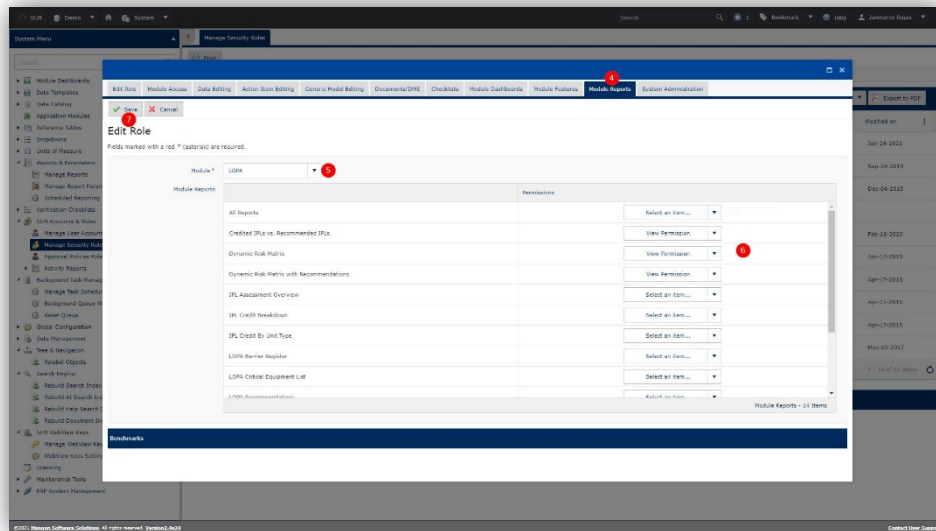
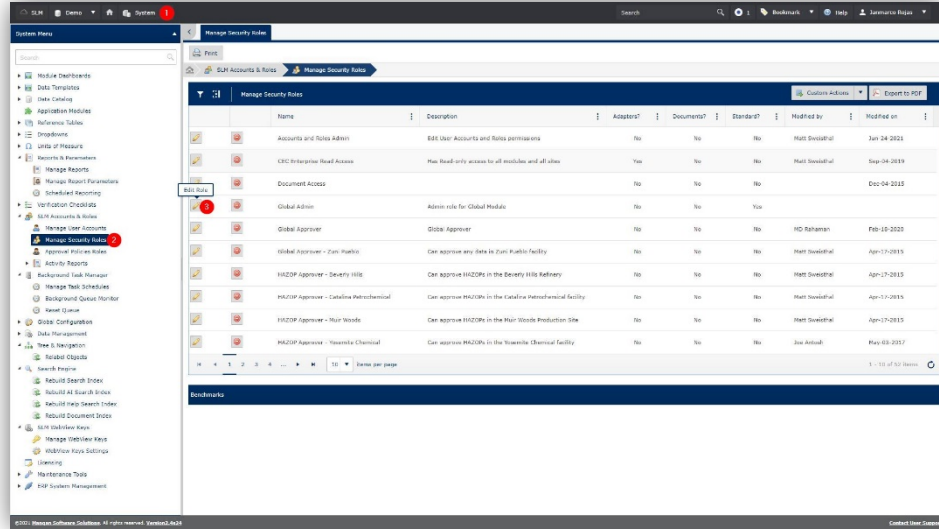
# Fixes

## System

- Fixed the *Manage Security Role* → *Data Editing*: Data Types permissions are saved properly.



- Fixed the *Manage Security Role* → *Module Reports*: Report permissions are saved properly.



# 2.4s26 Release Notes

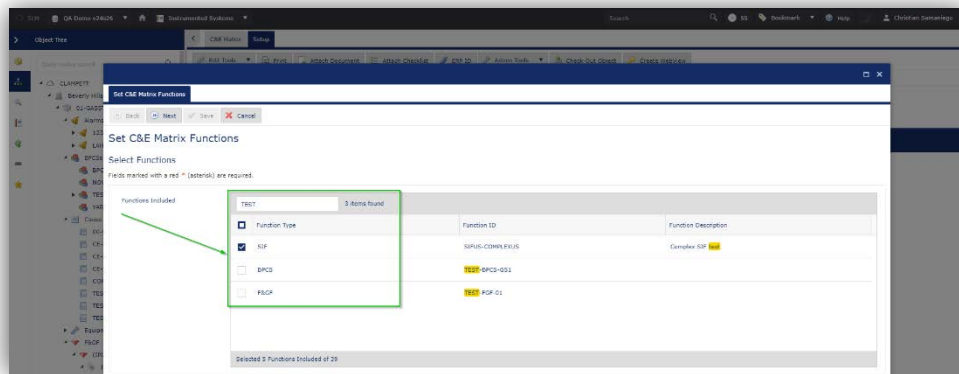
These release notes for SLM 2.4s26 provide an overview of the release and document new features, improvements, and known issues.

## Refinements & Usability Gap

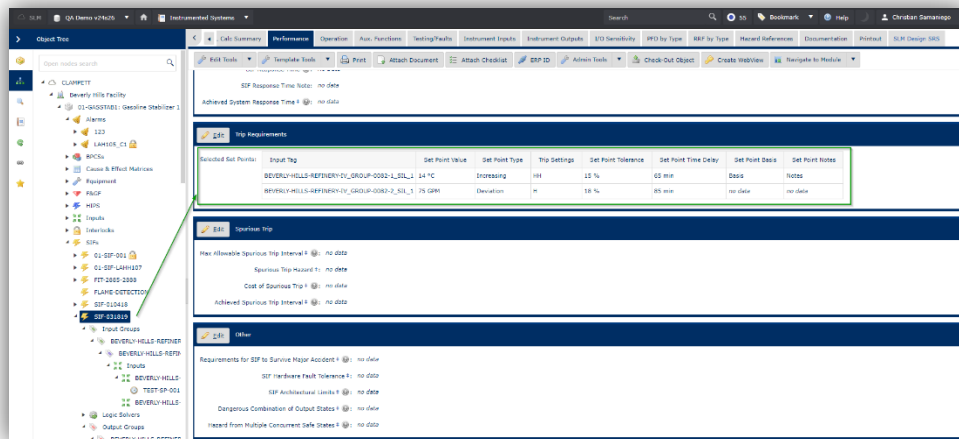
### Instrumented Systems

#### Updated CE Matrix

- Can select Alarm, BPCS or FGF functions At "Manage Functions & Selected I/Os".



- Removed Trip Requirements fields and added a "Selected Set Points" matrix field at functions.



- The Cause & Effect Matrix Grid displays the trip setting with input set point used on the function, "function type" and "defined corrective action" columns.

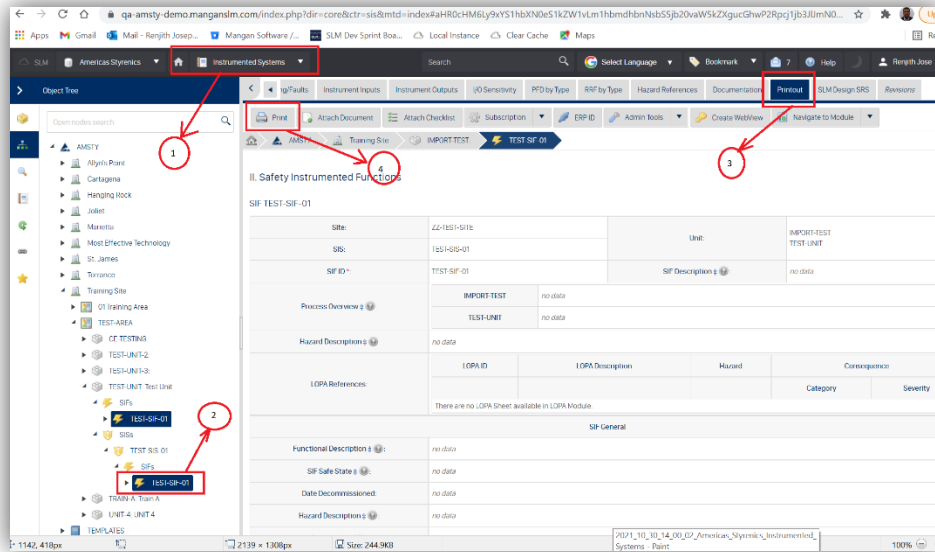
Function	Function Type	Target	Target SL	Description	Defined Corrective Action	Rating	Input	Description	Device Location	FSD	Trip Setpoint	Trip Delay	Trip Tolerance
62-HPS-001	HPS		0		https://managerfire.atsion.net	0001	TEST-INPUT-002	000000	TEST Device Location 1	F3036-501-63-APV-35	14 GPM	15 s	15 %
INT-000_C1_C1	Interlock	0	0	High Vibration on VVVVT 1 01-001-000 SHUT DOWN COMPRESSOR		0002	TEST-IN-004	000000	TEST Device Location 1	D-242-224	11 °C	43 s	24 %
62-033819	SF	100	2			0002	23-21-1200_C1_C1	000000	Vibration Transmitter	D-342-225A, D-342A-224	13 MPa	12 min	44 %
						0002	23-21-1200_C1_C1	000000	Vibration Transmitter	D-342-225A, D-342A-224	75 CPM	20 s	55 %
						0002	BEVERLY-HILLS-BEFORESBY-DV-GR000-0002-1_NEL_1	000000			14 °C	65 min	15 %

- The "CE Matrix" Exported displays function type, "defined corrective action" and trip setting with input set point used columns.

Function	Function Type	Target	Target SL	Description	Defined Corrective Action	Rating	Input	Description	Device Location	FSD	Trip Setpoint	Trip Delay	Trip Tolerance
62-HPS-001	HPS		0		https://managerfire.atsion.net	0001	TEST-INPUT-002	000000	TEST Device Location 1	F3036-501-63-APV-35	14 GPM	15 s	15 %
INT-000_C1_C1	Interlock	0	0	High Vibration on (SHUT DOWN) VVVVT 1 01-001-000 SHUT DOWN COMPRESSOR		0002	TEST-IN-004	000000	TEST Device Location 1	D-242-224	11 °C	43 s	24 %
62-033819	SF	100	2			0002	23-21-1200_C1_C1	000000	Vibration Transmitter	D-342-225A, D-342A-224	13 MPa	12 min	44 %
						0002	23-21-1200_C1_C1	000000	Vibration Transmitter	D-342-225A, D-342A-224	75 CPM	20 s	55 %
						0002	BEVERLY-HILLS-BEFORESBY-DV-GR000-0002-1_NEL_1	000000			14 °C	65 min	15 %
						0002	TEST-INPUT-001	000000			10 GPM	60 min	10 %
						0002	TEST-06-0001	000000			15 MPa	6 s	10 %



- Update Core Function's SSRS Report with Input Set point table



### E. Response Time

1. Process Safety Time:
2. Process Safety Time Notes
3. SIF Response Time:
4. SIF Response Time Notes:
5. Sensor Detection Time:
6. Logic Solver Processing Time:
7. Final Element and Actuation:
8. Achieved System Response Time:

### F Trip Requirements

Input Tag	Set Point Value	Set Point Type	Trip Settings	Set Point Tolerance	Set Point Time Delay	Set Point Basis	Set Point Notes
TEST-IP-01	10 °C	Other	L	10 %	15 s	Test basis	Test notes
TEST-IP-02							

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**TEST-SIF-01**  
Page 3 of 19

- The container layer of "Actions" and "Notes" grids is collapsible.

**Cause & Effect Matrix Grid within COMPLEXUS**

This report is designed to render the C&E matrix grid and facilitate all the interactive grid components associated with it.

Mode Cause & Effect Matrix

Function	Position	Target	Initial	Final	Description	Default	Priority	Input	Description	Device Location	YIELD	Top	Sequence	Delay	Tolerance
81_SIP_LABRI22	SIP	111	2	2	060709 Test High Level	2002	LT107A	Safety Critical Transmitter for SIP-LABRI22	Input Location - Test Sprint Review D-242-2204, D-2424-324	30 SPD 0%	De-energize	64 min	85 %		
							LT107B			65 CPW	Increasing	88 min	79 %		
							LT107C			65 GPN	Manual	53 min	92 %		
SIP-052419	SIP	0	N/A			2002	HS100	Gas Stabilizer FID, D-2424-324	Gas Stabilizer FID, D-2424-324	10 "T" M	Decreasing	70 min	99 %		
SIP-LABRI08	SIP	183	2		1902 Reflux Accumulator	1sw1	LT108	Reflux Accumulator		64 % Status	Increasing	45 min	95 %	N/A	N/A
										10 "K" Operation	Increasing	39 min	78 %		

**Cause & Effect Matrix Grid within COMPLEXUS**

This report is designed to render the C&E matrix grid and facilitate all the interactive grid components associated with it.

Mode Cause & Effect Matrix

C&E Notes and C&E Actions

There is no data on current page

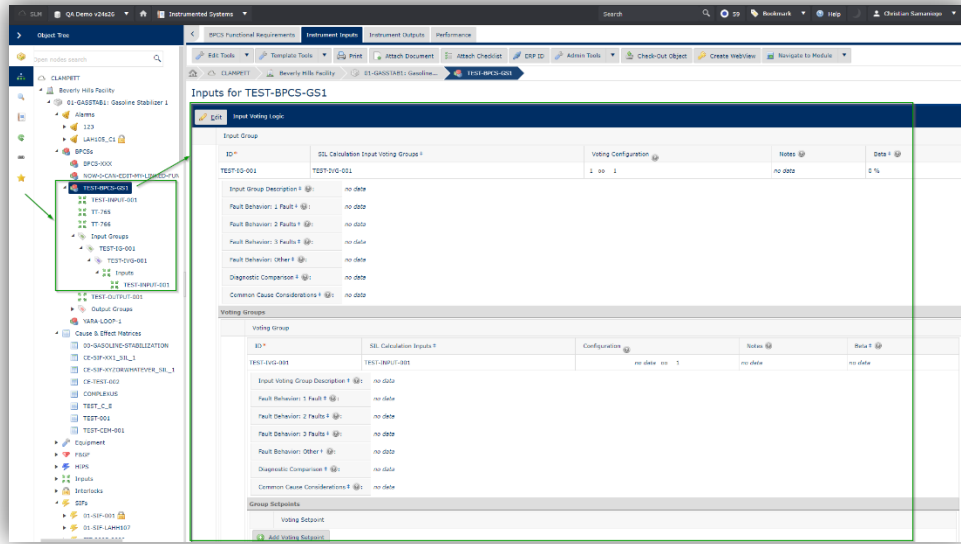
No items to display

Legend

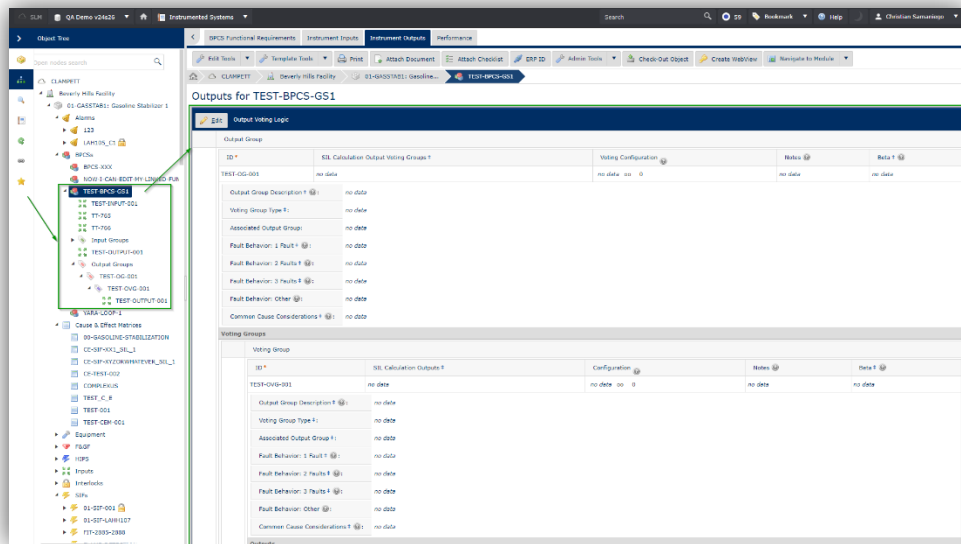
- A Alarm
- C Close
- D De-energize
- E Energize
- H Manual
- N/A Not Applicable
- O Open
- P Purge/Flush
- R Run/Start
- T Trip/Stop

Function	Position	Target	Initial	Final	Description	Default	Priority	Input	Description	Device Location	YIELD	Top	Sequence	Delay	Tolerance
81_SIP_LABRI22	SIP	111	2	2	060709 Test High Level	2002	LT107A	Safety Critical Transmitter for SIP-LABRI22	Input Location - Test Sprint Review D-242-2204, D-2424-324	30 SPD 0%	De-energize	64 min	85 %		

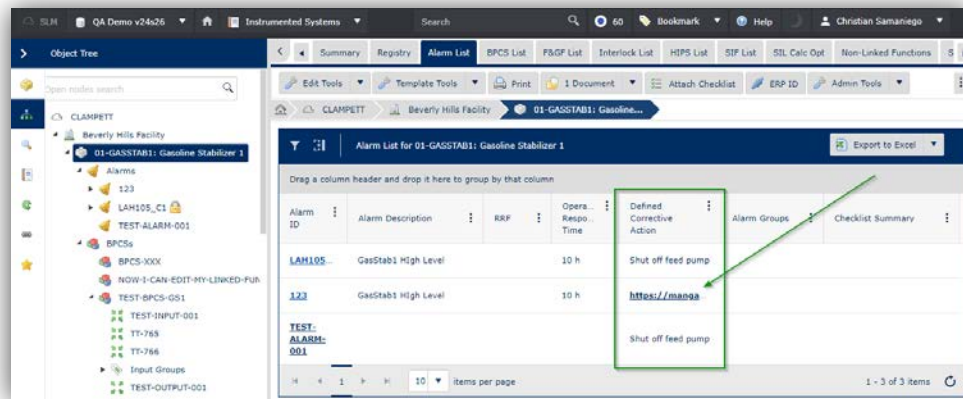
- Added Input Group and Input Voting Group relationships between BPCS and Input.



- Added Output Group and Output Voting Group relationships between BPCS and Output.



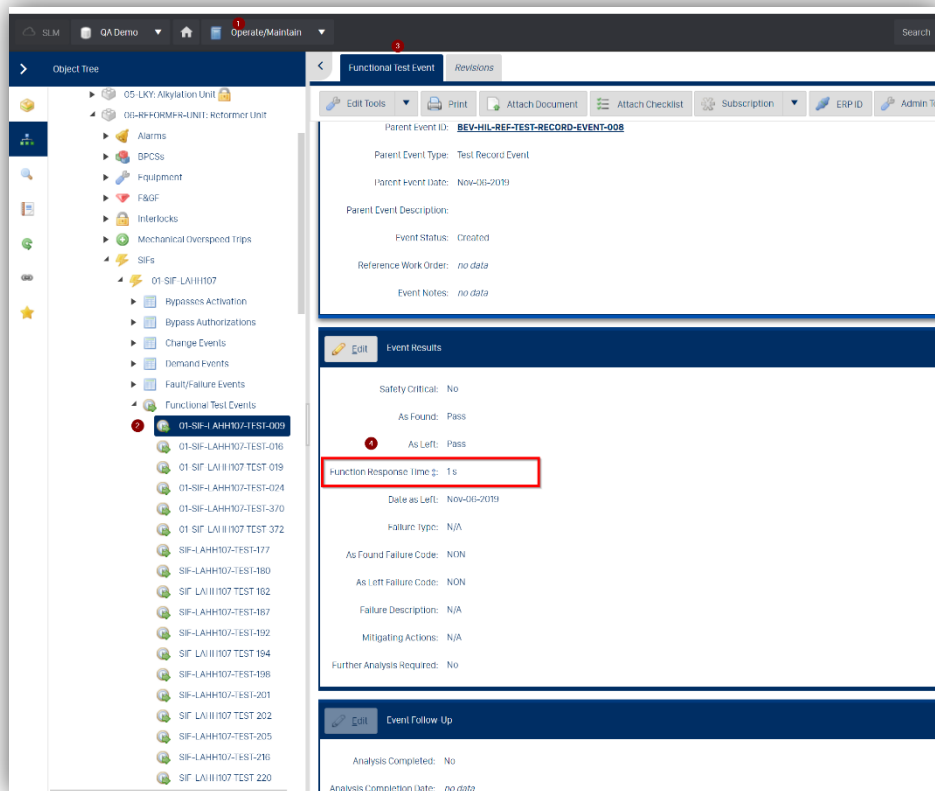
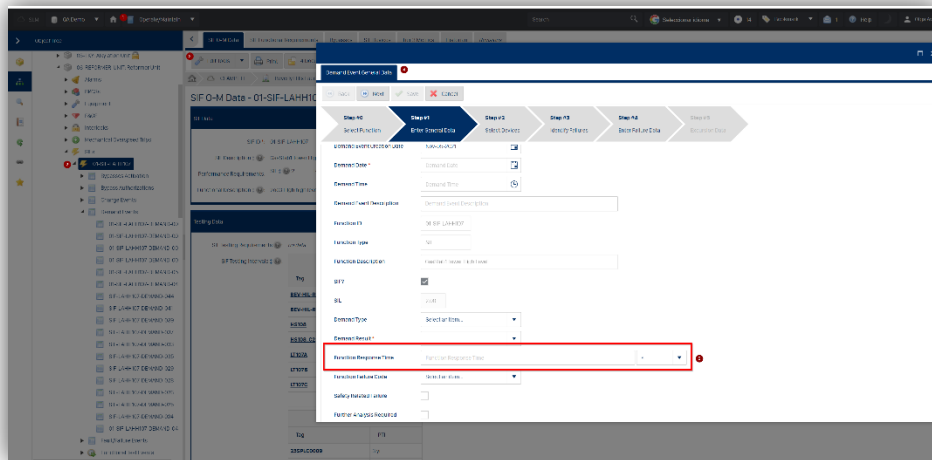
- At Alarm List grid, if the "Defined Corrective Action" column has a data hyperlink, it is display as a hyperlink.



# New features

## Operate Maintain

- Function Response Time was added for Functional Test Event and Demand Event. A new report was added to allow the comparison of this observed Function Response Time to the Process Safety Time and SIF Response Time fields identified in the SIF's and HIP's data.



The screenshot displays a software interface with a table titled "Function Response Time Reformer Unit". The table contains the following data:

Function ID	Reformer Type	Reformer Safety Rate	Reformer Response Time	Function Response Time	Event ID	Event Type	Is Continuous Demand	Event Date
30 SF - LK4407	RF	5%	4.754	34	30 SF - LK4407 - REFORMER-003	Reformer Unit	True	2018-04-24
30 SF - LK4407	RF	5%	4.754	74	30 SF - LK4407 - REFORMER-003	Reformer Unit	True	2018-07-18
30 SF - LK4407	RF	5%	4.754	114	30 SF - LK4407 - REFORMER-003	Reformer Unit	True	2018-07-18
30 SF - LK4407	RF	5%	4.754	154	30 SF - LK4407 - REFORMER-003	Reformer Unit	True	2018-07-18
30 SF - LK4407	RF	5%	4.754	194	30 SF - LK4407 - REFORMER-003	Reformer Unit	True	2018-07-18
30 SF - LK4407	RF	5%	4.754	234	30 SF - LK4407 - REFORMER-003	Reformer Unit	True	2018-07-18
30 SF - LK4407	RF	5%	4.754	274	30 SF - LK4407 - REFORMER-003	Reformer Unit	True	2018-07-18
30 SF - LK4407	RF	5%	4.754	314	30 SF - LK4407 - REFORMER-003	Reformer Unit	True	2018-07-18
30 SF - LK4407	RF	5%	4.754	354	30 SF - LK4407 - REFORMER-003	Reformer Unit	True	2018-07-18
30 SF - LK4407	RF	5%	4.754	394	30 SF - LK4407 - REFORMER-003	Reformer Unit	True	2018-07-18
30 SF - LK4407	RF	5%	4.754	434	30 SF - LK4407 - REFORMER-003	Reformer Unit	True	2018-07-18
30 SF - LK4407	RF	5%	4.754	474	30 SF - LK4407 - REFORMER-003	Reformer Unit	True	2018-07-18
30 SF - LK4407	RF	5%	4.754	514	30 SF - LK4407 - REFORMER-003	Reformer Unit	True	2018-07-18
30 SF - LK4407	RF	5%	4.754	554	30 SF - LK4407 - REFORMER-003	Reformer Unit	True	2018-07-18
30 SF - LK4407	RF	5%	4.754	594	30 SF - LK4407 - REFORMER-003	Reformer Unit	True	2018-07-18
30 SF - LK4407	RF	5%	4.754	634	30 SF - LK4407 - REFORMER-003	Reformer Unit	True	2018-07-18
30 SF - LK4407	RF	5%	4.754	674	30 SF - LK4407 - REFORMER-003	Reformer Unit	True	2018-07-18
30 SF - LK4407	RF	5%	4.754	714	30 SF - LK4407 - REFORMER-003	Reformer Unit	True	2018-07-18
30 SF - LK4407	RF	5%	4.754	754	30 SF - LK4407 - REFORMER-003	Reformer Unit	True	2018-07-18
30 SF - LK4407	RF	5%	4.754	794	30 SF - LK4407 - REFORMER-003	Reformer Unit	True	2018-07-18
30 SF - LK4407	RF	5%	4.754	834	30 SF - LK4407 - REFORMER-003	Reformer Unit	True	2018-07-18
30 SF - LK4407	RF	5%	4.754	874	30 SF - LK4407 - REFORMER-003	Reformer Unit	True	2018-07-18
30 SF - LK4407	RF	5%	4.754	914	30 SF - LK4407 - REFORMER-003	Reformer Unit	True	2018-07-18
30 SF - LK4407	RF	5%	4.754	954	30 SF - LK4407 - REFORMER-003	Reformer Unit	True	2018-07-18
30 SF - LK4407	RF	5%	4.754	994	30 SF - LK4407 - REFORMER-003	Reformer Unit	True	2018-07-18

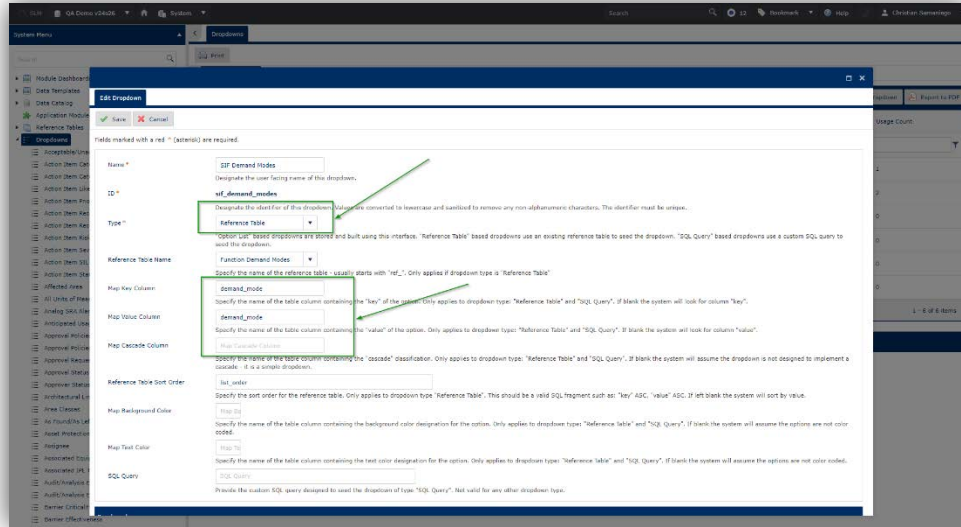
## System

- Added "Function Demand Modes" table ref with defined option "Is Continuous Demand" column.

The screenshot displays a software interface showing the "Function Demand Modes Items" table. The table contains the following data:

Demand Mode	Is Continuous Demand	List Order	Modified by	Modified on
Continuous Demand	1	0	Christian Samaniego	Nov-04-2021
Low Demand	0	1	Christian Samaniego	Nov-04-2021

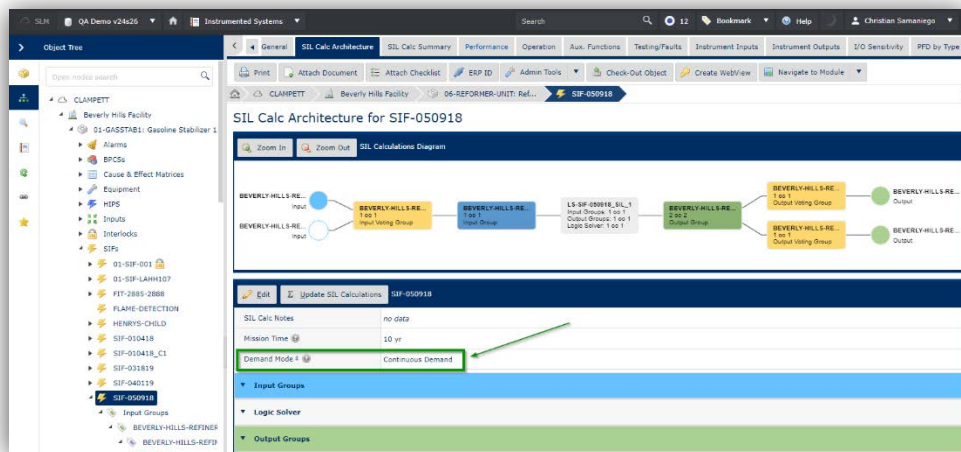
- Updated the dropdown, used in *Demand Mode* field SIF, to *dropdown type* using the "Function Demand Modes" table ref.



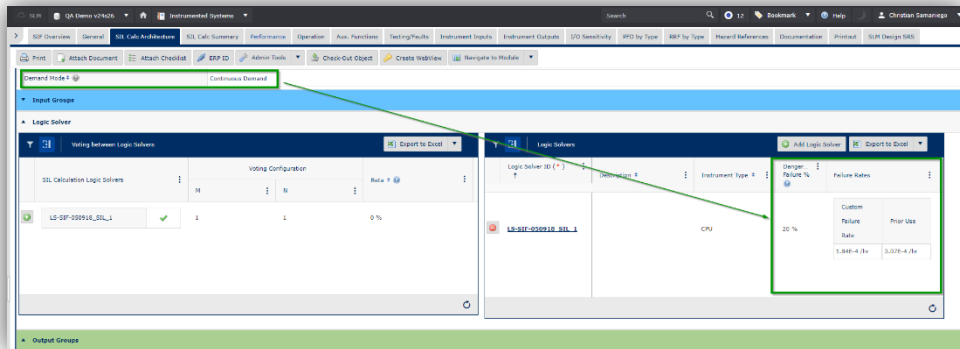
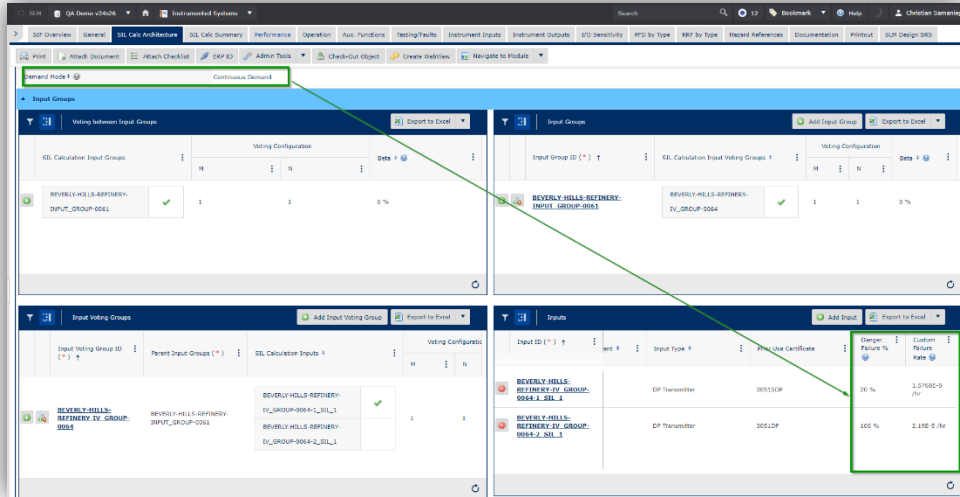
## Instrumented Systems

### SIL Calc Improvements: High/Continuous Demand Calculation

- Added "*Demand Mode*" field at "*SIL Calc Architecture*" template.

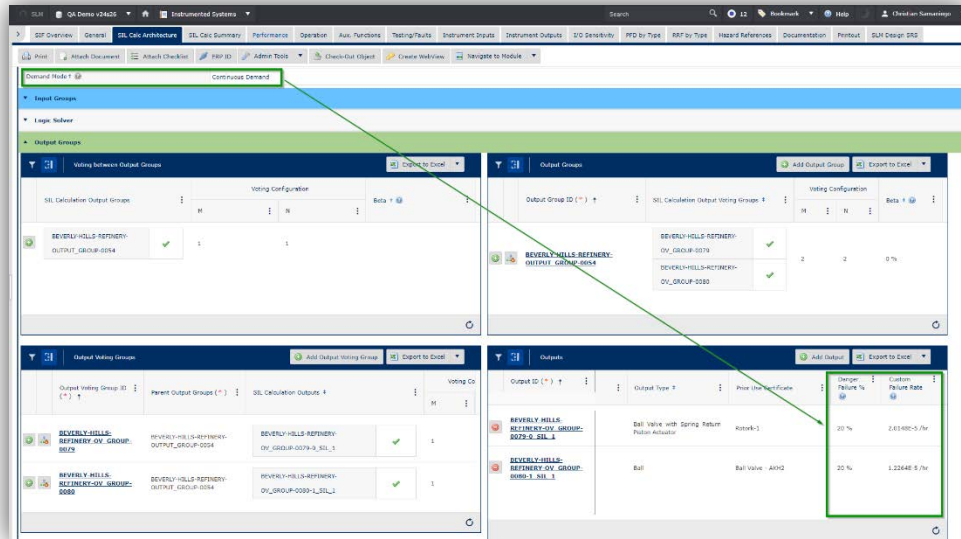


- When the "Demand Mode" field is updated with *Continuous Mode* option, the *PTI*, *PTC*, *DC* and *MTTR* columns are hidden in Inputs and Logic solvers tables.

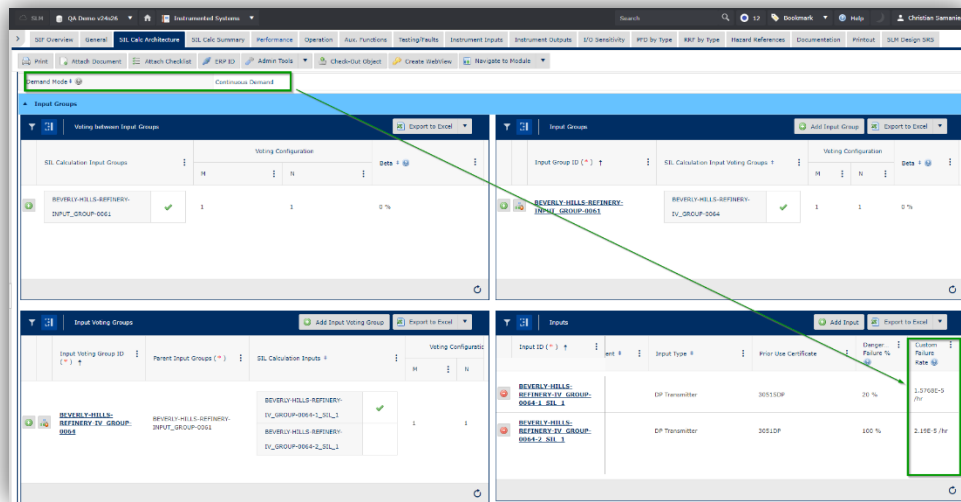




- When the "Demand Mode" field is updated with *Continuous Mode* option, the *PTI*, *PTC*, *DC*, *MTRR*, *PSTI* and *PSTC* columns are hidden in *Outputs* table.



- When the "Demand Mode" field is updated with *Continuous Mode* option, the *failure rates* are displayed at */hr* measure at *Inputs*, *Logic solvers* and *Outputs* tables.



OL Demo v2402 Instrumented Systems

SLM Overview | General | SLM Calc Architecture | SLM Calc Summary | Performance | Operation | Aux. Functions | Testing/Tricks | Instrument Inputs | Instrument Outputs | I/O Sensitivity | PFD by Type | RRF by Type | Hazard Reference | Documentation | Printout | SLM Design DSG

Home | Attach Document | Attach Checklist | ERP ID | Admin Tools | Check-Out Object | Create Inhibitors | Navigate to Module

Command Model | Continuous Demand

Input Groups

Logic Solver

Voting between Logic Solvers

SLM Calculation Logic Solvers	Voting Configuration		Rate #
	M	N	
LS-SIT-000918_SIL_1	1	1	0%

Logic Solvers

Logic Solver ID (*)	Description #	Instrument Type #	Danger Failure %	Failure Rates				
LS-SIT-000918_SIL_1		CPU	20%	<table border="1"> <thead> <tr> <th>Custom Failure Rate</th> <th>Prior Use</th> </tr> </thead> <tbody> <tr> <td>1.94E-4 /hr</td> <td>3.07E-4 /hr</td> </tr> </tbody> </table>	Custom Failure Rate	Prior Use	1.94E-4 /hr	3.07E-4 /hr
Custom Failure Rate	Prior Use							
1.94E-4 /hr	3.07E-4 /hr							

Output Groups

OL Demo v2402 Instrumented Systems

SLM Overview | General | SLM Calc Architecture | SLM Calc Summary | Performance | Operation | Aux. Functions | Testing/Tricks | Instrument Inputs | Instrument Outputs | I/O Sensitivity | PFD by Type | RRF by Type | Hazard Reference | Documentation | Printout | SLM Design DSG

Home | Attach Document | Attach Checklist | ERP ID | Admin Tools | Check-Out Object | Create Inhibitors | Navigate to Module

Command Model | Continuous Demand

Input Groups

Logic Solver

Output Groups

Voting between Output Groups

SLM Calculation Output Groups	Voting Configuration		Rate #
	M	N	
BEVERLY HILLS REFINERY OUTPUT_GROUP_0004	1	1	

Output Groups

Output Group ID (*)	SLM Calculation Output Group #	Voting Configuration	Rate #	
		M	N	
BEVERLY HILLS REFINERY OUTPUT_GROUP_0004	BEVERLY HILLS REFINERY_OV_GROUP_0007	2	2	0%
	BEVERLY HILLS REFINERY_OV_GROUP_0008			

Output Voting Groups

Output Voting Group ID (*)	Parent Output Group (*)	SLM Calculation Output #	Voting Config
			M
BEVERLY HILLS REFINERY_OV_GROUP_0009	BEVERLY HILLS REFINERY_OV_GROUP_0007	BEVERLY HILLS REFINERY_OV_GROUP_0009_SIL_1	1
BEVERLY HILLS REFINERY_OV_GROUP_0008	BEVERLY HILLS REFINERY_OV_GROUP_0004	BEVERLY HILLS REFINERY_OV_GROUP_0008_SIL_1	1

Outputs

Output ID (*)	Output Type #	Prior Use Certificate	Danger Failure %	Custom Failure Rate
BEVERLY HILLS REFINERY_OV_GROUP_0009_SIL_1	Ball Valve with Spring Return Piston Actuator	Katarko	20%	0.03402-5 /hr
BEVERLY HILLS REFINERY_OV_GROUP_0008_SIL_1	Ball Valve - AKHQ		20%	0.22648-5 /hr

- When the "Demand Mode" field is updated with *Continuous Mode* option, the *Total RRF Calculation* table is displayed as *Total SIL Calculation* table.

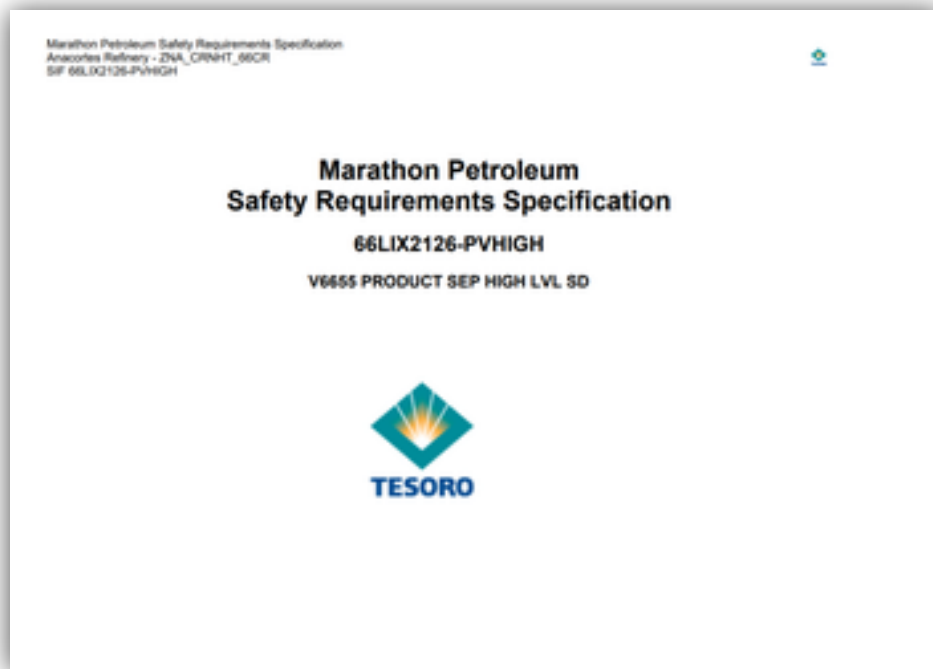
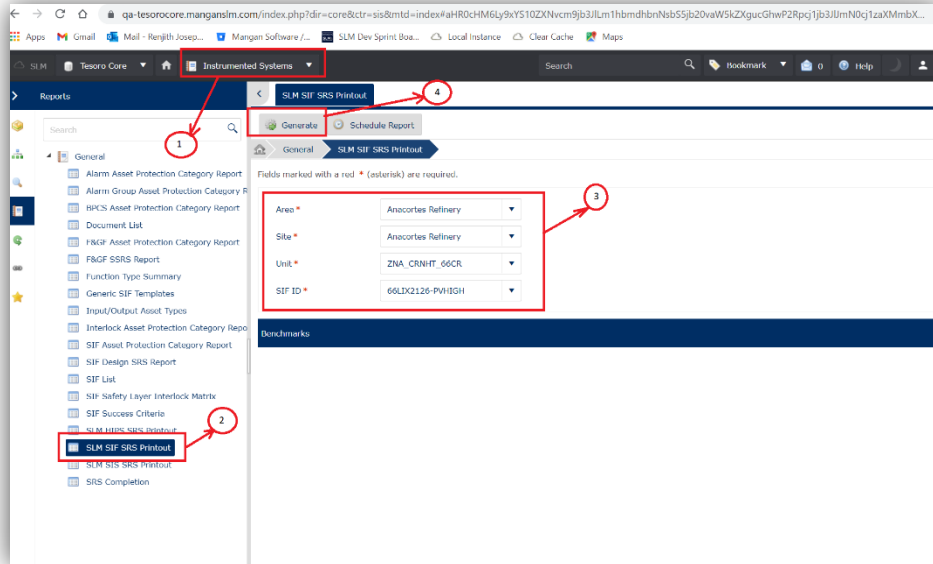
The screenshot displays the SIL Calc Architecture software interface for SIF-050918. The 'SIL Calculations Diagram' shows a flow from input groups through logic solvers to output groups. The 'SIL Calculation' table below is titled 'Total SIL Calculation within SIF-050918' and is highlighted with a green border. The 'Demand Mode' is set to 'Continuous Demand'.

Failure Rate Source	Input Group PFF	Logic Solver PFF	UPS PFF	Output Group PFF	Total PFF	Achieved SIL
Prior Use	2.13E-6	7E-9	N/A	3.13E-6	5.32E-6	1
Custom Failure Rate	3.60E-10	4.20E-9	N/A	7.40E-10	5.30E-9	4
Design Basis Failure Rate	4.60E-5	4.20E-9	N/A	5.60E-7	4.66E-5	0
External Result	3.50E-6	2.50E-6	N/A	1.00E-6	7.50E-6	1

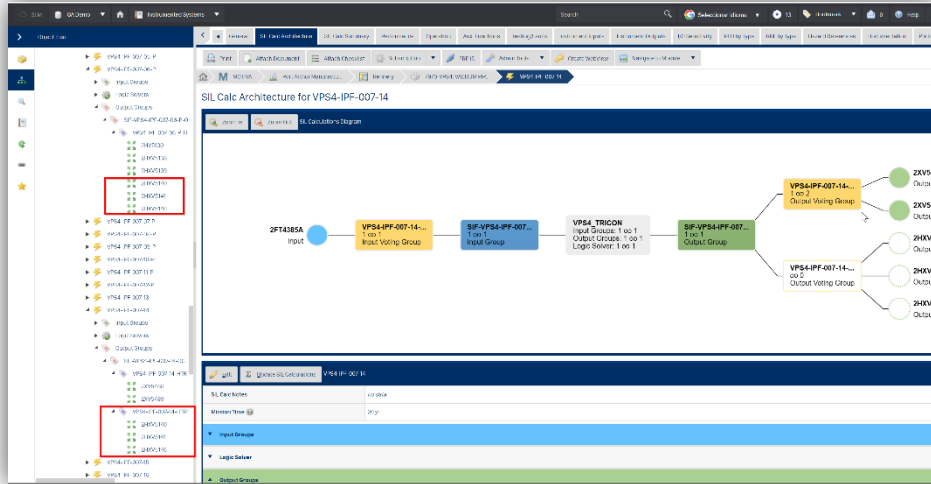
# Fixes

## Instrumented Systems

- Fixed the SLM SIF SRS Printout report for Core Instance.



- Fixed issue linking Inputs/Outputs between two Sides, after move them from one I/O voting group parent inside the second SIF the I/O link disappear from the original parent Sif



## HAZOP

- The HAZOP SSRS report cover page refinements such as an increase in font size and theme matching with the rest of the pages.

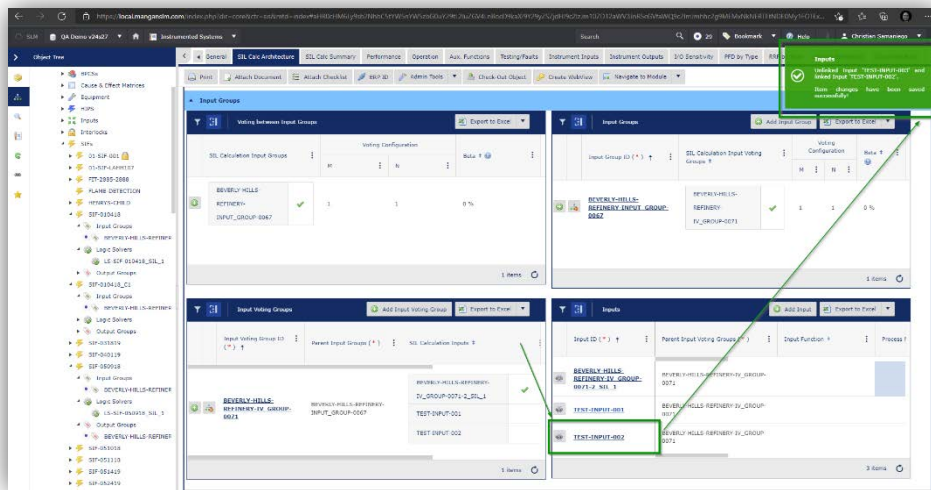
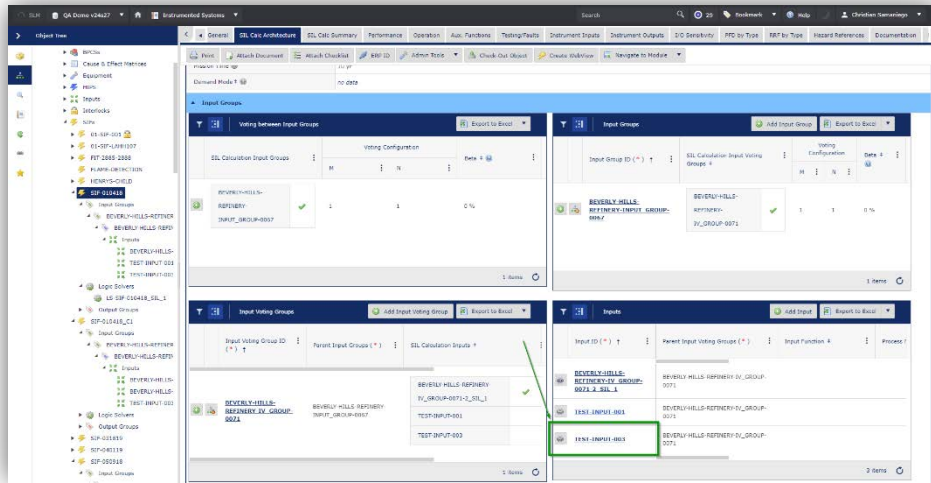
The screenshot shows a web application for HAZOP Study Facilitation. The top navigation bar includes 'Facilitation', 'Administration', 'Review', 'Gap Report by Sequence', 'HAZOP Study Approval', and 'Revisions'. A search bar is located on the right. The main content area is titled 'HAZOP Study Facilitation' and includes buttons for 'Add New Node', 'Add Equipment to a Node', 'Add Deviations to a Node', 'Barrier List', 'Recommendation List', and 'Marked Scenarios'. A 'Select HAZOP Node' dropdown menu is set to 'B1-100-01'. Below this, there is a section for 'Wellhead Flowlines' with a detailed description of the node, including a note about the scope of the HAZOP study and a list of incidents.

### HAZOP Study : 100

HAZOP Study Properties	
Site:	A-Island
Unit:	WELLHEAD PRODUCTION
HAZOP Study ID:	100
HAZOP Type:	HAZOP of Record
Study Start Date:	Jan-31-2020
Study End Date:	
Study Comments:	



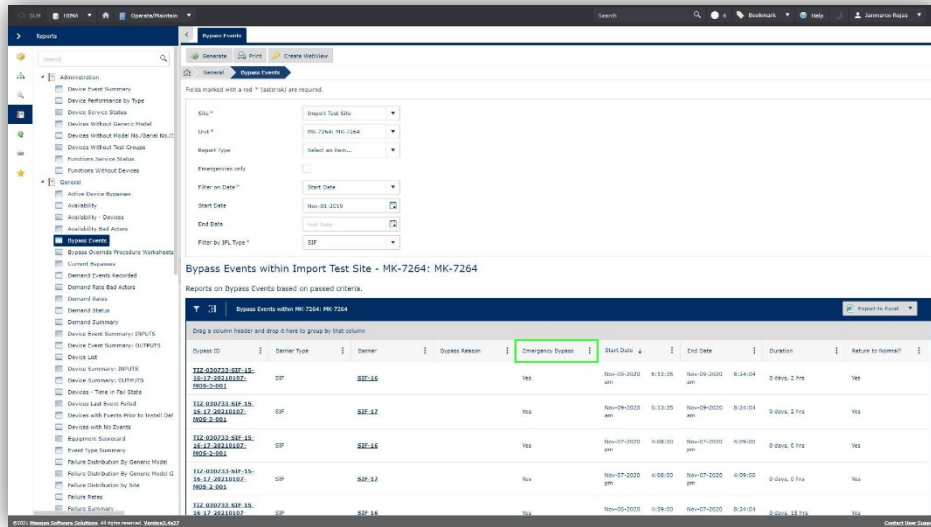
- Switching any selected object with other object, updating the object id column in any table at *SIL Calc Architecture*.



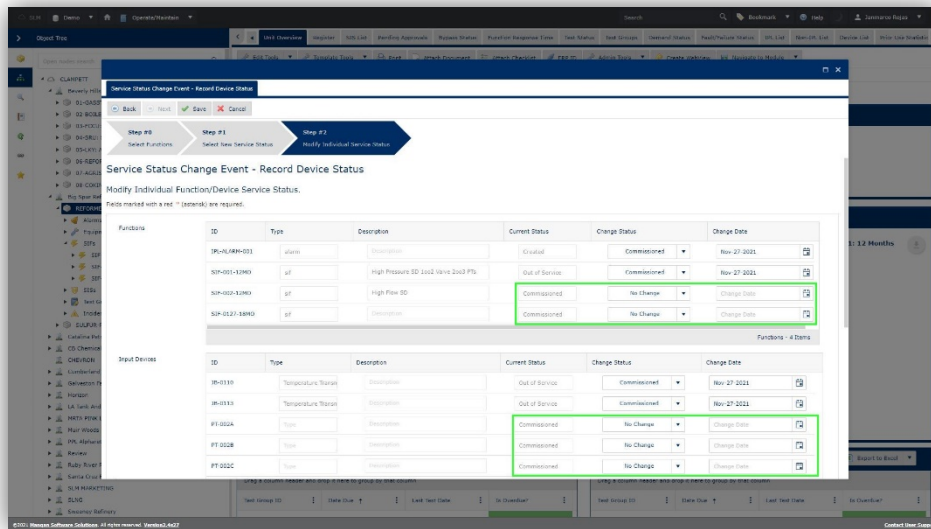


# Operate Maintain

- Updating the Bypass Events report to use the field label for the Emergency Bypass field.

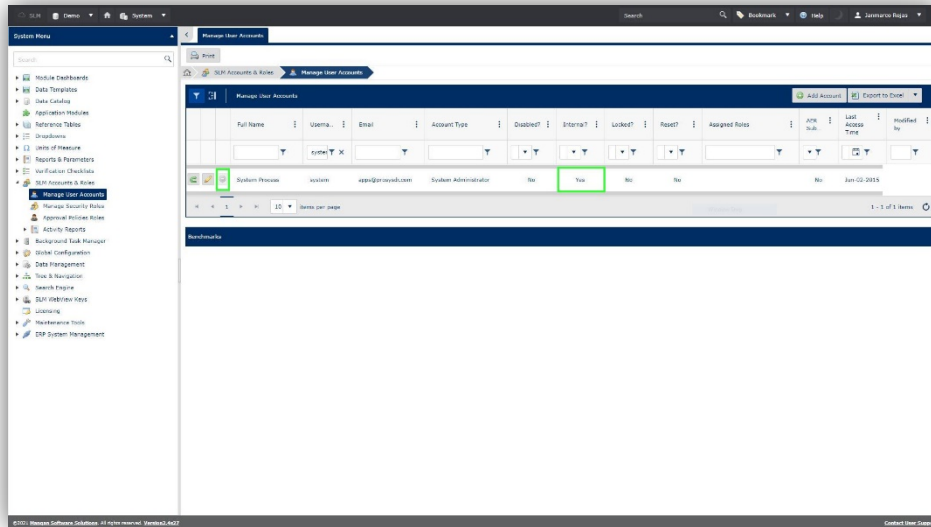


- New 'No Change' option for the Change Status dropdown has been added to the workflow Service Status Change Event - Step #3 (Modify Individual Service Status).



# System

- Disabling the delete button for Internal accounts.



# New features

## General

- The option to display grid cell information in a window was added.

The screenshot displays a software interface for managing hazards. The main table lists hazards with columns for Cause Type, Cause Likelihood, IEF, Consequence, Hazard Register, TMEI, Risk Ranking, and Enabling Events. An 'Information Window' is open over the first row, showing a 'Hazard Register' table with Severity and Description columns. The Hazard Register table lists severity levels from 0 to 6, with descriptions ranging from 'Low - First aid or exposures which do not result in injury or long term health effects' to 'Catastrophic - potential for 50+ fatalities or life threatening health effects'.

Severity	Description
0	Low - First aid or exposures which do not result in injury or long term health effects
1	Medium - Employee injuries which may result in short term disability or days away from work
2	High - Employee injuries which may have long term or permanent disability
3	Major - 1-2 Fatalities, 10+ Injuries
4	Very Major - 3+ Fatalities, 30+ Injuries
5	Catastrophic - potential for 50+ Fatalities
6	Catastrophic - potential for 50+ fatalities or life threatening health effects

## Instrumented Systems

- The Performance Achieved fields are updated using a "Continuous Demand" options at "Update SIL Calculations" action.

The screenshot shows the 'SIL Calc Architecture' view for SIF-050918. The table below displays the SIL calculation results:

Failure Rate Source	Input Group PPH	Logic Solver PPH	UPS PPH	Output Group PPH	Total PPH	Achieved SIL
Prior Use	2.18E-7	4.57E-10	N/A	3.13E-7	5.31E-7	2
Custom Failure Rate	8E-8	4.57E-10	N/A	2.95E-10	8.13E-8	3
Design Basis Failure Rate	5.25E-10	4.57E-10	N/A	6.39E-12	9.88E-10	4
External Result	3.50E-6	2.50E-6	N/A	1.50E-6	7.50E-6	1

The screenshot shows the 'SIF Overview' view for SIF-050918. The table below displays the SIF functional requirements:

Performance Target	SIL	RRF	PPF	Achieved SIL	Achieved RRF	Achieved PPF
Performance Target	SIL 1	:2	RRF 1	:200	PPF 1	:1E-3
Performance Achieved	Achieved SIL 1	:3	Achieved RRF 1	:N/A	Achieved PPF 1	:8.13E-8

QA Demo v24c27 Instrumented Systems

Object Tree: Beverly Hills Facility > 01-GASSTAB1: Gasoline Stabilizer 1 > SIF-050918

### SRS Performance for SIF-050918

Governing Result Source: Custom Failure Rate

Governing Selection Basis: no data

Rating:	SIL I	RRP I	PFDAvg I
Target:	2	200	5E-3
Achieved:	3	N/A	8.13E-8
In-Service:	n/a	1882242	5.31E-7

SIF Response Time

Process Safety Time I: no data  
 Process Safety Time Notes I: no data  
 Sensor Detection Time I: no data  
 Logic Solver Processing Time I: no data  
 Final Element and Actuation Time I: no data  
 SIF Response Time I: no data  
 SIF Response Time Note I: no data  
 Achieved System Response Time I: no data

Trip Requirements

Selected Set Points:	Input Tag	Set Point Value	Set Point Type	Trip Settings	Set Point Tolerance	Set Point Time Delay	Set Point Basis	Set Point Notes
	BEVERLY-HILLS-REFINERY-IV_GROUP-0064-1_SIL_1	no data	no data	no data	no data	no data	no data	no data
	BEVERLY-HILLS-REFINERY-IV_GROUP-0064-2_SIL_1	no data	no data	no data	no data	no data	no data	no data

QA Demo v24c27 Instrumented Systems

Object Tree: Beverly Hills Facility > 01-GASSTAB1: Gasoline Stabilizer 1 > SIF-050918

### Design SRS Report for SIF SIF-050918

Site: Beverly Hills Facility Unit: Gasoline Stabilizer 1

SIF Description I: no data  
 Functional Description I: no data  
 P&ID References: Array  
 SIF Safe State I: no data  
 P&HA References: no data  
 Hazard Description I: no data  
 Demand Sources I: no data  
 Designed Demand Rate I: no data  
 Calculated SIF Demand Rate: no data  
 Demand Mode I: Continuous Demand

SIF Performance

	Target	Achieved Design
SIF Architectural Limits I:		
Mission Time I:	10 yr	
Max Spurious Trip Rate:		
Achieved Spurious Trip Interval I:		
Safety Integrity Level (SIL)	2	3
Probability of Failure on Demand (PFD)	5E-3	8.13E-8
Risk Reduction Factor (RRF)	200	N/A
SIL Calc Notes:		
Process Safety Time I:	no data	no data
Process Safety Time Notes I:		
Sensor Detection Time I:	no data	
Logic Solver Processing Time I:	no data	

**SIL Calc Architecture**

Update SIL Calculations LSH-0600A

SIL Calc Notes: no data  
Mission Time: 20 yr  
Demand Mode: Continuous Demand

Failure Rate Source	Input Group PPH	Logic Solver PPH	UPS PPH	Output Group PPH	Size PPH	Achieved SIL
Prior Use	N/A	4.00E-8	N/A	N/A	N/A	N/A
Shell Ld	8.81E-7	1.7E-8	N/A	8.60E-8	1.18E-7	1
Custom Failure Rate	2.50E-8	2.85E-8	N/A	8.60E-8	1.18E-7	1
Design Basis Failure Rate	2.88E-11	2.88E-8	N/A	9.31E-10	2.31E-8	3
External Result	3.50E-8	1.50E-9	N/A	7.00E-9	4.40E-8	3

Update SIL Calculations | Export to PDF

Future Rate Source

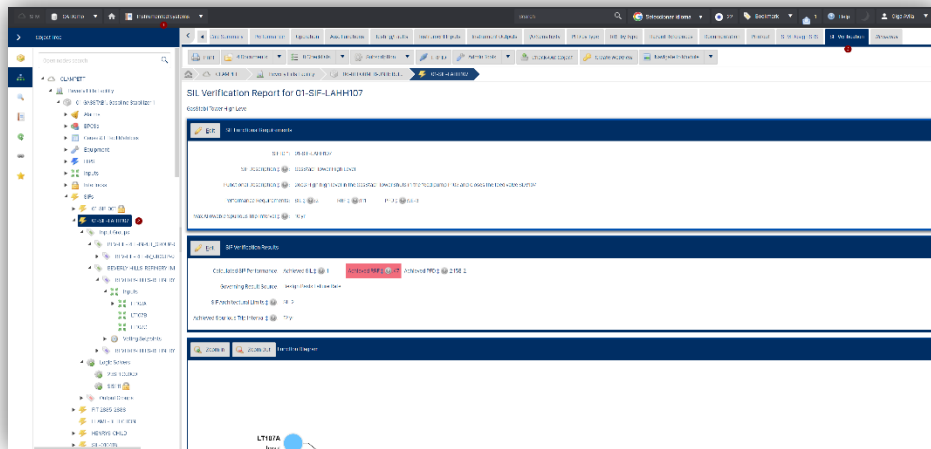
Governing Result Source: Shell Member Ld  
Governing Selection Basis: no data

**Shell Design SIF Report for SIF LSH-0600A**

Site	Appometax	Unit	Appo Topoles
SIF ID	LSH-0600A	Sub-System	no data
SIF Description	Fuel Gas System Flame Header Level High		
Functional Description/Design Intent	To allow for the potential accumulation of water at the Flow PSD which could result in failure of the relaying system to there is a demand on the PSD.		
LOPA References	no data		
SIF Performance			
Input Functional Description	no data	Output Functional Description	no data
CCF Potential	no data	SIF Architectural Limits	no data
Mission Time	20 yr		
Target			
Safety Integrity Level (SIL)	2	Achieved Design	1
Probability of Failure on Demand (PFD)	9.95E-3		9.47E-6
Risk Reduction Factor (RRF)	101		N/A
Target Basis	no data	APR-14C	No
Calculated SIF Demand Rate	1.07E-2/yr	Designed Demand Rate	no data
Demand Mode	Continuous Demand	Demand Mode Notes	no data
Process Safety Time	No Data	Process Safety Time Notes	no data
Sensor Detection Time	no data		
Logic Solver Processing Time	no data		
Final Element Actuation Time	no data		
SIF Response Time	no data	Achieved System Response Time	no data
SIF Response Time Note	no data	SIF Design Complete	No
SIL Calc Notes	no data		

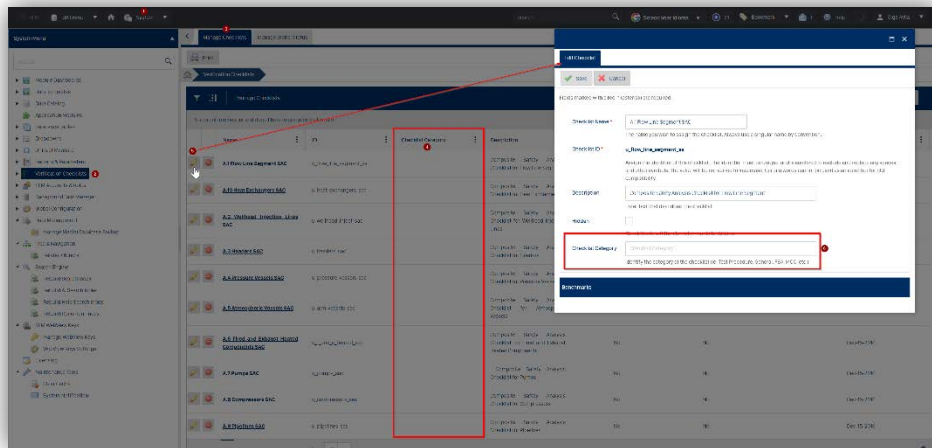
Other SIF Requirements

- Create a new template on the SIF object, named SIL Verification



## Operate Maintain

- Implemented a new functionality to copy the "Test Procedure" checklists to the device events that are created from the execution of a "Test Event" along with interface to enter checklist findings
  - Added a field to checklists called Checklist Category







- On Omi Device List add a new column to show the checklist in the Test Procedure Instruments template that corresponds to the device's Function, Process Measurement (input device only), and Device Type fields

The screenshot shows the Omi Device List interface. The table displays the following data:

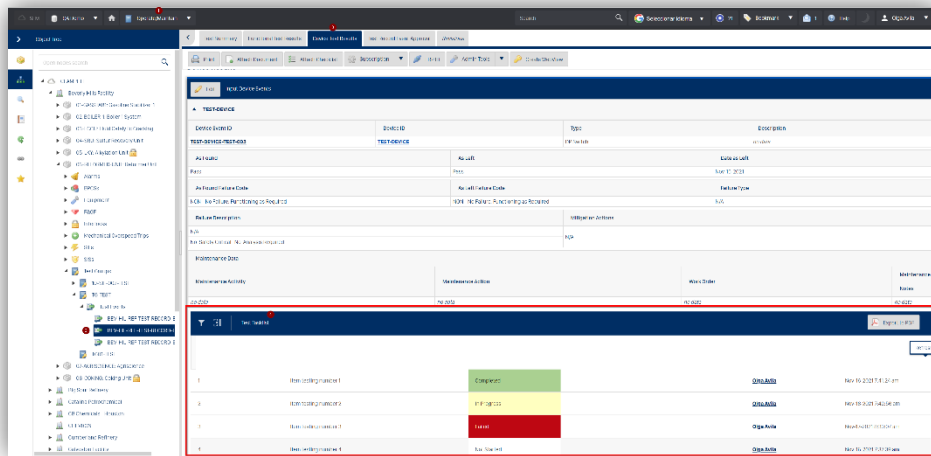
Device ID	Device Name	Test Procedure	Test Results	Test Date	Test Status	Test Location
TEST001	TEST001	TEST PROCEDURE				
TEST002	TEST002	TEST PROCEDURE				
TEST003	TEST003	TEST PROCEDURE				
TEST004	TEST004	TEST PROCEDURE				
TEST005	TEST005	TEST PROCEDURE				
TEST006	TEST006	TEST PROCEDURE				
TEST007	TEST007	TEST PROCEDURE				
TEST008	TEST008	TEST PROCEDURE				
TEST009	TEST009	TEST PROCEDURE				
TEST010	TEST010	TEST PROCEDURE				
TEST011	TEST011	TEST PROCEDURE				
TEST012	TEST012	TEST PROCEDURE				
TEST013	TEST013	TEST PROCEDURE				
TEST014	TEST014	TEST PROCEDURE				
TEST015	TEST015	TEST PROCEDURE				
TEST016	TEST016	TEST PROCEDURE				
TEST017	TEST017	TEST PROCEDURE				
TEST018	TEST018	TEST PROCEDURE				
TEST019	TEST019	TEST PROCEDURE				
TEST020	TEST020	TEST PROCEDURE				

- A new button was added in a "Test Group" template that shows all devices tested in that test group that have a Test Procedure checklist linked

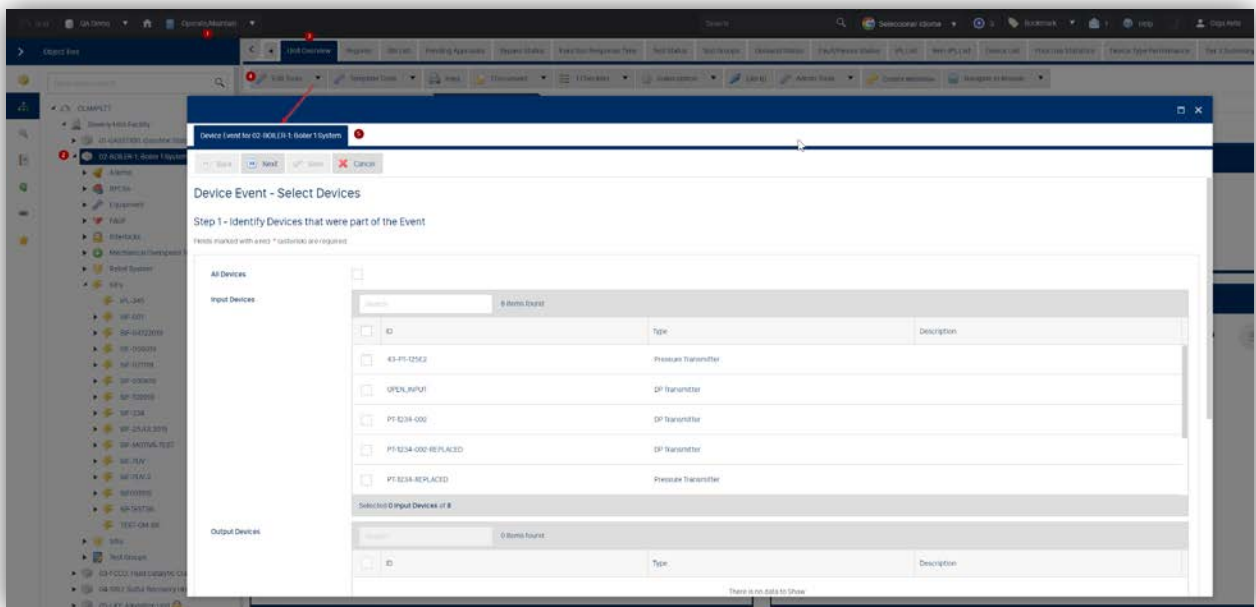
The screenshot shows the Test Group TG-TEST interface. The table displays the following data:

Device ID	Device Name	Device Type	Device Type	Test Results
TEST001	TEST001	TEST PROCEDURE	TEST PROCEDURE	TEST RESULTS
TEST002	TEST002	TEST PROCEDURE	TEST PROCEDURE	TEST RESULTS
TEST003	TEST003	TEST PROCEDURE	TEST PROCEDURE	TEST RESULTS
TEST004	TEST004	TEST PROCEDURE	TEST PROCEDURE	TEST RESULTS
TEST005	TEST005	TEST PROCEDURE	TEST PROCEDURE	TEST RESULTS
TEST006	TEST006	TEST PROCEDURE	TEST PROCEDURE	TEST RESULTS
TEST007	TEST007	TEST PROCEDURE	TEST PROCEDURE	TEST RESULTS
TEST008	TEST008	TEST PROCEDURE	TEST PROCEDURE	TEST RESULTS
TEST009	TEST009	TEST PROCEDURE	TEST PROCEDURE	TEST RESULTS
TEST010	TEST010	TEST PROCEDURE	TEST PROCEDURE	TEST RESULTS
TEST011	TEST011	TEST PROCEDURE	TEST PROCEDURE	TEST RESULTS
TEST012	TEST012	TEST PROCEDURE	TEST PROCEDURE	TEST RESULTS
TEST013	TEST013	TEST PROCEDURE	TEST PROCEDURE	TEST RESULTS
TEST014	TEST014	TEST PROCEDURE	TEST PROCEDURE	TEST RESULTS
TEST015	TEST015	TEST PROCEDURE	TEST PROCEDURE	TEST RESULTS
TEST016	TEST016	TEST PROCEDURE	TEST PROCEDURE	TEST RESULTS
TEST017	TEST017	TEST PROCEDURE	TEST PROCEDURE	TEST RESULTS
TEST018	TEST018	TEST PROCEDURE	TEST PROCEDURE	TEST RESULTS
TEST019	TEST019	TEST PROCEDURE	TEST PROCEDURE	TEST RESULTS
TEST020	TEST020	TEST PROCEDURE	TEST PROCEDURE	TEST RESULTS

- At Test Event



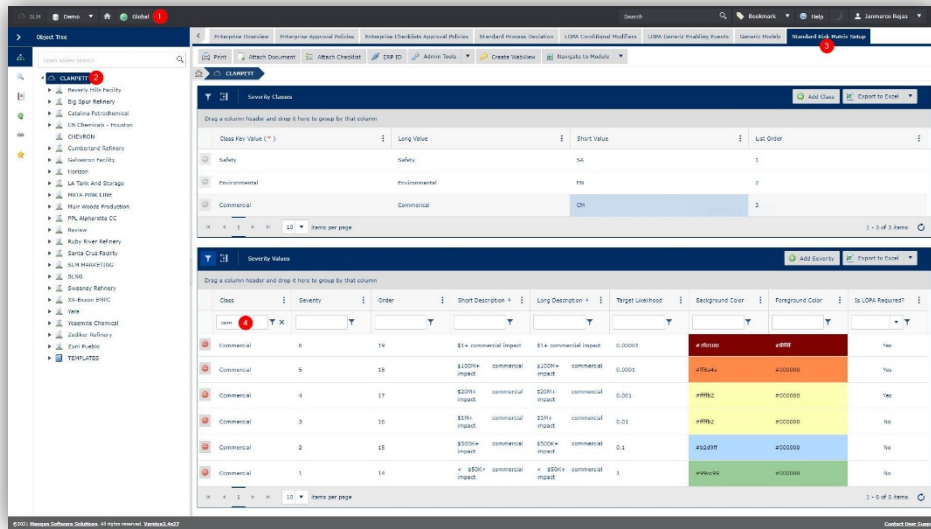
- Added ability to create device events for multiple devices at the unit object level



# Fixes

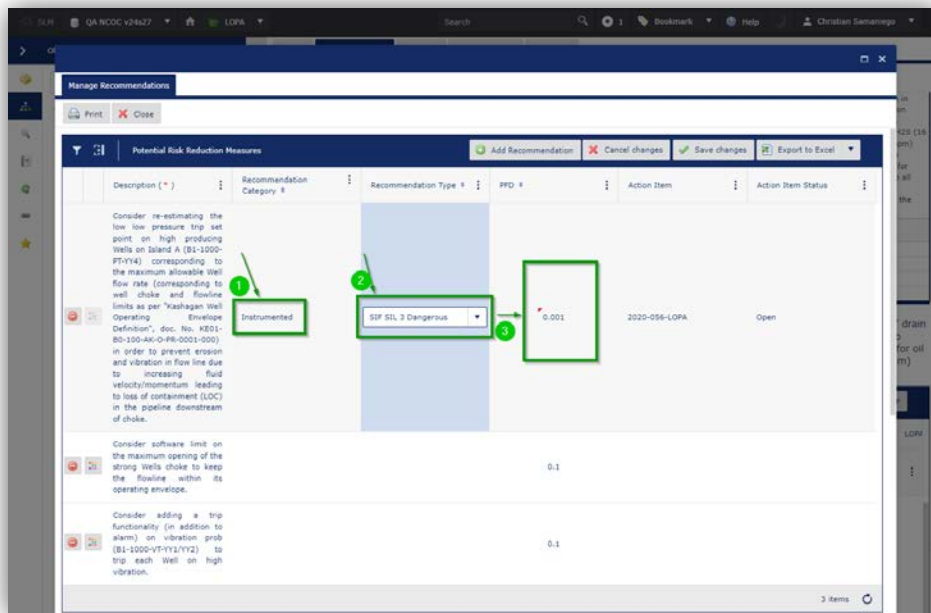
## GLOBAL

- The filtering by class name has been fixed on the Severity Values table.



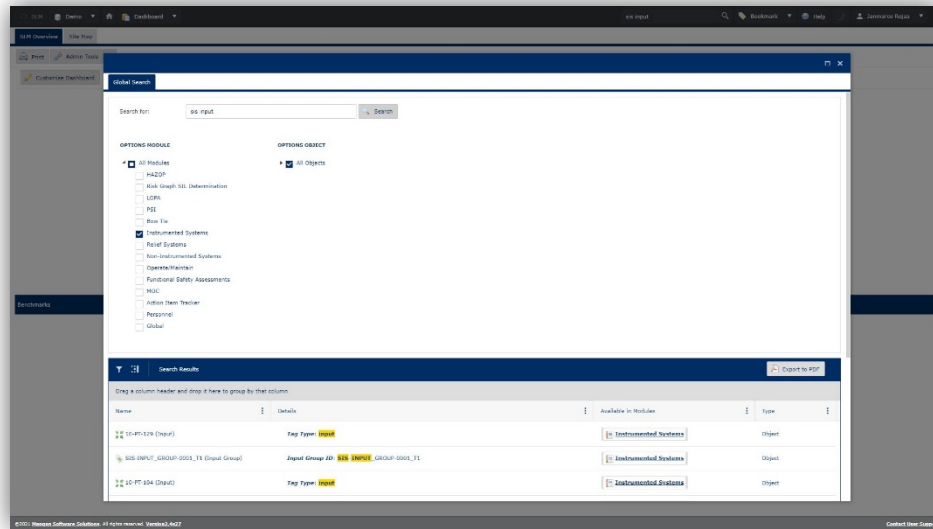
## LOPA

- When update "Potential Risk Reduction Measures" table, the PFD values are populating once IPL Type and Cat are selected.



## General

- The Global Search has been fixed. Filter options can be applied from the Global Search window.



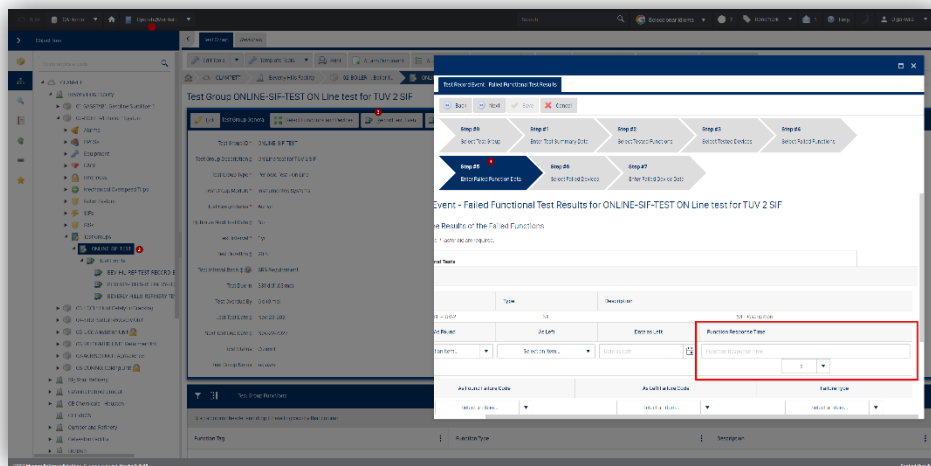
# 2.4s28 Release Notes

These release notes for SLM 2.4s28 provide an overview of the release and document new features, improvements, and known issues.

## Refinements & Usability Gap

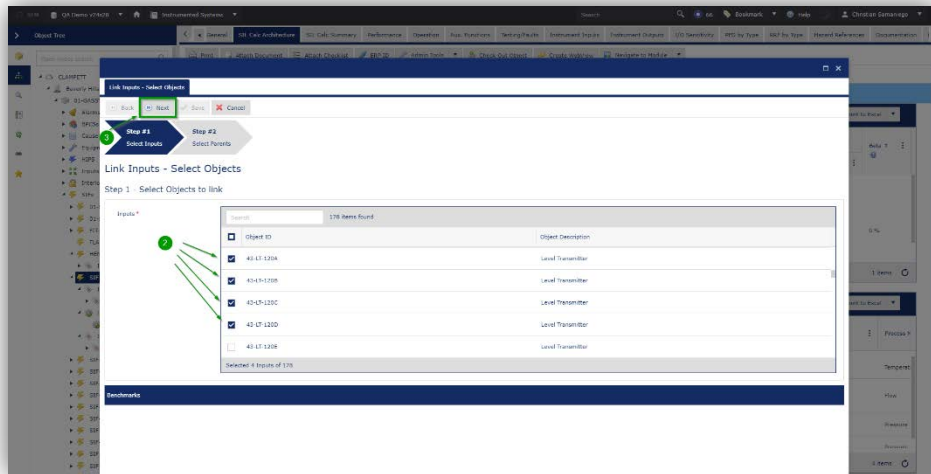
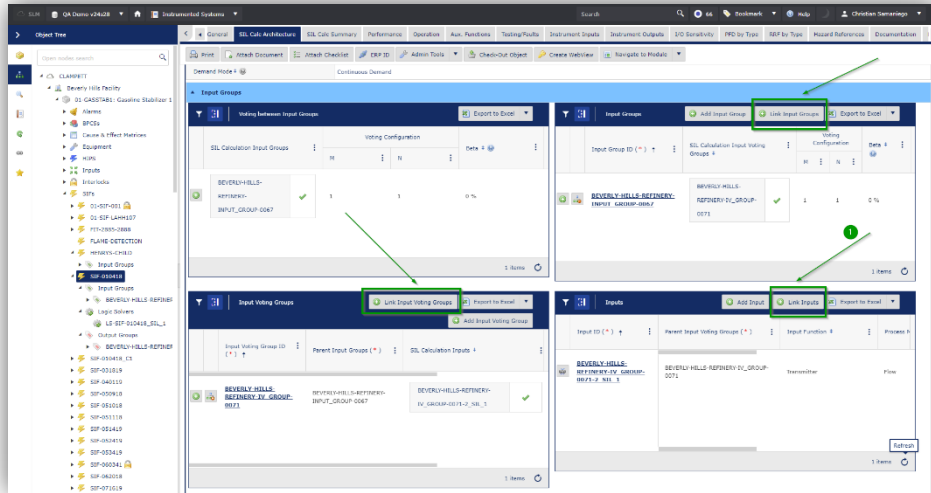
### Operate Maintain

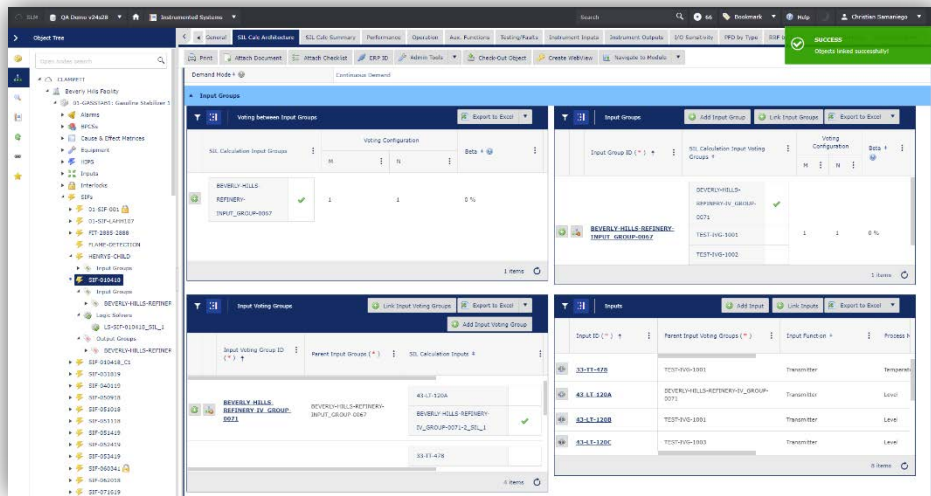
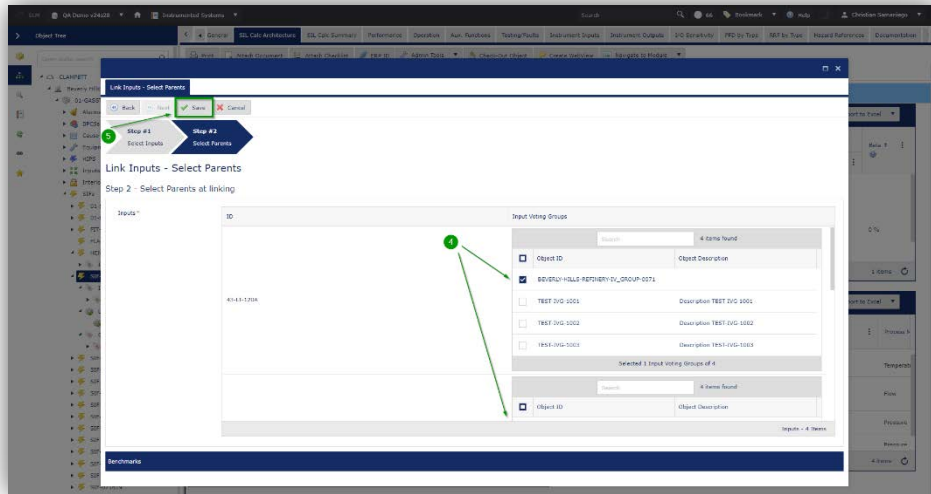
- Added Function Response Time to Test Event Workflow.



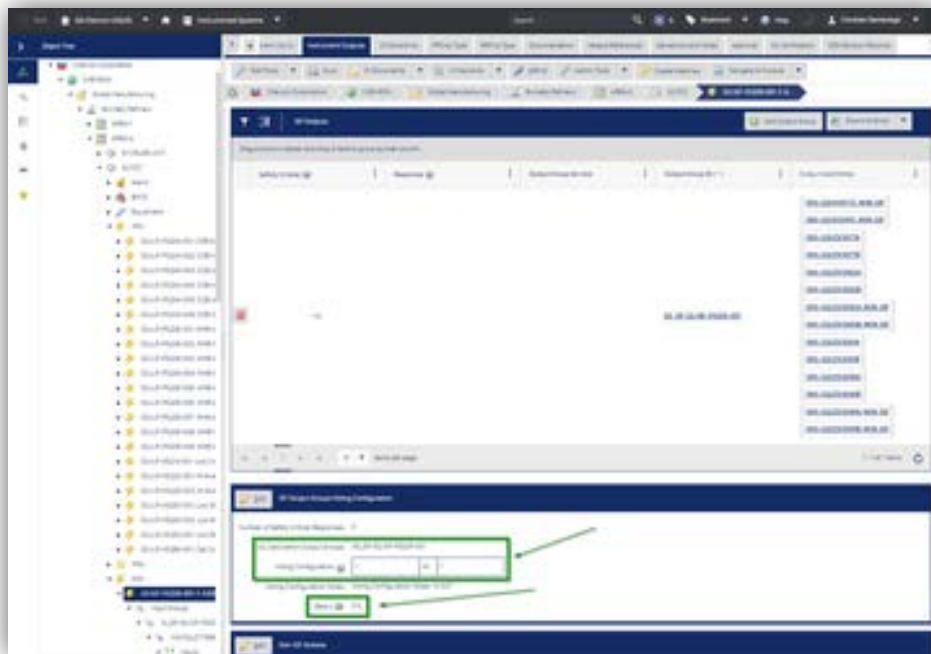
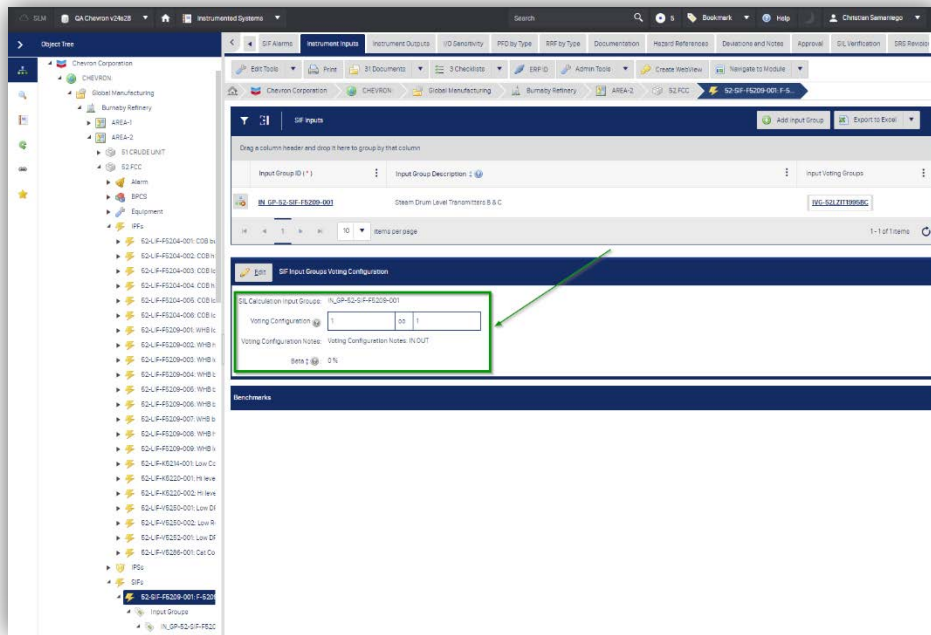
# Instrumented Systems

- At SIL Cal Architecture, could be selected multiple inputs/outputs/voting groups to link into their respect tables at one time.





- Added voting configuration fields related from SIF to Input Group and Output Groups.





- SSRS Report Update for the Achieved RRF field, display a text of "N/A" when a Continuous Demand option is selected for the Demand Mode field

Designed Demand Rate :	0.02 /yr	
Calculated SIF Demand Rate:	0.38	
Demand Mode:	Continuous Demand	
<b>SIF Performance</b>		
SIF Architectural Limits:	SIL 2	
Mission Time:	15 yr	
Max Spurious Trip Rate:	0.1 /yr	
Achieved Spurious Trip Interval:	12 yr	
	Target	Achieved Design
Safety Integrity Level (SIL)	2	2
Probability of Failure on Demand (PFD)	9.00E-003	9.36E-003
Risk Reduction Factor (RRF)	111	N/A
SIL Calc Notes:		
Process Safety Time :	5 h	Process Safety Time Notes: Time to flood tower if bottoms overflow

- Let user able to manually enter achieved SIL value if Governing Source is blank in a SIF

The screenshot shows the 'SRS Performance for SIF-031819' configuration page. The 'Governing Result Source' field is currently set to 'no data'. Below this, a table displays performance metrics:

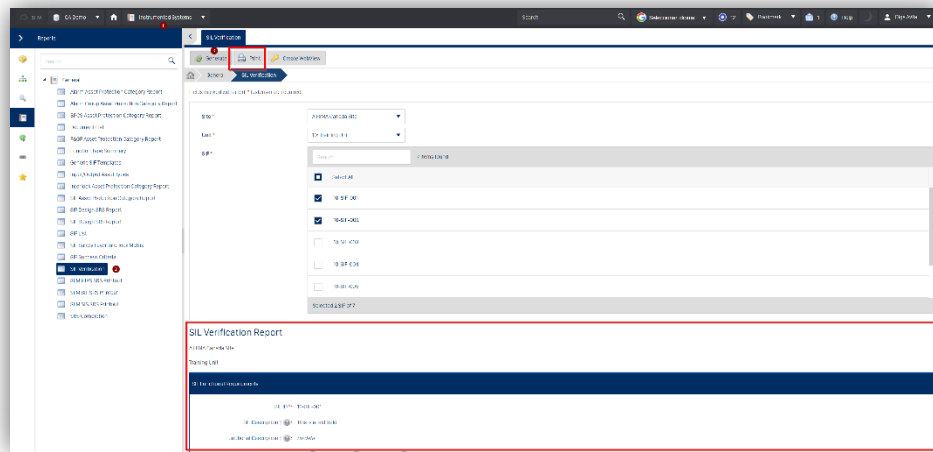
Rating	SIL	RRF	PFDavg
Target:	2	100	0.01
Achieved:	2	0	no data
In Service:	n/a	0	no data

Below the table, there are 'Edit', 'Save', and 'Cancel' buttons. The 'Achieved' value for SIL is manually entered as '2'.

# New features

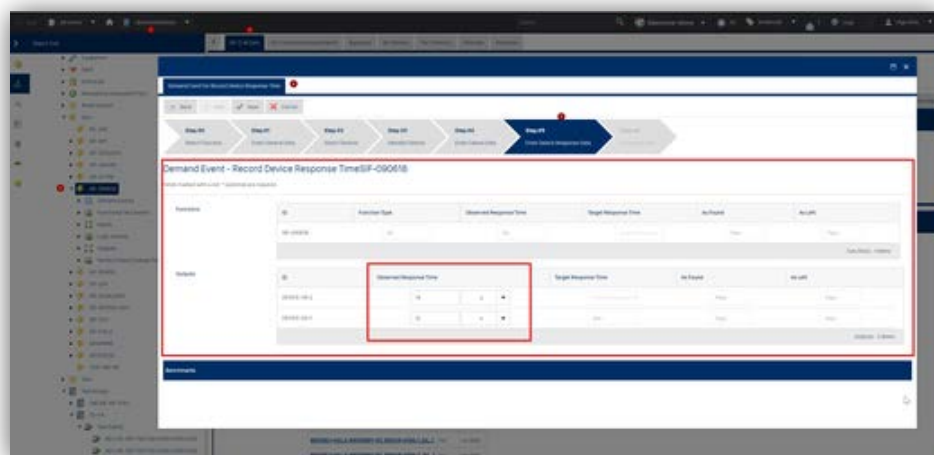
## Instrumented Systems

- Added ability to print multiple SIFs within one report for SIL Verification. Included ability to run report from reports toolbar.

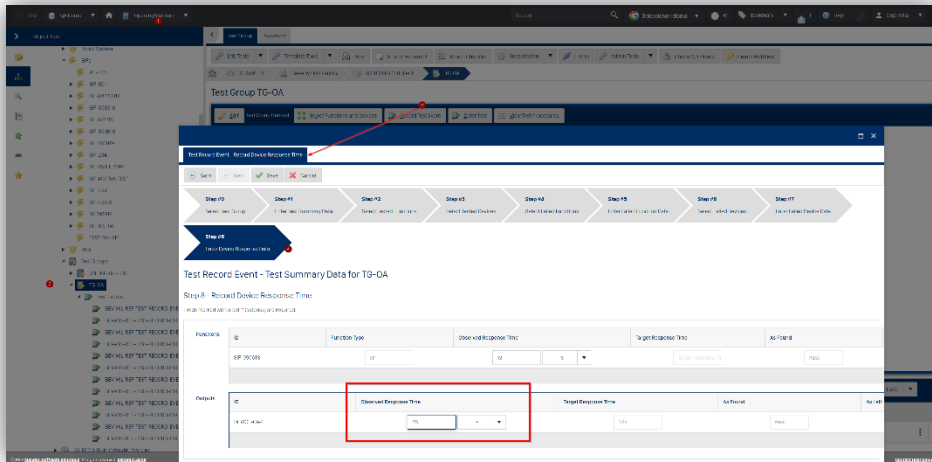


## Operate Maintain

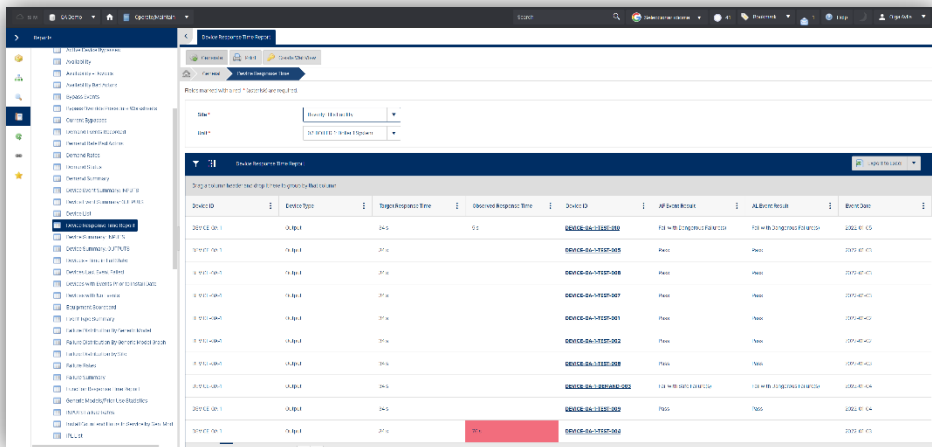
- Added Device Response Time for devices children of an output, collected in device events in the following event workflows: Test Event and Demand Event
  - From Demand Event:



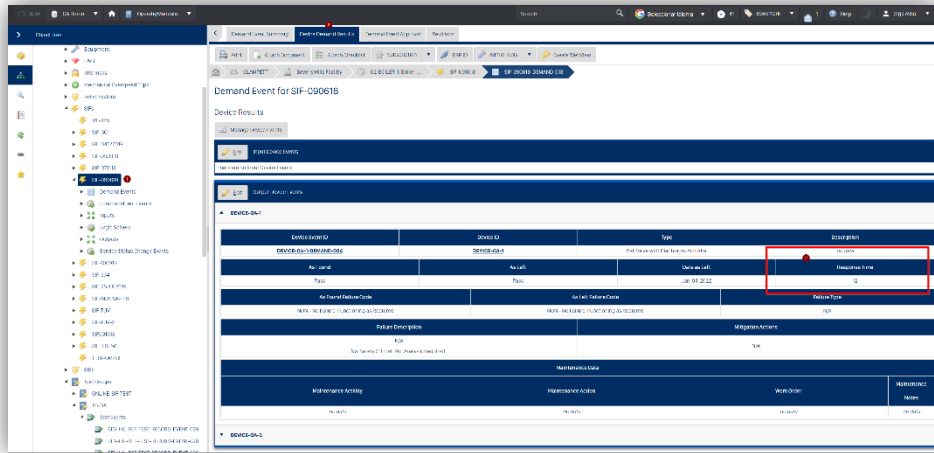
- From Test Event:



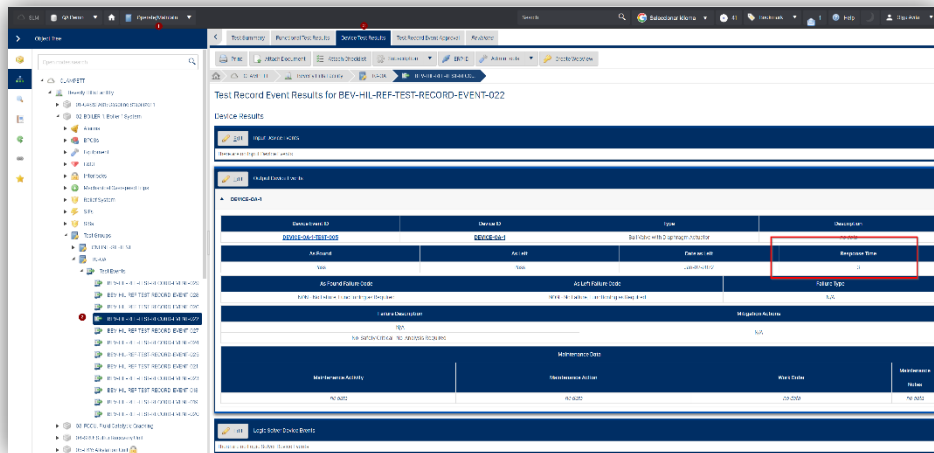
- From Report Section or Site/Unit Device Response Time tab in Operate Maintain module:



- From Demand Event Results



- From Device Test Result in the Test Event



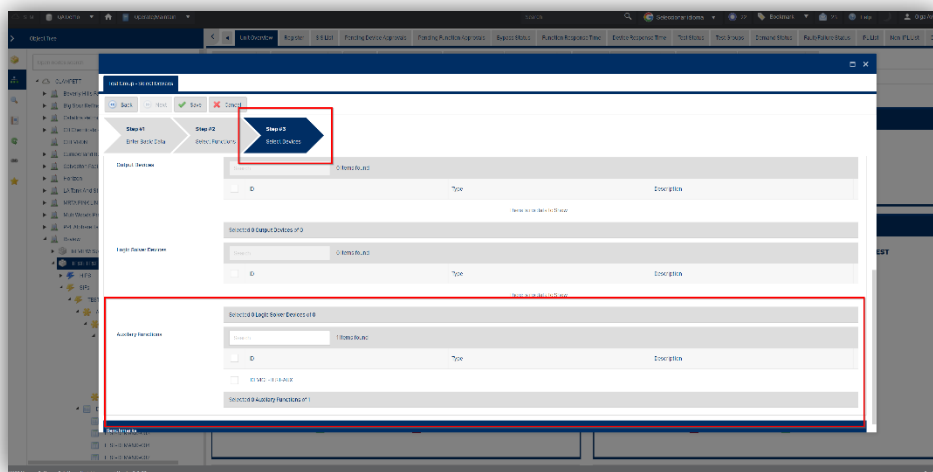
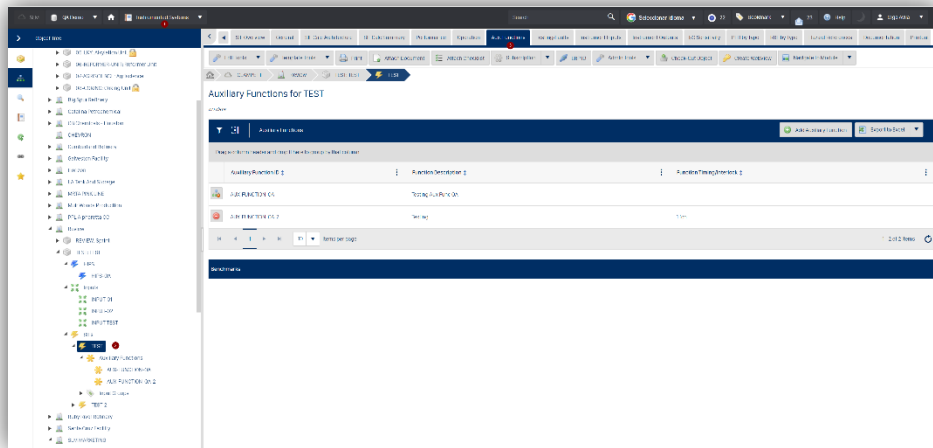
# 2.4s29 Release Notes

These release notes for SLM 2.4s29 provide an overview of the release and document new features, improvements, and known issues.

## New features

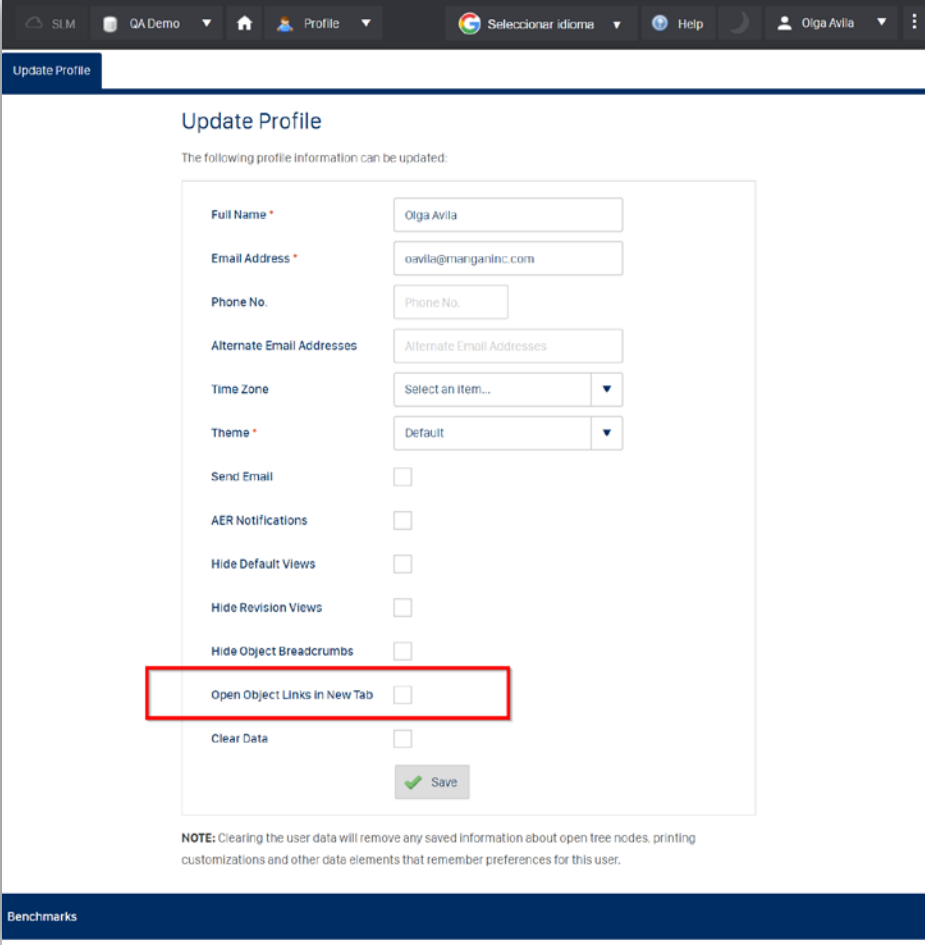
### Operate Maintain

- Created their own object page to Aux Functions object, location in the object tree, and devices. Allowed the selection of Aux Function devices in Service Status Change Event, Test Group and Test Event workflows



## General

- Created a setting in the user profile to set “Open Object Links in New Tab”, defaults to off.



Update Profile

The following profile information can be updated:

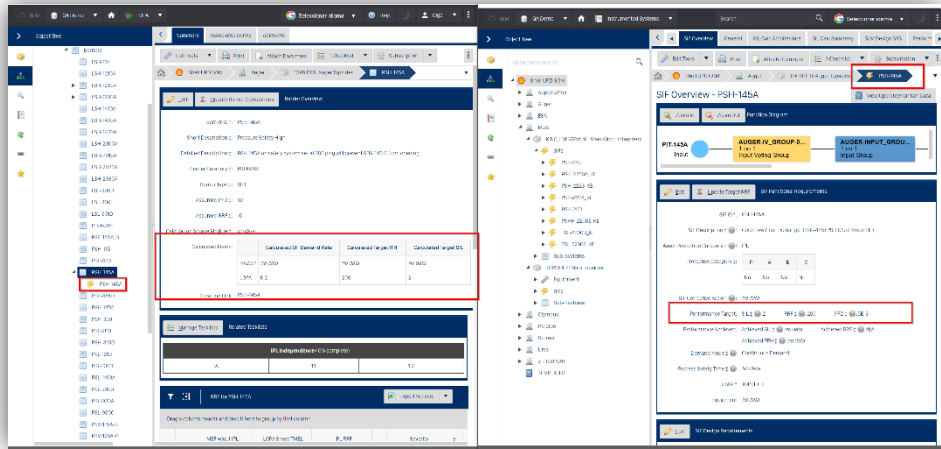
Full Name *	<input type="text" value="Olga Avila"/>
Email Address *	<input type="text" value="oavila@manganinc.com"/>
Phone No.	<input type="text" value="Phone No."/>
Alternate Email Addresses	<input type="text" value="Alternate Email Addresses"/>
Time Zone	<input type="text" value="Select an item..."/>
Theme *	<input type="text" value="Default"/>
Send Email	<input type="checkbox"/>
AER Notifications	<input type="checkbox"/>
Hide Default Views	<input type="checkbox"/>
Hide Revision Views	<input type="checkbox"/>
Hide Object Breadcrumbs	<input type="checkbox"/>
Open Object Links In New Tab	<input type="checkbox"/>
Clear Data	<input type="checkbox"/>

**NOTE:** Clearing the user data will remove any saved information about open tree nodes, printing customizations and other data elements that remember preferences for this user.

## Fixes

### Instrumented Systems

- Fixed the SIF object's target\_sil/rrf/pfd fields calculations



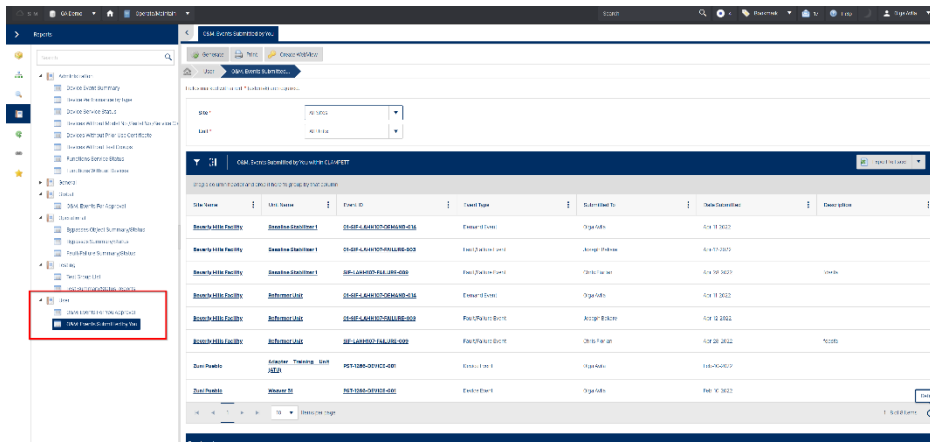
# 2.4s30 Release Notes

These release notes for SLM 2.4s30 provide an overview of the release and document new features, improvements, and known issues.

## Refinements & Usability Gap

### Global

- Across OMI, FSA, MOC, Action Item and Enterprise Projects module setting up a new reports category “User” in which only user specific reports are generated, that shows any action pending approval by the user, or any action the user has submitted for approval.



### Instrumented Systems

- Added *Target SIL*, *Achieved SIL*, *Target RRF* and *Achieved RRF* fields to the SIF object type group template.



SIFs within 01-GASSTAB1: 1 Gasoline Stabilizer

SIF ID (*)	SIF Description	SIL	Achieved SIL	RRF	Achieved RRF
01-SIF-001	High pressure shut-in of process fluid	2	1	100	23
01-SIF-002		1		10	9
01-SIF-LAHH04072020	GasStab1 High Level Tower	2	1	130	88
01-SIF-LAHH04072020...	GasStab1 High Level Tower	2		130	
01-SIF-LAHH04072020...	GasStab1 High Level Tower	2		130	
01-SIF-LAHH04072020...	GasStab1 High Level Tower	2		130	
01-SIF-LAHH107	GasStab1 High Level Tower	2		200	
01-SIF-LAHH107_T1	GasStab1 High Level Tower	1	1	13	88
135-SIF-006					
220022-OUTPUTS-SIF					

- Added the Test Groups Status column at Test Group List table.

Test Group List for 01-GASSTAB1: Gasoline Stabilizer 1

Test Group ID	Test Group Description	Test Group Status	Test Group Functions	Last Test Record Event	Last Test Date	Last Test Result	Next Test Due Date
01-GASSTAB-08		Active	Relief System RELIEF-SYS1 SIF - 01-SIF-LAHH107				
01-SIF-001-TEST-GROUP	Test Group for 1.2.6 KPI demonstration	Active	SIF - 01-SIF-001	BEV-HIL REF-TEST-RECORD- EVENT-024	Jan-17-2022	Fail with dangerous failure(s)	Jan-16-2028
12223		Inactive	SIF - 01-SIF-LAHH107 SIF - BEV-LAHH108	BEV-HIL REF-TEST-RECORD- EVENT-012	Feb-04-2020	Pass	Jul-03-2020
2018-5	full test during unplanned shutdown	Active	Alarm - 123 BPCS - BPCS-GS1 SIF - 01-SIF-LAHH107 SIF - BEV-SIF-1-3 SIF - BEV-SIF-1-6 SIF - SIF-LAHH108 SIF - SIF-	BEVERLY-HILL-REFINEK-TEST-RECORD- EVENT-132	Apr-02-2019	Pass	Apr-01-2024

- Added Active Test Group Status filter in Overdue Tests, Upcoming Test - 1 Year and Deferred Tests tables.

The screenshot displays the 'Test Status for Gasoline Stabilizer 1' interface. On the left is an 'Object Tree' showing a hierarchy of assets under 'CLAMPETT' and 'Beverly Hills Facility'. The main area contains two tables:

**Overdue Tests**

Test Group ID	Test Group Description	Date Due	Time Overdue	Test Deferral Authorization ID	Last Test Date
OPPORTUNITY-1	Unplanned shutdown of gasoline stabilization unit opportunity for test	Feb-29-2020	775 Days (25.83 Months)	No Approved / Finalized	Mar-01-2015
GASSTAB1-ONLINE	Online testing of Gasstabi sensors	Nov-12-2020	518 Days (17.27 Months)	No Approved / Finalized	Nov-12-2018
UNIT-1: TRANSMITTERS		Nov-05-2021	160 Days (5.33 Months)	No Approved / Finalized	Nov-06-2019
GASSTAB1-OFFLINE	Gasoline Stabilization offline validation test	Feb-03-2022	70 Days (2.33 Months)	No Approved / Finalized	Feb-04-2019

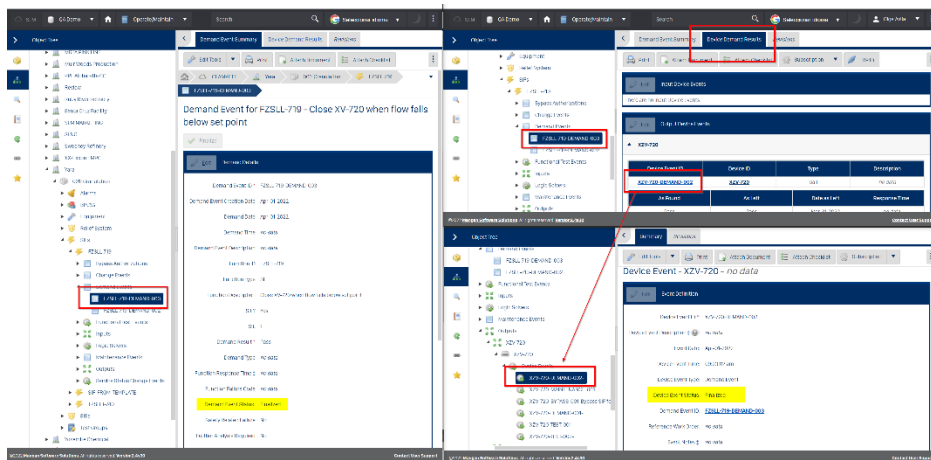
**Upcoming Test - 1 Year**

Test Group ID	Test Group Description	Date Due	Due In	Test Deferral Authorization ID	Last Test Date
BASF-FULL-FUNCTION-TEST		Jan-22-2023	282 Days (9.4 Months)	No Approved / Finalized	Jan-22-2019

# Fixes

## Operate Maintain

- Update the status of device events related to a parent event every time its parent event changes in the approval flow



## Any Module in the Dashboard

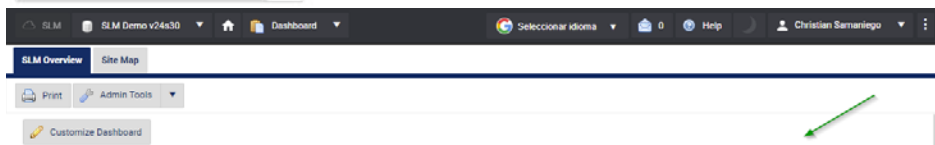
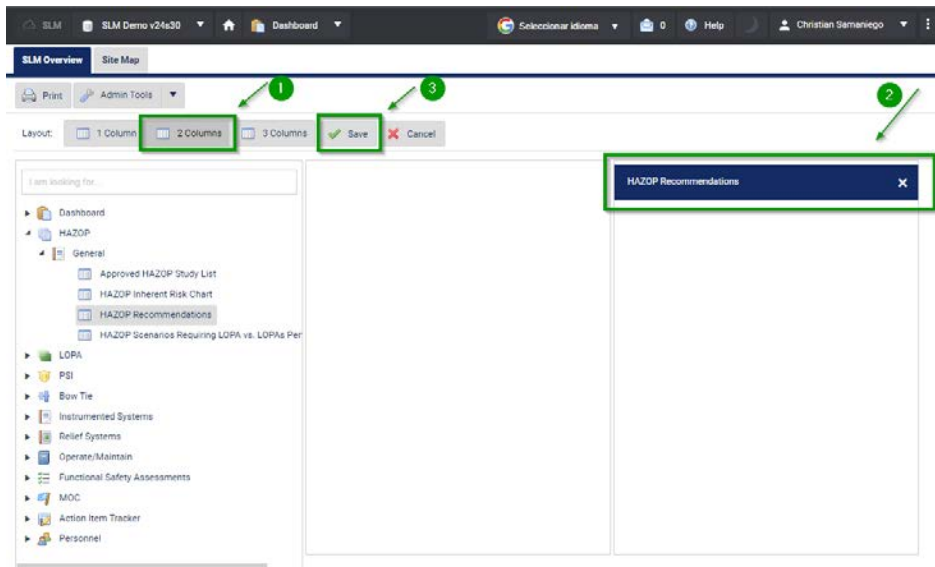
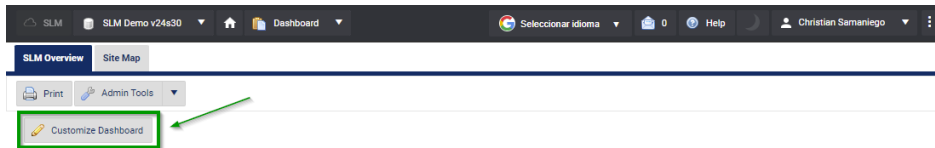
- Can add reports that previous removed using reduces columns at the designer form.

The image displays three sequential screenshots of the SLM Dashboard Customizer interface, illustrating the process of adding a report to a dashboard layout.

**Top Screenshot:** Shows the main dashboard with a "Customize Dashboard" button highlighted by a green box and an arrow. A "HAZOP Recommendations" widget is visible on the right side of the dashboard.

**Middle Screenshot:** Shows the "Customize Dashboard" dialog box. The "Layout" section is set to "2 Columns", which is highlighted by a green box and an arrow. The "HAZOP Recommendations" widget is visible in the right-hand pane of the dialog.

**Bottom Screenshot:** Shows the "Customize Dashboard" dialog box with the "Layout" section set to "3 Columns". The "Save" button is highlighted by a green box and an arrow, indicating the final step of saving the changes.



HAZOP Recommendations

HAZOP Recommendations within CLAMPETT Export to Excel

Drag a column header and drop it here to group by that column

U	L	...	...	...	...	...	...	...	...
B...	1:	D...	E...	E...	C...	S:	B...		
H...	G...	E...	E...	C...	10	E...	B...		
F...	S...	1	E...	C...	7	H...	B...		
				C...	9	H...	B...		
				E...	1				
				C...					
				B...					
				V...	S:				
				fall	10				
B...	1:	D...	E...	C...	10	B...			
H...	G...	E...	E...	C...	7	H...	A...	C...	F...
F...	S...	1	E...	C...	7	H...	SIF	F...	M...
				C...	9	B...		F...	31...
				E...	1				2...
				C...					
				E...	1				

## Release Notes - Build 2.5s0

### New Features

#### Global

- Add "Update Existing Bypasses Max Duration" button that pushes the value set in this field to the existing bypass objects.

#### Operate/Maintain

- Added multiselect field "Contributing Factors" to the Demand Event type.

#### Instrumented Systems

- Added new multiselect field "General Equipment Category" on the SIF Overview tab.

### Refinements

#### LOPA

- Fixed "LOPA IPL" filter on the LOPA Sheet List grid.

#### Operate/Maintain

- Added new columns: Test Interval (test\_interval) and Test Interval Basis (test\_at\_tar) to the Test Group List report.

#### Enterprise Projects

- Fixed issue when trying to access Enterprise Project features.

#### Instrumented Systems

- Objects cannot be deleted if they have children attached when using the "Edit Tools" dropdown.
- "All SIFs" options feature added to the core SIF Design SRS Report (SSRS).
- Add a new field "SIS Short Description" for the SIS General section on the SIS Registry tab .
- Fixed "Achieve RRF" color for the Rating field on the SIF Performance tab.
- Fixed stuck deletion processes for various output objects.

#### System

- FSA Checklists were updated. Additionally, reference tables have been modified to identify the correct FSA Checklist for each FSA Stage: FSA Checklist, and SIS Self Assess Checklist.