



Intergraph Smart® Completions User Guide

Project Engineer

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Preface

The user guide is intended for a “Project Engineer” who would be responsible to setup, configure and load project information into the database.

A Project Engineer should have the following know-how:

- Understand Engineering principals about the various disciplines (e.g. MECH, ELEC, INST, PIPING, CABLE, STRUCTURAL, CIVIL, DCS/PLC)
- Understand Control loops, tagging, device assignment and test profiles
- Understand basic knowledge of importing XLS files to databases
- Have advanced knowledge of XLS reformatting (flatten out XLS files to import)
- Able to “systemize” drawings to define “scope boundaries”
- Able to determine “custody transfer points/dates” to develop systemization skyline
- Have moderate knowledge of MS Word modification (e.g. formatting)

The user guide topics will enable the end user to import all project information, perform specific project database configurations, and create and administer work packages to the project workforce.

The training material INCLUDES:

- How to import engineering information in XLS format,
- How to bulk upload electronic files (e.g. Native or PDFs of drawings),
- Develop Test profiles for assets, loops or packs,
- Create certificates using an assignment wizard,
- Create NOEs using the user interface (no wizard available),
- Configure Turnover Packages (TOPs) Types and content standards,
- Group CCMS planned tasks into Job Cards by common attributes (e.g. stage, subsystem, discipline)

The training material DOES NOT INCLUDE:

- Project Creation Wizard
- Global Database Configurations
- Creating Company Instances
- Creating a Project
- Creating a list of equipment / asset types
- Creating a list of document types
- Managing user creation

For those advanced trainings, see the "[**System Administrator**](#)" User Guide.

CONTINUUM EDGE COMPLETIONS & COMMISSIONING MGMT. SYSTEM (CCMS)
SETUP, POPULATION, WORK PACK DEVELOPMENT AND REPORTING



SECTION 1

Abbreviations, Terms and Definitions

1.1 - Abbreviations

Abbreviation	Description
BOM	Bill of Materials
CCMS	Completions and Commissioning Management System
CBP	Current Best Practice
SC	Smart Completions
CO	Change Order
DCS	Distributive Control System (e.g. soft points I/O)
FIC	Field Installation Checklist
HOP	Handover Package
ITR	Inspection and Test Record
JC	Job Card
LBS	Location Breakdown Structure
MOC	Management of Change
NC	Non-Compliance
NOE	Notice of Energization
OBS	Organization Breakdown Structure
OEM	Original Equipment Manufacturer
PBS	Process Breakdown Structure (PBS) - Systemization
PCA	Process Criticality Analysis (e.g. performed on equipment)
PCI	Project Cost Item (e.g. budgetary items)
PCT	Project Control Task (e.g. P6 Activity)
PDF	Portable Document Format - Acrobat
PIN	Personal Identification Number (e.g. used for smart forms)
PL	Punch list
PO	Purchase Order
PR	Preservation Tasks
SF	Smart Forms (e.g. offline HTML complex test sheets)
T	Planned Tasks (e.g. FICs, ITRs, Loop Tests, Pack Tests)
TF	Test Form
TM	Task Model
RFI	Request for Information
RU	Resource Utilization
WBS	Work Breakdown Structure
WP	Work Package

1.2 – Terms and Definitions

Term	Definition
Carry-Over-Work (COW)	Carry-Over-Work (COW) item is work that has not been completed at the fabricator/manufacturer and is the responsibility of that party to complete. Carry-Over-Work items will be recorded and tracked in the CCMS Database, as part of the Punchlist Manager module.
Commissioning	The phase of the project that transfers a facility from a construction site to an operational facility.
Completions and Commissioning Management System (CCMS)	A database system that tracks Mechanical Completion, Pre-Commissioning and Commissioning activities and data, including Punch listing.
Field Installation Checklist (FIC)	Also known as Mechanical Completion Check Records (MCCRs). FICs are detailed documents that allow essential data to be recorded in a standardized format, providing documentary evidence of mechanical completion activities.
Inspection Test Record (ITR)	ITR is a detailed document that allows essential data to be recorded in a standardized format, providing documentary evidence of pre-commissioning activities.
Job Card	A collection of tasks and / or forms that are combined into a Job Card where they have common attributes, such as system / subsystem boundaries, project phase / stage and associated workgroup requirements.
Job Cards Manager	Designed to manage the assignment and administration of a collection of Job Cards.
Sub-System	The facility systems, as defined below, are further divided into sub-systems, where appropriate, to facilitate the Mechanical Completion, Function Testing, Commissioning and Handover of the entire Facility.
System	Process System – a test area or section defined by specific process application, pressure and/or temperature, or by specific hazards. Non-Process System – an infrastructure, such as buildings, structures, concreting and electrical and communications equipment.
Task / Planned Task	Individual FICs or ITRs that have been created for each asset that is required to be completed during different phases i.e. Fabrication, Construction, Pre-Commissioning and Commissioning.
Mechanical Completion (MC)	The state of the system when all civil, structural, concrete, piping, electrical, instrumentation and mechanical items have been installed as per the design documents and codes
Project	CAPEX or OPEX Project that is supported with the CCMS
Punch list 'A'	Punch list 'A' item prevents the sub-system or system from being Pre-commissioned, Commissioned or energized due to constraints on operability or safety of either PERSONNEL, EQUIPMENT or ENVIRONMENT.
Punch list 'B'	Punch list 'B' item can, by agreement, be rolled over to the next phase. 'B' items shall not prevent the safe operation of the equipment &/or system but represents incomplete work.
Punch list 'C'	Punch list 'C' item can be repaired and/or completed after handover, but it must be done before issuance of the Close-out Certificate (C6).
Pre-commissioning	The phase of the project that involves a set of checks to prove the system functionality and prepares the system for commissioning.

Term	Definition
Work Packages	A work package comprised of one or more tasks. Each task can identify specific person(s), tools, materials, safety requirements and supportive documentation. A work package is summarized in a simple go or no-go Job Card. This is used more for construction.

SECTION 2

Project Setup

2.1 – Work Breakdown Structure (WBS)

The WBS is not the same WBS you would see in a P6 master schedule. The intent of the WBS in SC is a simple way to breakdown a project into simple Phases, Stages and Activities/Milestones. SC utilizes the Project Control Tasks (PCT) module to import a P6 schedule and link to all CCMS planned tasks for automated progress reporting.

Tool Tip:

The WBS module is only intended to have simple phases and stages. It is rare that projects use the Activity level in the WBS tree view and therefore unless it's needed, we recommend only go to the phase and/or stage levels. Since a project will have a small number of phases and stages, we recommend using the interface to create your WBS, as formatting an XLS and importing it will take about the same time.

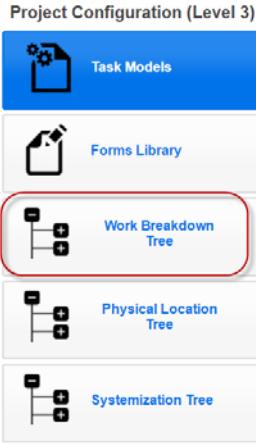
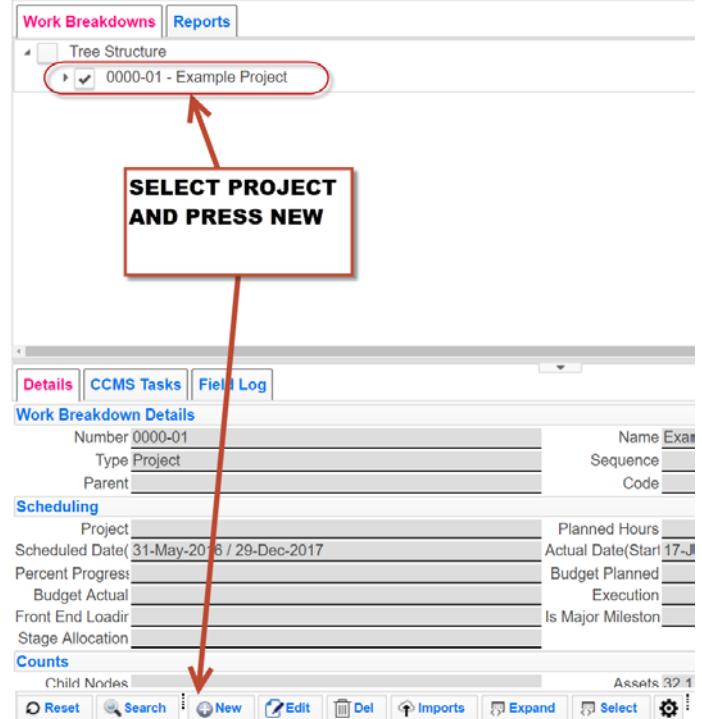
The WBS will display on the left side of most modules, as “Browse by WBS”. An example of the control in the Job Cards module is shown to the right.

Users can query content by selecting a node(s) in this control.

Status	Job ID	Description
	JC-000738	1100-112-04 /CABI/Early Works
	JC-000739	1100-112-04 /SPOOLS/Early Works

Figure: WBS browsing of Job Cards

2.1.1 - Manual Creation via WBS Module

 <p>Navigation: Select CONFIGURATION tab > Select WORK BREAKDOWN TREE</p>	<p>Configuring the WBS is unique to the project. It CANNOT be used or referenced in other projects.</p>
<p>Step 1: Create WBS node</p> <p>Select PROJECT node and press NEW. Entering a new node under project will create a PHASE. If you select PHASE and press new it would create a STAGE.</p> <p>Suggest that the user enters all phases and continues with project select and presses NEW for each phase.</p> <p>Press SEARCH before you start entering in the stages for the newly created phases, as the interface will fetch and load those nodes.</p> <p>Press NEW and enter in the stage information.</p>	 <p>SELECT PROJECT AND PRESS NEW</p> <p>Figure: WBS Module</p>

<p>Step 2: Edit WBS node</p> <p>Enter NUMBER, NAME, PARENT (which would be automatically set when selecting node in tree), and the SEQUENCE. Note: Since projects can use non-alpha-numeric logic to phases and stages, we provided a sequence no, so that a user can organize the tree view top to bottom as they see fit.</p> <p>Repeat this process as needed.</p>	
---	--

Figure: WBS Edit Form

2.1.2 - Importing via WBS Module

To import the WBS, select the IMPORT button at the bottom of the WBS module. If this module is not enabled (greyed out), it means you do not have import rights. When importing WBS, create a single XLS file, where for each phase or stage, they reference the project, its parent node, its type (e.g. phase, stage), and looks like the XLS example image below.

A	B	C	D	E	F
Project (Summary)	Work Breakdown Number	Work Breakdown Name (Description)	Work Breakdown Type	Work Breakdown Parent (Summary)	Sequen
0000-01 - Example Project	1	Construction	Phase	0000-01 - Example Project	
0000-01 - Example Project	2	Startup	Phase	0000-01 - Example Project	
0000-01 - Example Project	3	Operations	Phase	0000-01 - Example Project	
0000-01 - Example Project	1A	Early Works	Stage	0000-01 - Example Project - 1 - Construction	
0000-01 - Example Project	2A	Pre-commissioning	Stage	0000-01 - Example Project - 2 - Startup	
0000-01 - Example Project	2B	Start-up	Stage	0000-01 - Example Project - 2 - Startup	
0000-01 - Example Project	1B	Substantially complete	Stage	0000-01 - Example Project - 1 - Construction	
0000-01 - Example Project	1C	Mechanical Completion	Stage	0000-01 - Example Project - 1 - Construction	
0000-01 - Example Project	3A	Operations	Stage	0000-01 - Example Project - 2 - Startup	

Figure: WBS XLS import example

Note: When you see (Summary), it means the concatenation of name + description. We use that to make it unique, as some projects may reuse a number in the same level of the tree view.

Importing the WBS can be done either in one go, by importing the list as shown above, OR for an incremental import (import phases first to ensure all looks good), a user can first import the phases, then repeat the process to import the stages.

2.2 – Process Breakdown Structure / Systemization (PBS)

A Process Breakdown Structure (PBS) is the logical and sequential layout of a process (e.g. refining). A PBS is broken down into Plant, Process Area, System and Subsystem. It is a process oriented decomposition of up and downstream production systems. A system or subsystem can have sequencing and prioritization assigned to them, as well as planned custody transfer dates as they go from one phase/stage to another. This is visualized in the skyline dashboard.

In the systemization module there are a few buttons that require explanation.



- IMPORT SYSTEMIZATION button will load up the import module
- IMPORT CUSTODY LOG button will load up an import view to import system and subsystem custody transfer dates, by phase or stage
- CREATE CCMS TASKS, allows a user to assign system or subsystem-based tasks. This will only be used if there are Task Models created with systemization type configuration. See task models for more information.
- EXPAND will expand all or section of the Treeview
- SELECT will select all or section of Treeview

2.2.1 - Manual Creation via Systemization Module

<p>Project Configuration (Level 3)</p> <p>Navigation: Select CONFIGURATION tab > Select SYSTEMIZATION TREE</p>	<p>Systemization is unique to a COMPANY INSTANCE. Meaning, a project can create its own systemization, or reference an existing systemization from within the same instance.</p> <p>Remember, the instance is a parent grouping to a project, it can contain several projects, where configurations are shared or structures assigned (systemization and locations only).</p> <p>Example: Take for example a greensfield facility was created 2 years ago, but this year we have a major shutdown. An admin can just simply create a new project, in the same instance, and select the systemization from the original project, to the new shutdown project. SC will assign all tags and documents associated within the systems selected.</p> <p>This training will discuss how to create a new systemization breakdown.</p>
<p>Step 1: Create WBS node</p> <p>Select node you want a CHILD node. Press NEW. Enter in NUMBER, NAME and SEQUENCE and Press SAVE.</p> <p>In this example, we have selected the PLANT (1000-TRAIN1) and are creating PROCESS AREA.</p> <p>Press SEARCH to refresh the list of nodes. Repeat for system and subsystem.</p>	<p>The following fields are required before saving: Number, Name</p> <p>Certificates [0] Change Tracking Record Created Date: 11-Oct-2016 (Thompson, Ryan) Record Modified Date: 18-Nov-2016 (Adcock, Greg)</p> <p>Reset Search New Edit Del Import Systemization Import Custody Log Create CCMS Tasks Export Custody Log Expand Select</p>

Figure: Systemization Module

2.2.2 - Importing via Systemization Module

Importing systemization can be done by pressing the IMPORT button at the bottom of the module. If this module is not enabled (greyed out), it means you do not have import rights.

When importing systemization, create a single XLS file, where you have listed vertically, the plants, process areas, systems and subsystems. Each item (e.g. system) will need to reference their parent object (e.g. process area), have systemization type defined (e.g. system) and project association (e.g. project summary).

We recommend that when importing systemization (although you can do all in one go), that you filter by PROCESS BREAKDOWN TYPE and import PLANT first, then import again, but with PROCESS AREAS, then again with SYSTEMS, then again with SUBSYSTEMS. This way you can verify data imported incrementally.

A	B	C	D	E
Process Breakdown	Process Breakdown Name (Description)	Process Breakdown	Process Breakdown Parent (Summary)	Project Summary
1T	PROCESS PLANT	Plant		0000-01 - Example Project
1T-103	FIRE WATER	Process Area	1T - PROCESS PLANT	0000-01 - Example Project
1T-103-01	FIRE WATER DRUMS	System	1T-103 - FIRE WATER	0000-01 - Example Project
1T-103-02	FIRE WATER DIESEL PUMPS	System	1T-103 - FIRE WATER	0000-01 - Example Project
1T-103-02A	FIRE WATER DISTRIBUTION - OSBL EAST AREAS 08A, 10 Subsystem	Subsystem	1T-103-02 - FIRE WATER DIESEL PUMPS	0000-01 - Example Project
1T-103-02B	FIRE WATER DISTRIBUTION - ISBL	Subsystem	1T-103-02 - FIRE WATER DIESEL PUMPS	0000-01 - Example Project

Figure: Systemization XLS import example

Note: Ask the systems administrator if the IMPORT MODULE contains a template systemization import. This may expedite the creation of the import file. Only the import module will contain the import templates. If importing from IMPORT module, select vProcessBreakdowns.

Import Types (3)	Reports					
Manager View	Name	Description	Import View	Key Field	Template	Usage
process					<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
vProcessBreakdowns_Renaming	Renaming Systemization		ivProcessBreakdowns_Rena...	SummaryOld,Number,Name		1
vProcessBreakdowns	Systemization Tree	Configuration: Core Modu... ivProcessBreakdowns		Number,Name,ParentSummary,Proces...		6
vProcessBreakdownsCustodyLog	Systemization Custody Log		ivProcessBreakdownsCustod...	ProcessBreakdown,CustodyLog		14

Step 1: Browse File & Load XLS File

Importing Systemization tree can be performed from both the SYSTEMIZATION or IMPORT modules. This training is from the SYSTEMIZATION module; press the IMPORT SYSTEMIZATION button. Browse to file and press OPEN.

Import Systemization

Tool Tip:

User must assign a collision behavior:

- **Preserve:** If field is blank, perform an INSERT, if data exists in SC, do not update.

The screenshot shows the 'Import Edit Form' interface. At the top, there are four tabs: Step 1 Start, Step 2 Select, Step 3 Pre-Import Analysis, and Step 4 Import. Below these tabs is a section titled 'Select Import Type and then Browse to File'. It includes options for 'Import Type' (set to 'Systemization Tree'), 'Show Queries?' (radio buttons for Yes and No), and 'Skip Pre-Import Analysis?' (radio buttons for Yes and No). A large 'Select Browse to File (255 columns max)' dialog is open. In this dialog, a red box highlights the 'Choose File' button. A red arrow points from this button to the 'File' dropdown in the dialog. Another red arrow points from the 'Open' button in the dialog back to the 'Import Systemization' button on the main screen. The 'File' dropdown shows a list of files, with one file named 'Example Project 1 - Systemization.xlsx' highlighted with a red circle. The 'File name' field at the bottom of the dialog also shows 'Example Project 1 - Systemization.xlsx'. At the bottom of the dialog, there are buttons for 'All Files' and 'Open'.

Figure: Import Edit Form (browse to file)

<p>Overwrite: Overwrite the data in SC.</p> <p>Concatenate: Append the data to existing data in SC. This is only used for text or comments fields.</p> <h3>Step 2: Map Fields to Columns</h3> <p>Once SC loads the file, it will try to map the columns to the fields in the database view.</p> <p>Select FIELD NAME dropdown to map to SC field. Then assign the collision behavior.</p> <p>Press FINISH to start import.</p> <p>Tool Tip: If you generate an export of systemization, it will generate an XLS file with the correct column names, so that mapping will be automatic. Just replace the content with the new systemization items and import.</p>	
<h3>Step 3: Import and Review Results</h3> <p>The log will define which field was modified and number of records, by defining no. of: INSERTs and UPDATEs.</p> <p>Note: IBS is aware that the import results are not all that intuitive to users without database experience and are looking to simplify the results for less advanced users.</p>	
<p>Tool Tip: An administrator can see imports by who, when, access XLS file, and review SQL results statement.</p> <p>This is ONLY available in the IMPORT module.</p>	

2.2.3 - Importing Skyline via Systemization Module

Importing systemization SKYLINE is done once the systemization is already created in the database (via UI or import). We recommend ONLY importing the skyline CUSTODY TRANSFER DATES when systemization is at least 90% accurate.

The skyline will show a Histogram of the systems and/or subsystems, and transfer dates between the different phases or stages. We recommend keeping it simple and only putting in custody transfer dates by phase, not down to stage level. Stage level is useful for larger multi-billion-dollar projects.

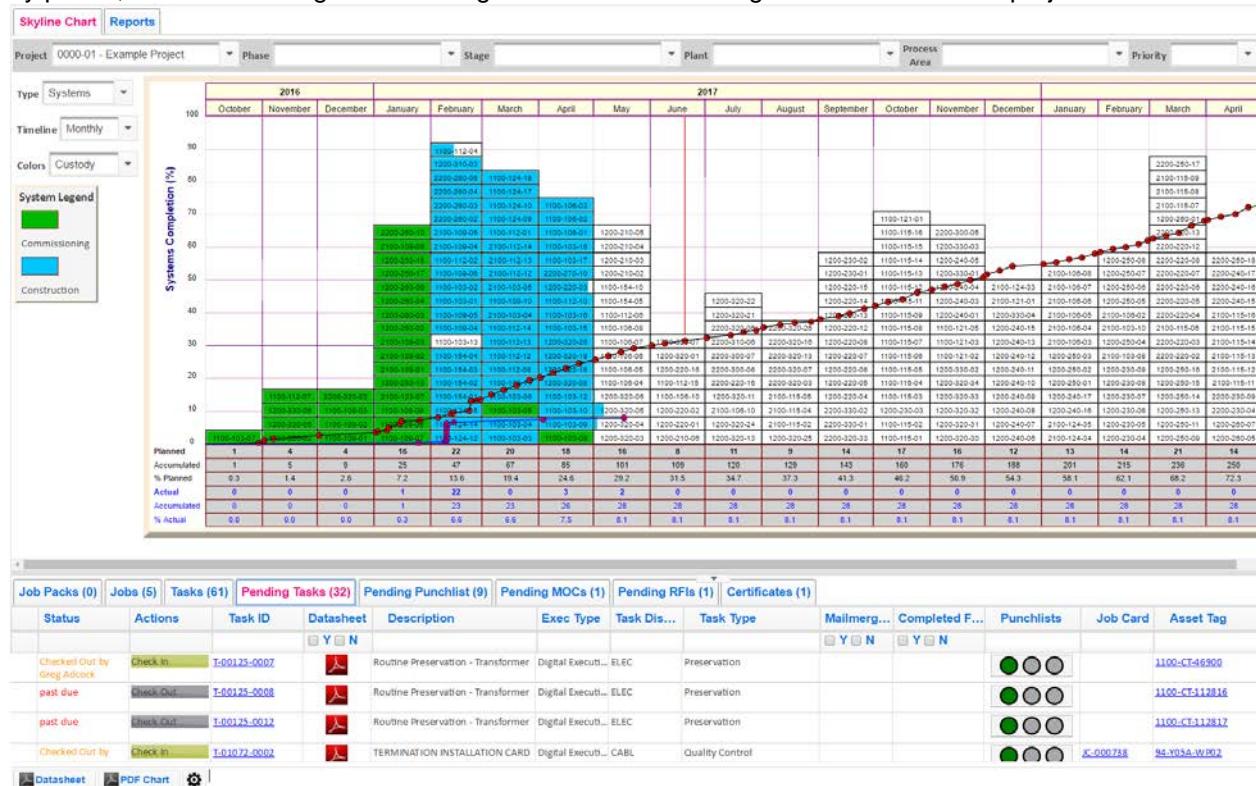


Figure: CCMS System Completions Skyline

Tool Tip:

After systemization is imported, a user can easily generate the import file for the custody log import. Go to the EXPORT module and generate the SYSTEMIZATION CUSTODY LOG export. It will export the systemization and the user will only need to put in phase & stages and dates for custody transfer.

See image below.

The figure shows a screenshot of the 'Systemization Custody Transfer Log (Skyline) Example XLS import File'. The table has columns for 'Custody - WBS Project', 'Process Breakdown (Summary)', 'Phase', 'Custody - WBS Stage', 'Activity', 'Custody', 'Custody - Contract Date', 'Custody - Planned Date', 'Custody - Walked Down Date', and 'Custody - Actual Date'. A red box highlights the 'Process Breakdown (Summary)' column. Another red box highlights the 'Custody - Actual Date' column. The table contains several rows of data, mostly consisting of 'Pre-commissioning' activities.

Figure: Systemization Custody Transfer Log (Skyline) Example XLS import File

Process Breakdown Summary – is the list of systems as a summary field (name + description)

Custody Planned Date – specific date system is to be transferred for Pre-commissioning Stage

Custody Actual Date – this date is automatically inserted upon certificate completion, but it also can be imported.

Step 1: Browse File & Load XLS File

Importing the custody log can be done from the SYSTEMIZATION or IMPORT modules. This training is from the SYSTEMIZATION module; press the IMPORT CUSTODY LOG button. Browse to file and press OPEN.



Tool Tip:

User must assign a collision behavior:

- **Preserve**: If field is blank, perform an INSERT, if data exists in SC, do not update.
- **Overwrite**: Overwrite the data in SC.
- **Concatenate**: Append the data to existing data in SC. This is only used for text or comments fields.

Step 2: Map Fields to Columns

Once SC loads the file, it will try to map the columns to the fields in the database view.

Select FIELD NAME dropdown to map to SC field. Then assign the collision behavior.

Press FINISH to start import.

Tool Tip:

Ask System Admin for a CUSTODY LOG import file, which is pre-configured for importing. This is only available in the IMPORT Module.

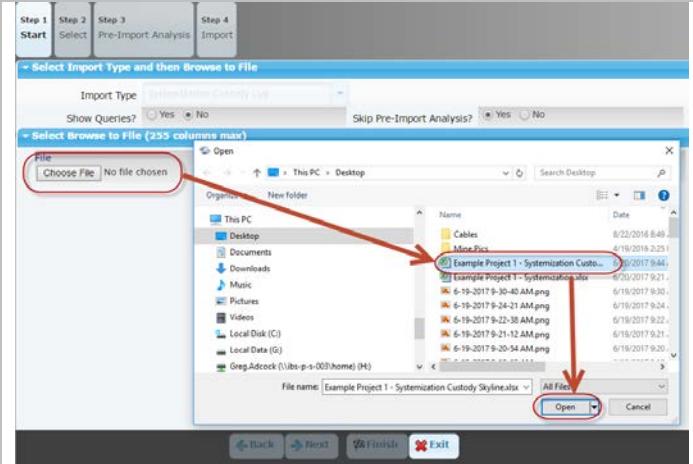


Figure: Import Edit Form (browse to file)

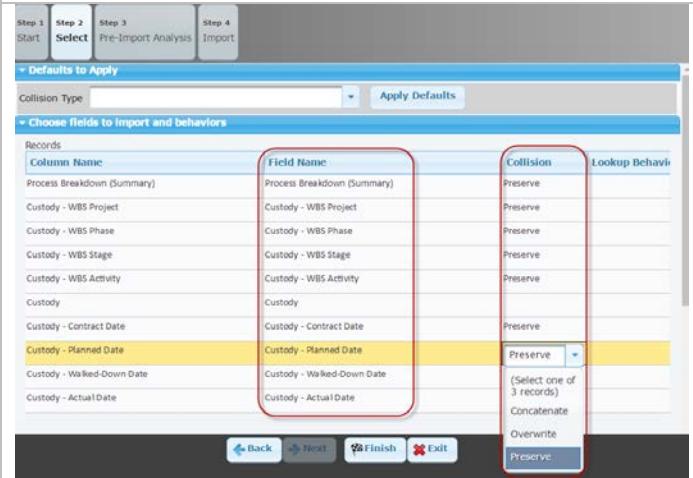


Figure: Import Edit Form (map columns to fields)

2.3 – Location Breakdown Structure (LBS) – Optional

For a completions and commissioning project, the LBS structure is not likely to be used. An admin can work with the project team to define if they want to see completions progress from a locational perspective, as well as systems-based perspective. The location progress is only useful if the associated project asset tags, loops, and packs are assigned to areas or locations. If they are not, then we do not recommend using the LBS and you can skip this section.

When would LBS be used?

- If a project wants to track completions by process (systems) AND location (areas). Tags must be assigned to both subsystems and locations and will require more effort.
- If a project wants to use the SC operability development management system (ODMS) to develop all the maintenance content for the Enterprise Asset Management System (EAMS). Maintenance groups may want a location perspective only and reference which tag, and its hierachal structure, is referenced in the EAMS load sheets.

In the LBS module there are a few buttons that require explanation.



- IMPORT button will load up the import module
- SELECT button will select all expanded nodes
- EXPAND button will expand the child nodes of any selected level.

2.3.1 - Manual Creation via Physical Location Module

 <p>Navigation: Select CONFIGURATION tab > Select PHYSICAL LOCATION TREE</p>	<p>Configuring the Location Tree view is unique to a COMPANY INSTANCE. Meaning, a project can create its own LBS, or reference an existing LBS from within the instance.</p> <p>Example: Take for example a greensfield facility was created 2 years ago, but this year we have a major shutdown. An admin can just simply create a new project, in the same instance, and select the areas from the original project, to the new shutdown project. SC will assign all tags and documents associated within the areas selected.</p> <p>This training will discuss how to create a new Location breakdown.</p>
---	---

Creating a LBS node:

Select the node you want to build a child node for. In this case if I had already created the FACILITY (10-10 – Facility 1), then select that node and press NEW to create a new area under the facility.

It will load the edit form, where a user would enter in a number and name. They would also put in a sequence if they would like to see at a certain position among other Areas in that Facility.

Repeat for other areas and locations.

Figure: LBS Module

2.3.2 - Importing via Physical Location Module

Importing Locations can be done by pressing the IMPORT button at the bottom of the module. If this module is not enabled (greyed out), it means you do not have import rights.

When importing LBS structure, create a single XLS file, where you have listed vertically, the plant(s), facility(s), area(s) and location(s). Each item (e.g. area) will need to reference their parent object (e.g. facility), have their location type defined (e.g. area) and project association.

We recommend that when importing (although you can do all in one go), that you filter by LOCATION TYPE and import PLANTS first, then import FACILITIES, then AREAS, then LOCATIONS. This approach is beneficial with large lists of locations as the user wants to make sure everything is aligned before importing child nodes.

A	B	C	D	E	F
1 Projects (Summary)	Physical Location Number	Physical Location Name (Description)	Physical Location Type	Physical Location Parent (Summary)	Sequence
2 0000-01 - Example Project	10	Plant	Plant		
3 0000-01 - Example Project	10-10	Facility 1	Facility	10 - Plant	1
4 0000-01 - Example Project	10-10-1	Area 1	Area	10-10 - Facility 1	1
5 0000-01 - Example Project	10-10-1-1	Location 1	Location	10-10-1 - Area 1	1
6 0000-01 - Example Project	10-10-2	Area 2	Area	10-10 - Facility 1	2
7 0000-01 - Example Project	10-10-3	Area 3	Area	10-10 - Facility 1	3
8 0000-01 - Example Project	10-10-4	Area 4	Area	10-10 - Facility 1	4

Figure: Location XLS import example

Note: Ask the systems administrator if the IMPORT MODULE contains a template. This may expedite the creation of the import file. Only the import module will contain the templates. If importing from IMPORT module, select vPhysicalLocations.

Import Types (3)		Reports				
Manager View	Name	Description	Import View	Key Field	Template	Usage
location					<input type="checkbox"/> Y <input type="checkbox"/> N	
ivPhysicalLocations_Renaming	Renaming Physical Locations	ivPhysicalLocations_Renaming	ivPhysicalLocations_Renaming	SummaryOld,Number,Name		0
vLEMLocations	LEM Locations	Labor Equipment Materi...	vLEMLocations	LocationName		0
vPhysicalLocations	Physical Location Tree	Configuration: Core Modu...	ivPhysicalLocations	Number,Name,ParentSummary,Physic...		5

Figure: List of Imports for Locations

Note: Ignore LEM Locations not used for CCMS implementation.

Step 1: Browse File & Load XLS File

Importing can be done from the PHYSICAL LOCATIONS or IMPORT modules. This training is from the PHYSICAL LOCATIONS module; press the IMPORT button. Browse to file and press OPEN.



Tool Tip:

User must assign a collision behavior:

- **Preserve:** If field is blank, perform an INSERT, if data exists in SC, do not update.
- **Overwrite:** Overwrite the data in SC.
- **Concatenate:** Append the data to existing data in SC. This is only used for text or comments fields.

Step 2: Map Fields to Columns

Once SC loads the file, it will try to map the columns to the fields in the database view.

Select FIELD NAME dropdown to map to SC field. Then assign the collision behavior.

Press FINISH to start import.

Tool Tip:

If you generate an export of LOCATIONS, it will generate an XLS file with the correct column names, so that mapping will be automatic. Just replace the content with the new location items and import.

Figure: Import Edit Form (browse to file)

Figure: Import Edit Form (map columns to fields)

Step 3: Import and Review Results

The log will define which field was modified and number of records, by defining no. of: INSERTs and UPDATEs.

Note: IBS is aware that the import results are not all that intuitive to users without database experience and are looking to simplify the results for less advanced users.

General General

+ Primary Data

Inserting Field Number [1] into View [vPhysicalLocations]

Executing SQL Statement:

```
INSERT INTO [vPhysicalLocations] ([Name], [RecordLastEdited], [PhysicalLocationTypeID], [ParentID], [Name], CompanyID, [EmergencyNumber]) SELECT [PhysicalLocationName], [EmergencyNumber], 1, FROM [SELECT * FROM TempImport_711PhysicalLocations AS T1 LEFT OUTER JOIN [PhysicalLocations] AS T2 ON [PhysicalLocationName] = T2.[PhysicalLocationName] WHERE LEN([PhysicalLocationName]) > 0 AND [PhysicalLocationName] IS NOT NULL] AS T1, [PhysicalLocations] AS T2 ON T1.[PhysicalLocationName] = T2.[PhysicalLocationName]
```

TempImport_711PhysicalLocations.[Physical Location Number] = [PhysicalLocationType].ID Parent.ID = p02, TempImport_711PhysicalLocations.[Physical Location Name] = [PhysicalLocationName] AND TempImport_711PhysicalLocations.[Physical Location Description] = [PhysicalLocationDescription] AND TempImport_711PhysicalLocations.[Physical Location Type] = [PhysicalLocationType].ID LEFT OUTER JOIN [vPhysicalLocations] Parent ON [TempImport_711PhysicalLocations].[Physical Location Number] > 1 OR (T1.[PhysicalLocationName] = ' ') AND (T1.[PhysicalLocationName] = T2.[PhysicalLocationName]) AND (T1.[PhysicalLocationType].ID = T2.[PhysicalLocationType].ID) AND (T1.[PhysicalLocationName] IS NOT NULL) AND (T1.[PhysicalLocationNumber] IS NOT NULL) AND (T1.[PhysicalLocationName] IS NOT NULL) AND (T1.[PhysicalLocationType].ID IS NOT NULL) AND (T1.[PhysicalLocations].[ParentID] IS NULL) AND (T1.[PhysicalLocations].[Name] IS NOT NULL) AND (T1.[Physical Location Number] > 0) AND (len([Physical Location Name] > 0)) ;

Affected Rows: 1

Cleaning Field Name in View [vPhysicalLocations]

Unlinking Field Name in View [vPhysicalLocations]

Affected Rows: 0

Updating Field [PhysicalLocationTypeID] in View [vPhysicalLocations]

Affected Rows: 0

Updating Record [ParentID] in View [vPhysicalLocations]

Affected Rows: 0

Cleaning Field EmergencyNumber in View [vPhysicalLocations]

Affected Rows: 1

Running SQL: `SELECT [PhysicalLocationName], [EmergencyNumber] = ITRIM(RTRIM([Emergency Number])) FROM TempImport_711PhysicalLocations AS T1 LEFT OUTER JOIN [PhysicalLocations] ON [PhysicalLocations].[Number] = T1.[PhysicalLocationNumber] WHERE LEN([PhysicalLocationName]) > 0 AND [PhysicalLocationName] IS NOT NULL AND [PhysicalLocations].[Name] = [PhysicalLocationName] AND [PhysicalLocations].[CompanyID] = 1 WHERE LEN([Emergency Number]) > 0 AND [EmergencyNumber] > '' OR ([PhysicalLocations].[EmergencyNumber] IS null) AND t.[Emergency Number]>'NULL';`

Affected Rows: 1

Missing rights to see this record! Edit, Create

Save **Exit**

Figure: Import Edit Form (Import Results)

2.4 – Importing

2.4.1 - Importing Module Overview

The import module is designed for System Administrators that have access to all import views. This does not mean others cannot import, they will be assigned import rights to specific modules, such as asset, punch list, documents etc. Users who do not have rights to the import module will not see the IMPORT button on the configuration tab.

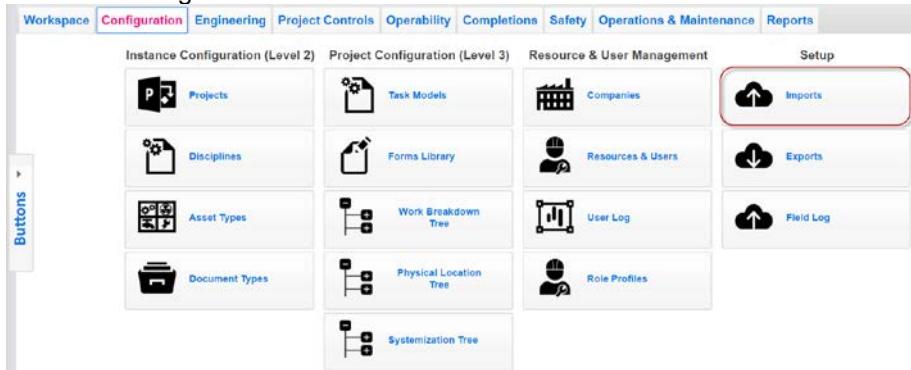


Figure: Accessing the Import Module

Contracts Tip:

It is important when receiving engineering lists (e.g. equipment list, cable schedule etc.) they are provided in XLS format and include (at a minimum) these essential fields:

MUST	SHOULD (w / OEM & Docs)	COULD (w / SPECS)
Tag name	Document(s)	Operating Specifications
Description	Parent Tag	Design Specifications
Asset type	Service	
Discipline	OEM Manufacturer, Model, Part	
	Vendor	

Typical Engineering Lists Imported:

- Mechanical and Electrical Equipment Lists
- Instrumentation Lists
- Loop List
- DCS and PLC points (w/ IO addresses)
- Piping and Line Lists
- Cable Schedule
- Document and Drawings Lists

Importing will require the processing of Microsoft Excel (.xls, .xlsx) files that are “flattened” out (e.g. no embedded structures or formatting).

Tool Tip: Import file MUST meet the following criteria:

- First row is the column headers
- Every asset tag is given a discipline
- Cells that have merged value + engineering unit (eu) must be separated into 2 separate columns
- Cells that have multiple drawing numbers (i.e. 100-pid-100, 100-pid-101) must be separated into two columns. Otherwise, the database is inaccurate.
- SAVE as 2003 or 2007 (.xls) file not 2010 (.xlsx). The newer version hides cell formatting that can stop an import. Non-XML based excel files (.xls) are more importable.

A	B	C	D	E	F	G	
1	ID	DocumentName	Description	DocumentType	DocumentCategory	Revision	RevisionDescription
2	13880	Q-4501-10-DP-1101		Piping & Instrumentation Diagram	Drawing		
3	13881	Q-4501-10-DP-1102		Piping & Instrumentation Diagram	Drawing		
4	13882	Q-4501-10-DP-1104		Piping & Instrumentation Diagram	Drawing		
5	13883	Q-4501-10-DP-1105		Piping & Instrumentation Diagram	Drawing		
6	13884	Q-4501-10-DP-1107		Piping & Instrumentation Diagram	Drawing		
7	13885	Q-4501-10-DP-1108		Piping & Instrumentation Diagram	Drawing		
8	13886	Q-4501-10-DP-1110		Piping & Instrumentation Diagram	Drawing		
9	13887	Q-4501-10-DP-1111		Piping & Instrumentation Diagram	Drawing		

Figure: Example of XLS file ready for Import (flattened)

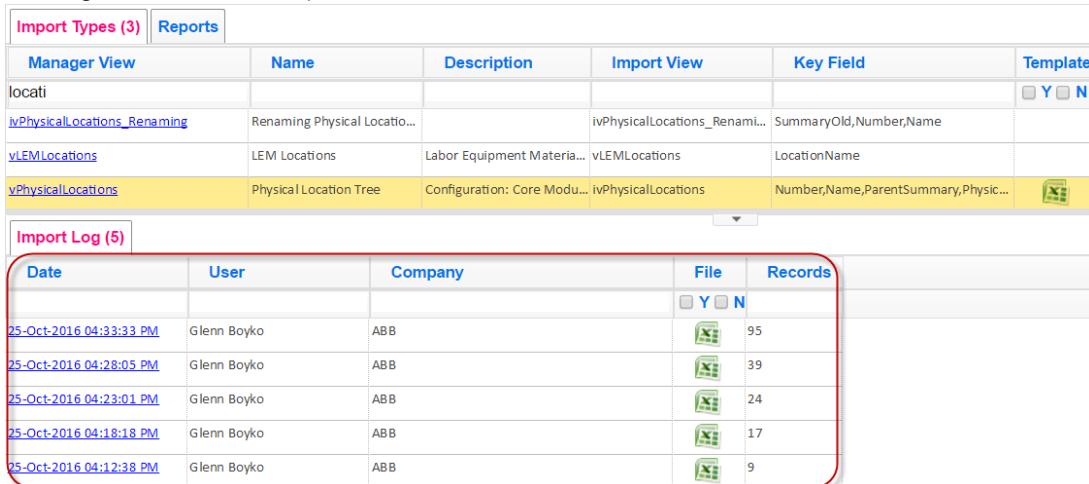
2.4.2 - Import Templates, Logs and Other Usage Tips

The import module is the master import utility to process data into SC, unless Web Services (WSDL/APIs) were used on your project. It also contains template “load sheets” that help assist field mapping. Not all import views have templates, but the most used imports do.

Import Types (23)		Reports				
Manager View	Name	Description	Import View	Key Field	Template	Usage
ASSET						
vAssetPacksAssets	Packs (Skids)	CCMS Module: Asset Packs	ivAssetPacks	AssetPackName	<input type="checkbox"/>	0
vAssetPacksAssetsData	Packs (Skids) Assignments		ivAssetPacksAssets	AssetPackName,AssetTag	<input type="checkbox"/>	0
vAssetPacksCable	Packs (Cable)	CCMS Module: Cable Packs	ivAssetPacks	AssetPackName	<input type="checkbox"/>	0
vAssetPacksLines	Packs (Piping)	CCMS Module: Asset Packs	ivAssetPacks	AssetPackName	<input type="checkbox"/>	0

Figure: Import Views w/ Template Files

Each import will have an IMPORT LOG. The log will identify (latest at the top) WHO, WHEN, WHAT FILE, and NO OF RECORDS impacted by import. Select row (not hyperlink as it will load the edit form to configure workflows etc.), and select the LOG tab below.



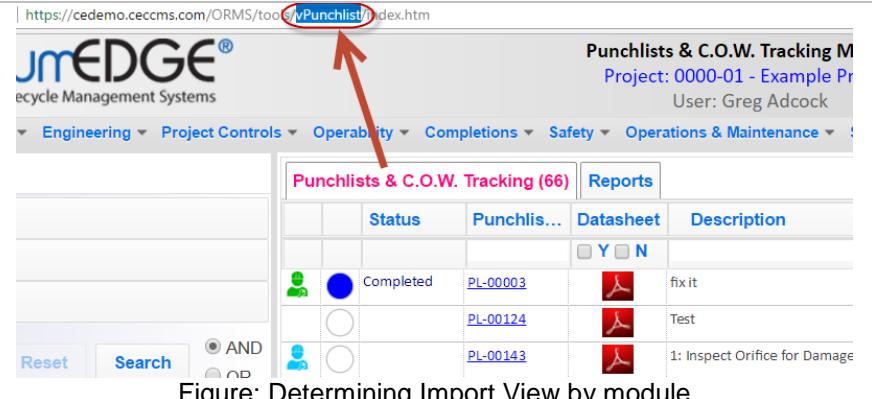
The screenshot shows the 'Import Types (3)' tab selected in the top navigation bar. Below it is a table with columns: Manager View, Name, Description, Import View, Key Field, and Template. There are three rows listed: 'locati' (with a yellow background), 'ivPhysicalLocations_Renaming' (Renaming Physical Location...), and 'vLEMLocations' (LEM Locations). The 'vPhysicalLocations' row is highlighted with a yellow background. Below this is the 'Import Log (5)' tab, which displays a table with columns: Date, User, Company, File, and Records. The table contains five entries from October 25, 2016, showing Glenn Boyko performing imports for ABB with varying record counts (95, 39, 24, 17, 9).

Figure: Import Module (Import Logs)

Tool Tip: Finding the import name > The general rule-of-thumb is if you are not sure which import view to use, it can be found in the URL address of the module you want to import data. Each module has a distinct VIEW NAME (v*****) in the database. This works for 80% of the time, where there are some unique situations where SC contains import views that are not modules (e.g. loop assets, pack assets etc.).

For example:

Users can figure out what the import view is by the following example to the right (vPunchlist).



The screenshot shows the 'Punchlists & C.O.W. Tracking M' module. The URL in the browser bar is <https://cedemo.ceccms.com/ORMS/tools/vPunchlist/index.htm>. A red arrow points to the URL bar, highlighting 'vPunchlist'. The main interface includes a logo for 'J-EDGE® recycle Management Systems', a navigation bar with 'Engineering', 'Project Controls', 'Operability', 'Completions', 'Safety', and 'Operations & Maintenance', and a user profile for 'User: Greg Adcock'. Below the navigation is a table titled 'Punchlists & C.O.W. Tracking (66)' with columns: Status, Punchlis..., Datasheet, and Description. The table lists three entries: 'Completed' with ID PL-00003 (Datasheet icon), 'Test' with ID PL-00124 (Datasheet icon), and '1: Inspect Orifice for Damage' with ID PL-00143 (Datasheet icon).

Figure: Determining Import View by module

Tool Tip: Lookup Behavior > is where it is referencing a lookup table. When importing a list of equipment where it will reference the manufacturer, however the manufacturer list does not exist in the COMPANIES module, a user can select the LOOKUP BEHAVIOR checkbox, and it will insert the asset tag, insert company name, and link to the asset tag in same import. See step 2 below.

Column Name	Field Name	Collision	Lookup Behavior
Work Breakdown - Project (Summary)	Projects (Summary)	Preserve	<input type="checkbox"/>
Asset - Name/Tag	Asset - Name/Tag		<input type="checkbox"/>
Asset - Description	Asset - Description	Preserve	<input type="checkbox"/>
Asset - Discipline	Asset - Discipline	Preserve	<input type="checkbox"/>
Asset - Asset Type (Summary)	Asset - Asset Type (Summary)	Preserve	<input type="checkbox"/>
Asset - Service	Asset - Service	Preserve	<input type="checkbox"/>
Asset - Status	Asset - Status	Preserve	<input type="checkbox"/>

Figure: Lookup Checkbox while Import (be careful when you use it)

2.4.3 - Importing Document Types

Before importing Document lists, the list of document types should first be imported, so that when importing the document list, each document will have a summary field (column) defining which document type they are associated with. The document type is an important configuration as it defines if any document of this type would be synchronized onto the mobile devices to support task execution. A document type must have a NAME, DESCRIPTION and CATEGORY.

We recommend using the existing OOB document categories, which is broken into 3 categories:

- Drawings
- Documents
- Test Form

Name	Description	Abbreviat...	Category	Procedur...	Offline Mob...	On Segme...	Controle...
Electrical Lighting Block Diagram	Lighting Plan & Detail	Drawing	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N			
Electrical Lighting Key Plan	Lighting Plan & Detail	Drawing	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N				
Electrical Lighting Plan	Lighting Plan & Detail	Drawing	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N				
Electrical Main Earthing Arrangement Plan	Grounding Plan & Detail	Drawing	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N				
Electrical Overall Earthing Block Diagram	Grounding Plan & Detail	Drawing	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N				
Electrical Overall Earthing One Line Diagram	Grounding Plan & Detail	Drawing	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N				
Electrical Room	Electrical Room Details	Drawing	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N				

Figure: Document Type Configuration module

	A	B	C	D
1	Category (Name)	Type (Name)	Description	Abbreviation
29	Drawing	Architectural	Architectural Drawing	ARCH
30	Drawing	Arrangement	Arrangement Plan	
31	Drawing	Assembly	Assembly	Assembly GRGE
32	Drawing	Base Load Diagram	Equipment Arrangement	BLDx
33	Drawing	Cable Block Diagram	Cable Plan	CBD
34	Drawing	Cable Sizing Philosophy	Wiring Philosophy	
35	Drawing	Cable Tray and Fittings	Cable Tray Plan	

Figure: Example Document Type Import

Step 1: Browse File & Load XLS File

Importing Document Types is only performed in the IMPORT Module. Search for vDocumentTypes view, Select row and press IMPORT button below.

Browse to file and press OPEN.

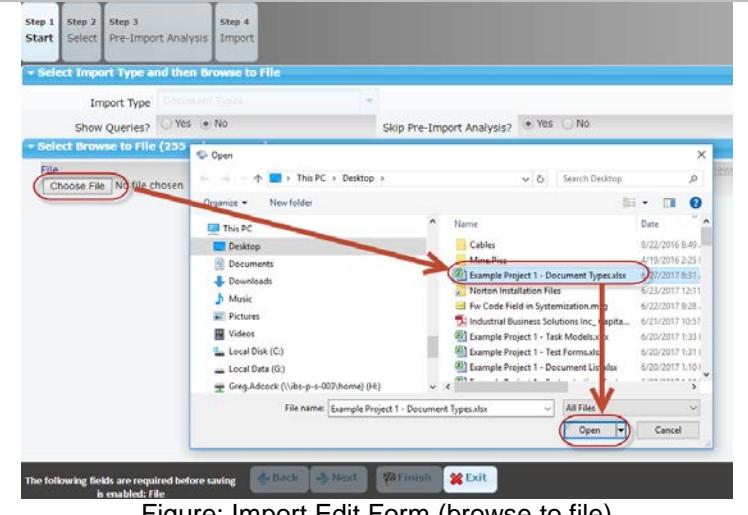


Figure: Import Edit Form (browse to file)

Step 2: Map Fields to Columns

Once SC loads the file, it will try to map the columns to the fields in the database view.

Select FIELD NAME dropdown to map to SC field. Then assign the collision behavior.

Press FINISH to start import.

Tool Tip:

The import module contains a document type import template XLS file.

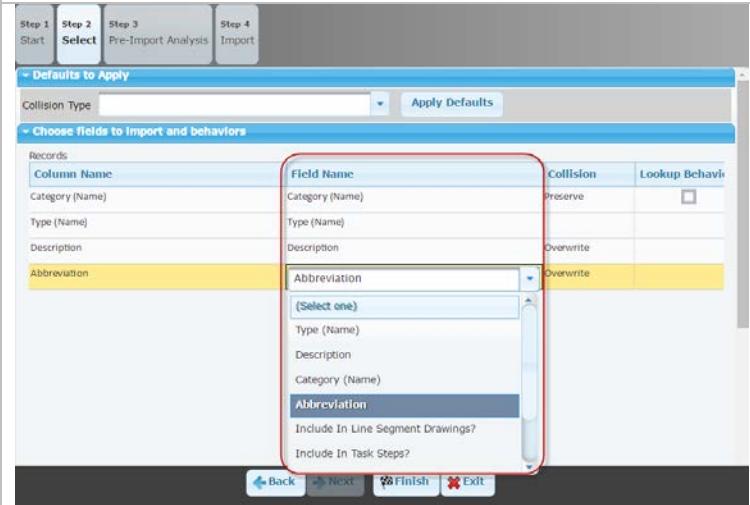


Figure: Import Edit Form (map columns to fields)

2.4.4 - Import Documents

It is most efficient to import a master document index BEFORE asset tags are imported. We recommend this approach to save a step in the import process. When a user imports the tag registries, and the XLS file references tag document(s), then it will link during import.

Tool Tip:

In the case the project cannot get a document or drawing XLS list, then a list of drawings can be created from the tag registries, but it will require the user to first import the document column in the equipment list, then import the equipment list, then import a third time to link the document to equipment tag. This is addressed in another training plan.

Importing Document lists can be performed from either the DOCUMENTS or IMPORT modules.

Import Types (7)

Manager View	Name	Description	Import View	Key Field	Template	Usage
document					<input type="checkbox"/> Y <input type="checkbox"/> N	
ivDocuments_Renaming	Renaming Documents		ivDocuments_Renaming	DocumentNameOld,DocumentName		0
vDocumentDSTemplates	Datasheet Templates	Datasheet Templates	ivAssets	Name		20
vDocumentForms	Forms and Checklist Library	CCMS Module: Test Form...	ivDocumentForms	DocumentName		4
vDocuments	Documents	Core Module: Documents...	ivDocuments	DocumentName		4
vDocumentTypes	Document Types	Configuration: Core Modu...	ivDocumentTypes	Name		0
vLEMDocuments	LEM Documents	LEM: Documents & Drawi...	ivDocuments	DocumentName		4
vLoopsDocuments	Loop Documents Assignme...	Loop Documents Assignm...	ivLoopDocuments	LoopName,DocumentName		0

Import Log (4)

Date	User	Company	File	Records
			<input type="checkbox"/> Y <input type="checkbox"/> N	
11-Oct-2016 03:30:44 PM	Ryan Thompson	IBS		6771

Figure: Import Module – query by Document database modules/views

A	B	C	D	E	F	G	H
Work Breakdown - Project 1 (Summary)	Document - Name/ID	Document - Description	Document - Category (Name)	Document - Type (Name)	Document - Discipline	Document - Revision	Document - Company
2 0000-01 - Example Project	100-J5-33112-F-112020	Control Loop Drawing	Drawing	Loop	INST		ACME
3 0000-01 - Example Project	100-J5-33112-H-112014	Control Loop Drawing	Drawing	Loop	INST		ACME
4 0000-01 - Example Project	100-J5-33112-H-112019	Control Loop Drawing	Drawing	Loop	INST		ACME
5 0000-01 - Example Project	100-J5-33112-L-112013	Control Loop Drawing	Drawing	Loop	INST		ACME
6 0000-01 - Example Project	25576-100-J2-10CX-00001	Pump Location Drawing	Drawing	Location	CIVIL		ABB
7 0000-01 - Example Project	25576-100-JFD-JF12-36020	Fire Water Pump Datasheet	Drawing	Datasheet	MECH		ABB
8 0000-01 - Example Project	25576-100-JLD-JL10-36013	Fire Water Pump Datasheet	Drawing	Datasheet	MECH		ABB
9 0000-01 - Example Project	25576-100-JPD-JP01-36016	Fire Water Pump Datasheet	Drawing	Datasheet	MECH		ABB
10 0000-01 - Example Project	DS-3336-RO-36540	Fire Water Electrical	Drawing	Single Line	ELEC	1	ACME
11 0000-01 - Example Project	M6-1T112-00007	Fire Water System	Drawing	P&ID	MULTI	1	ACME

Figure: Example Document Index to Import

Step 1: Browse File & Load XLS File

Importing Document lists can be performed from either the DOCUMENTS or IMPORT modules.

This training is from the DOCUMENTS module; press the IMPORT button.

Browse to file and press OPEN.

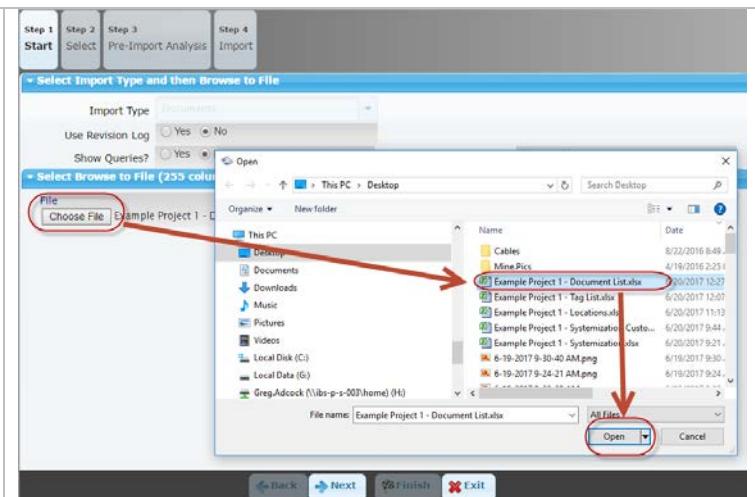


Figure: Import Edit Form (browse to file)

Step 2: Map Fields to Columns

Once SC loads the file, it will try to map the columns to the fields in the database view.

Select FIELD NAME dropdown to map to SC field. Then assign the collision behavior.

Press FINISH to start import.

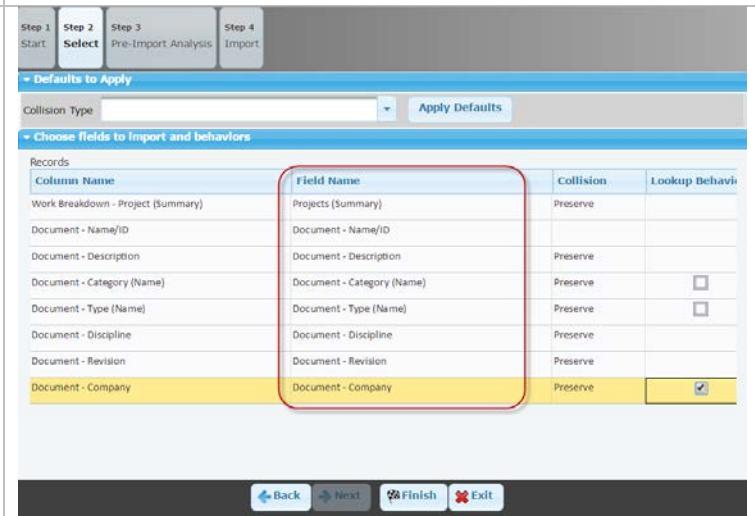


Figure: Import Edit Form (map columns to fields)

Step 3: Import and Review Results

The log will define which field was modified and number of records, by defining no. of: INSERTs and UPDATEs.

Note: IBS is aware that the import results are not all that intuitive to users without database experience and are looking to simplify the results for less advanced users.

A screenshot of the 'Import Edit Form' showing the 'Primary Data' tab. The interface includes a code editor-like area displaying SQL queries and their execution details, such as 'Affected Rows: 6771'. Below the code editor are two buttons: 'Save' and 'Exit'. A message at the bottom states 'Missing rights to save this record: Edit, Create'.

Figure: Import Edit Form (Import Results)

2.4.5 - Import Asset Types

Before importing tag lists, the list of asset types should first be imported, so that when importing the asset/tag lists, each tag will reference which asset type it is associated with. Again, it is IMPORTANT that each tag has an asset type as it is used in the CCMS task assignments using asset type, pack type, loop type “test profiles”. A test profile is a combination of “Task Models”.

The screenshot shows the 'Asset Types (171)' module. It displays a grid of asset types with columns: Asset Type, Datasheet, Asset Type Description, Discipline, Functional Code, Process Variations, Asset Type Model, Task Count, Asset Count, and Asset Count (Total). Below the grid, there is a 'Task Models (2)' tab where two task models are listed: 'TM-00002' and 'TM-00025'.

Asset Type	Datasheet	Asset Type Description	Discipline	Functional Code	Process Variations	Asset Type Model	Task Count	Asset Count	Asset Count (Total)
FALL		Flow Alarm Low Low	INST				2	2	
FCV		Flow Control Valve	INST		F - Flow	Valve	2	13	
FE		Flow Element	INST		F - Flow	TE	2	236	
FG		Flow Observation Glass	INST		F - Flow		2	361	
FI		Flow Indicator	INST		F - Flow	Indicator	2	158	
FIT		Flow Indicating Transmitter	INST		F - Flow	Transmitter	2	370	
FQ		Orifice Plate	INST				3	947	
FQI		Flow Totalizing Indicator	INST		F - Flow	Indicator	2	4	
FQUIT		Flow Totalizing Indicator Transmitter	INST		F - Flow	Transmitter	2	4	
FSH		Flow Switch High	INST				2	58	

Details	Task Models (2)	Plants (Where Used)	Documents	Assets	Field Log																											
<table border="1"> <thead> <tr> <th>Model ID</th> <th>Datasheet</th> <th>Task Description</th> <th>Is Active?</th> <th>Task Category</th> <th>Task Type</th> <th>Execution</th> <th>Project</th> <th>Phase</th> </tr> </thead> <tbody> <tr> <td>TM-00002</td> <td></td> <td>Instrument Test Record</td> <td><input checked="" type="checkbox"/></td> <td>PC - Precommissioning</td> <td>Inspection Test Record</td> <td>Digital Execut...</td> <td>0000-01 - Exampl...</td> <td>2 - Startup</td> </tr> <tr> <td>TM-00025</td> <td></td> <td>ICSS Operator Check List (Attachment t...</td> <td><input checked="" type="checkbox"/></td> <td>PC - Precommissioning</td> <td>Inspection Test Record</td> <td>Digital Execut...</td> <td>0000-01 - Exampl...</td> <td>2 - Startup</td> </tr> </tbody> </table>						Model ID	Datasheet	Task Description	Is Active?	Task Category	Task Type	Execution	Project	Phase	TM-00002		Instrument Test Record	<input checked="" type="checkbox"/>	PC - Precommissioning	Inspection Test Record	Digital Execut...	0000-01 - Exampl...	2 - Startup	TM-00025		ICSS Operator Check List (Attachment t...	<input checked="" type="checkbox"/>	PC - Precommissioning	Inspection Test Record	Digital Execut...	0000-01 - Exampl...	2 - Startup
Model ID	Datasheet	Task Description	Is Active?	Task Category	Task Type	Execution	Project	Phase																								
TM-00002		Instrument Test Record	<input checked="" type="checkbox"/>	PC - Precommissioning	Inspection Test Record	Digital Execut...	0000-01 - Exampl...	2 - Startup																								
TM-00025		ICSS Operator Check List (Attachment t...	<input checked="" type="checkbox"/>	PC - Precommissioning	Inspection Test Record	Digital Execut...	0000-01 - Exampl...	2 - Startup																								

Figure: Asset Type Module

A	B	C
Asset Type - Name	Asset Type - Description	Asset Type - Discipline
26 FQI	Flow Totalizing Indicator	INST
27 FQIT	Flow Totalizing Indicator Transmitter	INST
28 FSH	Flow Switch High	INST
29 FSL	Flow Switch Low	INST
30 FSLL	Flow Switch Low Low	INST
31 FT	Flow Transmitter	INST
32 FV	Flow Valve	INST
33 FX	Unclassified Flow	INST

Figure: Example Asset Type List to Import

Step 1: Browse File & Load XLS File

Importing Asset Type lists can be performed from either the ASSET TYPE or IMPORT modules.

This training is from the ASSET TYPE module; press the IMPORT button.

Browse to file and press OPEN.

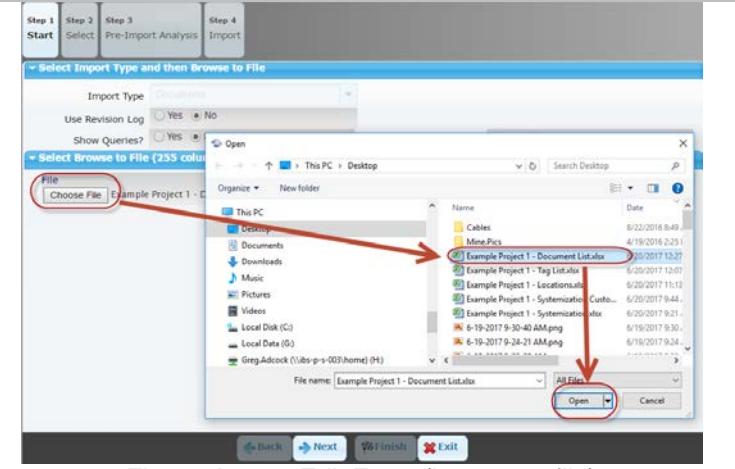


Figure: Import Edit Form (browse to file)

Step 2: Map Fields to Columns

Once SC loads the file, it will try to map the columns to the fields in the database view.

Select FIELD NAME dropdown to map to SC field. Then assign the collision behavior.

Press FINISH to start import.

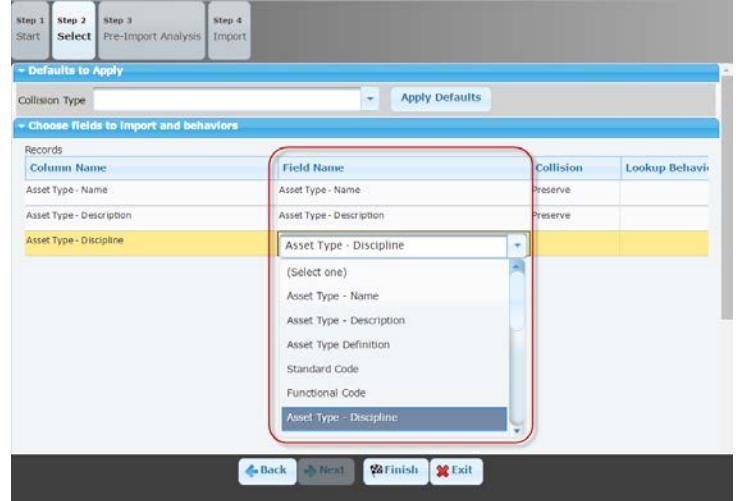


Figure: Import Edit Form (map columns to fields)

2.4.6 - Import Asset/Tag Lists

When importing your tag registries, they can be imported from the ASSET AND TAG MODULE, OR from the IMPORT MODULE. This training is from the import module. The only difference importing from the asset vs. import modules is that the view is pre-selected if importing from the asset module.

Import Types (23)		Reports					
Manager View		Name	Description	Import View		Key Field	
ASSET							
vAssets	Packs (Skids)	CCMS Module: Asset Packs	ivAssetPacks	AssetPackName		Y	N
vAssetsAssetsData	Packs (Skids) Assignments		ivAssetPacksAssets	AssetPackName,AssetTag		0	
vAssetsCable	Packs (Cable)	CCMS Module: Cable Packs	ivAssetPacks	AssetPackName		0	
vAssetsLines	Packs (Piping)	CCMS Module: Asset Packs	ivAssetPacks	AssetPackName		0	
vAssetsLinesData	Pack Lines Assignments	CCMS Module: Pipe Test P...	ivAssetPacksAssets	AssetPackName,AssetTag		0	
vAssets	Assets	Core Module: Master Ass...	ivAssets	Name		20	
vAssets_Cable	Cables	Core Module: Cable & Co...	ivAssets_Cable	Name,Discipline		0	
vAssets_Electrical	Electrical	Core Module: Electrical M...	ivAssets_Electrical	Name,Discipline		0	
vAssets_Instruments	Instruments	Core Module: Instrument...	ivAssets_Instruments	Name,Discipline		0	
vAssets_Mechanical	Mechanical	Core Module: Mechanical...	ivAssets_Mechanical	Name,Discipline		0	

Import Log (20)							
Date	User	Company	File	Records			
				Y	N		
21-Mar-2017 11:13:26 AM	Glenn Boyko	ABB		20			
09-Feb-2017 02:13:24 PM	Glenn Boyko	ABB		62			
02-Feb-2017 11:22:57 AM	Glenn Boyko	ABB		18			

Figure: Import Module – Selecting the Import View

Tool Tip: The only difference between importing to vAssets and the discipline-specific asset modules (e.g. vAssets_Cable) is that the discipline specific imports restrict fields to standard and discipline specific fields. The vAssets import lists ALL fields for ALL DISCIPLINES and is the most used.

A	B	C	D	E	F	G	H	I	J	K
Work Breakdown - Project	Asset - Name/Tag	Asset - Description	Asset - Discipline	Asset - Asset Type [Summary]	Asset - Service	Asset - Status	Asset - System	Systemization - System [Summary]	Systemization - Subsystem [Summary]	OEM - Manufacturer
1 [Summary]										
2 0000-01 - Example Project	1100-CT-112816	PK-1100-ET-01 CURRENT TRANSFORMER	ELEC	CT - HV - Current Transformer	HV TRANSFORMER	Construction	1100-112-04 - DRAINS, UF/RO REJECT SUMP & PUMP			Siemens
3 0000-01 - Example Project	1100-CT-112817	PK-1100-ET-02 CURRENT TRANSFORMER	ELEC	CT - HV - Current Transformer	HV TRANSFORMER	Construction	1100-112-04 - DRAINS, UF/RO REJECT SUMP & PUMP		1100-112-04-01 - T1	Siemens
4 0000-01 - Example Project	1100-CT-46900	MCC CURRENT TRANSFORMER	ELEC	CT - HV - Current Transformer	HV SUPPLY	Construction	1100-112-04 - DRAINS, UF/RO REJECT SUMP & PUMP			Atlas Copco
5 0000-01 - Example Project	1000-FIT-1000	PUMP DISCHARGE FLOW	INST	FIT - Flow Indicating Transmitter	WATER FLOW INDICATOR	Construction	1100-CT-112811 1100-112-04 - DRAINS, UF/RO REJECT SUMP & PUMP			Allen Bradley
6 0000-01 - Example Project	1100-FIT-106026-A	T2-HOT OIL PUMP P-3402A DISCHARGE	INST	FIT - Flow Indicating Transmitter	test	Construction	1100-P-3401-A 1100-112-04 - DRAINS, UF/RO REJECT SUMP & PUMP			Allen Bradley
7 0000-01 - Example Project	1100-FIT-106026-B	HOT OIL PUMP P-3401B DISCHARGE	INST	FIT - Flow Indicating Transmitter	test	Construction	1100-P-3401-B 1100-112-04 - DRAINS, UF/RO REJECT SUMP & PUMP			Allen Bradley
8 0000-01 - Example Project	1100-FIT-112020	P-3602A/B PUMPS TO OUTFALL	INST	FIT - Flow Indicating Transmitter	FLOW TRANSMITTER - VORTEX	Construction	1100-P-3602-A 1100-112-04 - DRAINS, UF/RO REJECT SUMP & PUMP			Allen Bradley
9 0000-01 - Example Project	1100-FIT-115009	CONDENSED WATER PUMP P-3702-A/B MIN F INST	INST	FIT - Flow Indicating Transmitter	FLOW TRANSMITTER - VORTEX	Construction	1100-P-3207-B 1100-112-04 - DRAINS, UF/RO REJECT SUMP & PUMP			Allen Bradley
10 0000-01 - Example Project	1100-FIT-40085	REGEN REFLUX PUMP P-1203A/B MIN FLOIN	INST	FIT - Flow Indicating Transmitter	FLOW TRANSMITTER - VORTEX	Construction	1100-P-1203-A 1100-112-04 - DRAINS, UF/RO REJECT SUMP & PUMP			Allen Bradley
11 0000-01 - Example Project	1100-HS-112014-A	UF FILTER/RO REJECT PUMP P-3602A	INST	HS - Hand Switch	HOA HAND SWITCH	Construction	1100-112-04 - DRAINS, UF/RO REJECT SUMP & PUMP			Gems Sensors
12 0000-01 - Example Project	1100-HS-112014-S	UF FILTER/RO REJECT PUMP P-3602B	INST	HS - Hand Switch	HOA HAND SWITCH	Construction	1100-112-04 - DRAINS, UF/RO REJECT SUMP & PUMP			Gems Sensors
13 0000-01 - Example Project	1100-UT-112013	SUMP Q-3605 LEVEL	INST	UT - Level Indicating Transmitter	LEVEL TRANSMITTER - RADAR	Construction	1100-112-04 - DRAINS, UF/RO REJECT SUMP & PUMP			Allen Bradley
14 0000-01 - Example Project	1100-PI-112016	UF FILTER/RO REJECT PUMP P-3602A DISCHAF INST	INST	PI - Pressure Indicator	PRESSURE GAUGE DIAPHRAGM SEAL	Construction	1100-112-04 - DRAINS, UF/RO REJECT SUMP & PUMP			Allen Bradley
15 0000-01 - Example Project	1100-PI-112017	UF FILTER/RO REJECT PUMP P-3602B DISCHAF INST	INST	PI - Pressure Indicator	PRESSURE GAUGE DIAPHRAGM SEAL	Construction	1100-112-04 - DRAINS, UF/RO REJECT SUMP & PUMP			
16 0000-01 - Example Project	1100-P-1203-A	REGEN REFLUX PUMP P-1203A/B MIN MECH	MECH	PP - Pump	REFLUX	Construction	1100-112-04 - DRAINS, UF/RO REJECT SUMP & PUMP			
17 0000-01 - Example Project	1100-P-1207-A	CONDENSED WATER PUMP P-3702-A/B MIN MECH	MECH	PP - Pump	CONDENSED WATER	Construction	1100-112-04 - DRAINS, UF/RO REJECT SUMP & PUMP			
18 0000-01 - Example Project	1100-P-3207-B	CONDENSED WATER PUMP P-3702-A/B MIN MECH	MECH	PP - Pump	CONDENSED WATER	Construction	1100-112-04 - DRAINS, UF/RO REJECT SUMP & PUMP			

Figure: Example Tag List to Import

Tool Tip: Each TAG MUST HAVE A DISCIPLINE in order to be created in SC and HAVE AN ASSET TYPE to use the “task assignment wizards”. SC uses the asset type to determine which tasks/forms should be assigned based on its test profile (task models).

The asset type in the XLS must be a “Summary Field” meaning it must have a NAME – DESCRIPTION. Reason being is that there could be several types of pumps with “PP” as a name. By concatenating the name with a description, we can get a more accurate representation of test profiles for different types of pumps:

- PP – Centrifugal Pump
- PP – Metering Pump

When importing, you must assign a collision behavior:

Preserve INSERT data if field is blank. If data exists, preserve (don’t change).

Overwrite UPDATE data regardless of existing data in the field.

Concatenate UPDATE data by concatenating existing text and new text. This ONLY works for text or comment fields and is used infrequently. Best case is using to append comments to existing comments for an asset tag.

Step 1: Browse File & Load XLS File

Importing Asset Tag lists can be performed from either the ASSET or IMPORT modules.

This training is from the ASSET module; press the IMPORT button.

Browse to file and press OPEN.

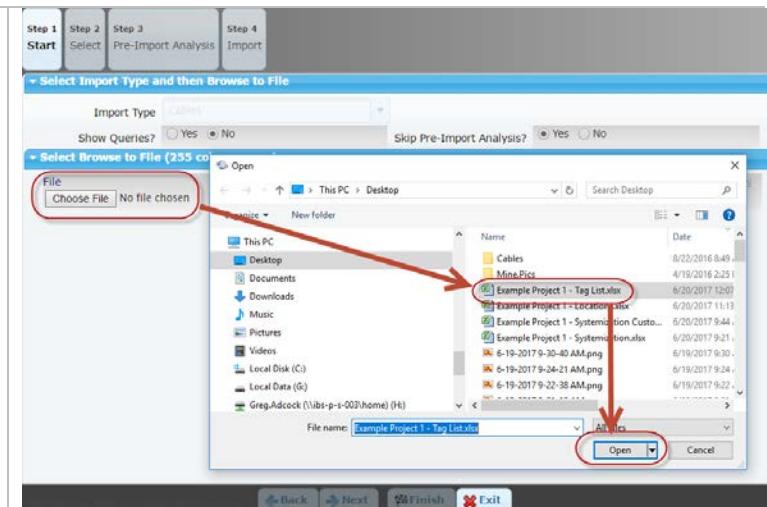


Figure: Import Edit Form (browse to file)

Step 2: Map Fields to Columns

Once SC loads the file, it will try to map the columns to the fields in the database view.

Select FIELD NAME dropdown to map to SC field. Then assign the collision behavior.

Press FINISH to start import.

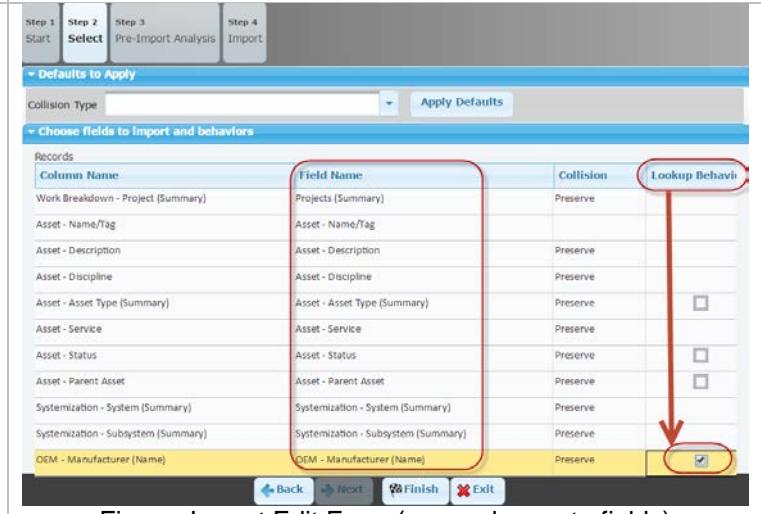


Figure: Import Edit Form (map columns to fields)

Step 3: Import and Review Results <p>The log will define which field was modified and number of records, by defining no. of: INSERTs and UPDATEs.</p> <p>Note: IBS is aware that the import results are not all that intuitive to users without database experience and are looking to simplify the results for less advanced users.</p>	<div style="border: 1px solid #ccc; padding: 10px;"> <p>General General</p> <p>▼ Primary Data</p> <pre>Inserting field Name into View ivAssets Running SQL: INSERT INTO [ivAssets] ([Name], RecordCreatedByID , CompanyInstanceID) SELECT t.[Asset - Name/Tag],1,1 FROM (SELECT [Asset - Name/Tag],1 AS CompanyInstanceID FROM TempImport171ivAssets WHERE (LEN([Asset - Name/Tag]) >= 1) GROUP BY [Asset - Name/Tag]) AS t LEFT OUTER JOIN [ivAssets] AS targetView ON t.[Asset - Name/Tag] = targetView.[Name] AND t.CompanyInstanceID = targetView.CompanyInstanceID WHERE (targetView.[Name] IS NULL) AND (len(t.[Asset - Name/Tag])>0); Affected Rows: 62</pre> <pre>Updating lookup field [DisciplineID] in View ivAssets Running SQL: UPDATE [ivAssets] SET [DisciplineID]=[vDisciplines].ID FROM TempImport171ivAssets as t INNER JOIN [ivAssets] ON [ivAssets].[Name] = t.[Asset - Name/Tag] AND [ivAssets].CompanyInstanceID = 1 LEFT OUTER JOIN [vDisciplines] lLookup ON [ivAssets].[DisciplineID] = lLookup.ID INNER JOIN [vDisciplines] ON t.[Asset - Discipline] = [vDisciplines].[Discipline] AND [vDisciplines].CompanyInstanceID = 1 WHERE t.[Asset - Discipline] IS NOT NULL AND (lLookup.Discipline) IS NULL; Affected Rows: 62</pre> <pre>Clearing field Description in View ivAssets Affected Rows: 0</pre> <pre>Updating field Description in View ivAssets Running SQL: UPDATE [ivAssets] SET [Description] = LTRIM(RTRIM(t.[Asset - Description])) FROM TempImport171ivAssets AS t LEFT OUTER JOIN [ivAssets] ON [ivAssets].[Name] = t.[Asset - Name/Tag] AND ivAssets.CompanyInstanceID = 1 WHERE LEN(t.[Asset - Description])>0 AND (LEN([ivAssets].[Description])=0 or [ivAssets].[Description] is null) AND t.[Asset - Description]<>'NULL'; Affected Rows: 62</pre> <pre>Clearing field Service in View ivAssets Affected Rows: 0</pre> <pre>Updating field Service in View ivAssets Running SQL: UPDATE [ivAssets] SET [Service] = LTRIM(RTRIM(t.[Asset - Service])) FROM TempImport171ivAssets AS t LEFT OUTER JOIN [ivAssets] ON [ivAssets].[Name] = t.[Asset - Name/Tag] AND ivAssets.CompanyInstanceID = 1 WHERE LEN(t.[Asset - Service])>0 AND (LEN([ivAssets].[Service])=0 or [ivAssets].[Service] is null) AND t.[Asset - Service]<>'NULL'; Affected Rows: 62</pre> <p>Missing rights to save this record: Edit, Create</p> <p style="text-align: right;"><input type="button" value="Save"/> <input type="button" value="Exit"/></p> </div>
--	---

Figure: Import Edit Form (Import Results)

2.4.7 - Import Test Forms List

Test forms lists are imported first so that the actual paper-based MS Word document can be uploaded against them. This is a simple import and is imported ONLY from the IMPORT module. Once test forms are created in SC, we use the same XLS file to create the list of task models, and link to the test form. That will be covered in the next section.

Import Types (1)		Reports			
Manager View	Name	Description	Import View	Key Field	Template
form					<input type="checkbox"/> Y <input type="checkbox"/> N
vDocumentForms	Forms and Checklist Library	CCMS Module: Test Form...	ivDocumentForms	DocumentName	

Import Log (4)				
Date	User	Company	File	Records
			<input type="checkbox"/> Y <input type="checkbox"/> N	
17-Mar-2017 03:03:28 PM	Glenn Boyko	ABB		66
17-Mar-2017 03:00:26 PM	Glenn Boyko	ABB		66
17-Mar-2017 02:54:09 PM	Glenn Boyko	ABB		66
15-Sep-2016 06:35:30 PM	Greg Adcock	IBS		0

Figure: Import Module – Query for vDocumentForms

Tool Tip:

The GROUP TYPE is only selected for a test form that is assigned to a Loop, Pipe Pack, Cable Pack, or Vendor Pack.

The INTERFACE TOOL selection should be set to CCMS Tasks for all test forms, except for a punch list form, which would be assigned to the PL module.

Figure: Import Module – Document Forms Module (aka Test Forms Library)

A	B	C	D	E	F	G
Form - Name/ID	Form - Description	Is Active?	Form - Type (Name)	Group Type (Name)	Form - Discipline	Tool
2 CE-CP-0005A	System Test/Certificate Cover Page	1	Cover Page		MECH	CCMS Tasks
3 CSCC	Commissioning Safety Clearance Certificate	1	Certificate		MULTI	Assurance Certificates
4 CVC	(CVC) Construction Verification Certificate	1	Certificate		MULTI	Assurance Certificates
5 E01B	MCC Feeder-Contactor Bucket	1	Test Form		ELEC	CCMS Tasks
6 E02B	MCC Line-up	1	Test Form		ELEC	CCMS Tasks
7 E03B	LV-MV-HV Switchgear	1	Test Form		ELEC	CCMS Tasks
8 E04B	LV-MV-HV Circuit Breaker	1	Test Form		ELEC	CCMS Tasks
9 E05B	Distribution Panel	1	Test Form		ELEC	CCMS Tasks
10 E06B	Lighting and Small Power Energization	1	Test Form		ELEC	CCMS Tasks

Figure: Example Test Forms Index to Import

Step 1: Browse File & Load XLS File

Importing can be performed from either the IMPORT or TEST FORMS modules.

This training is from the TEST FORMS module; press the IMPORT button.

Browse to file and press OPEN.

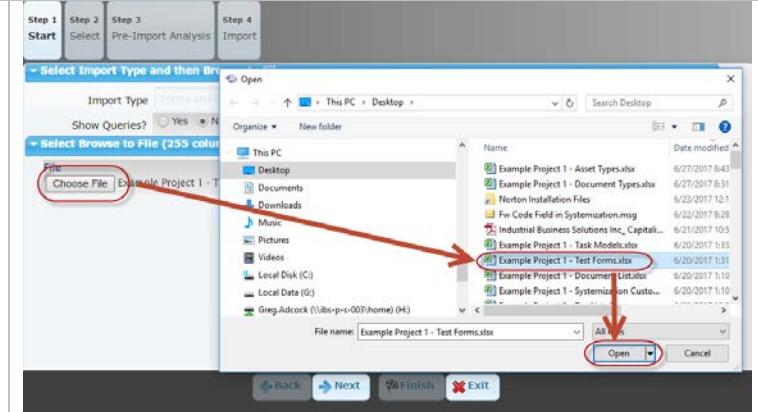


Figure: Import Edit Form (browse to file)

Step 2: Map Fields to Columns

Once SC loads the file, it will try to map the columns to the fields in the database view.

Select FIELD NAME dropdown to map to SC field. Then assign the collision behavior.

Press FINISH to start import.

Column Name	Field Name	Collision	Lookup Beh
Form - Name/ID	Form - Name/ID	Preserve	
Form - Description	Form - Description	Preserve	
Is Active?	Is Active?	Preserve	
Form - Type (Name)	Form - Type (Name)	Preserve	
Group Type (Name)	Group Type (Name)	Preserve	
Form - Discipline	Form - Discipline	Preserve	
Tool	Tool	Preserve	

Back Next Finish Exit

Figure: Import Edit Form (map columns to fields)

2.4.8 - Import Task Models

Task model creation is typically imported from either a test forms list or a test profile list of some sort. Typically, we receive forms to asset type list and we use the same forms list to create a list of task models. This training will discuss how to create TM's by importing.

Import Types (1)		Reports			
Manager View	Name	Description	Import View	Key Field	Template
taskm					<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
vTaskModels	Task Models	Core Module: Task Models	ivTaskModels	TaskName	

Import Log (4)				
Date	User	Company	File	Records
19-Mar-2017 07:56:46 PM	Glenn Boyko	ABB		0
17-Mar-2017 04:06:48 PM	Glenn Boyko	ABB		70

Figure: Import Module – query for vTaskModels

Tool Tips:

- If the project only wants to use a paper approach then a task model would have the PAPER execution type, if they want to use PAPER or DIGITAL, then they would assign the DIGITAL execution type.
- Importing “TEST PROFILES” can be done from the Task Model import or from the Asset Type import. The Asset Type import is more traditional view of looking at what TASK MODELS / TEST FORMS are associated with what type of equipment. A user has a few options to import the test profiles.

Tool Tip: The column for the Task Model ID will have an "X" for each TM to be created. SC will interpret a TM using the next available TM number.

A	B	C	D	E	F	G	H	I	J	K
Task ID	Description	Category (Name)	Task Type (Name)	Test Forms - (Name)	Name	Workgroup (Name)	Work Breakdown - Project (Summary)	Work Breakdown - Phase (Summary)	Work Breakdown - Stage (Summary)	Responsible By (Company)
2 X	Pressure Relieving Device Inspection	PC	Inspection Test Record	INST	I3	Commissioning	0000-01 - Example Project	2 - Startup	1 - Pre-commissioning	IBS
3 X	Instrument Test Record	PC	Inspection Test Record	INST	I4		0000-01 - Example Project	2 - Startup	1 - Pre-commissioning	IBS
4 X	Orifice Plate Inspection	PC	Inspection Test Record	INST	I5		0000-01 - Example Project	2 - Startup	1 - Pre-commissioning	IBS
5 X	Loop Functional Test	PC	Inspection Test Record	INST	I6	Commissioning	0000-01 - Example Project	2 - Startup	1 - Pre-commissioning	IBS
6 X	(CVC) Construction Verification Certificate	CS	Certificate	CVC			0000-01 - Example Project	1 - Construction	3 - Mechanical Completion	EPC
7 X	(WDR) Walkdown Attendance Register	CS	Certificate	WDR			0000-01 - Example Project	1 - Construction	2 - Substantially complete	EPC
8 X	(CCSC) Commissioning Safety Clearance (CS	Certificate	CSCC				0000-01 - Example Project	1 - Construction	3 - Mechanical Completion	EPC
9 X	System Test/Certificate Cover Page	CO	System Commissioning	MECH	CE-CP-0005A		0000-01 - Example Project			EPC
10 X	MCC Feeder-Contactor Bucket	PC	Inspection Test Record	ELEC	E01B		0000-01 - Example Project			ACME
11 X	MCC Line-up	PC	Inspection Test Record	ELEC	E02B		0000-01 - Example Project			ACME
12 X	LV-MV-HV Switchgear	PC	Inspection Test Record	ELEC	E03B		0000-01 - Example Project			ACME

Figure: Create Task Models via Import

Step 1: Browse File & Load XLS File

Importing can be performed ONLY from the IMPORT module. Search for vTaskModels, select row (not hyperlink)

Press IMPORT button.

Browse to file and press OPEN.

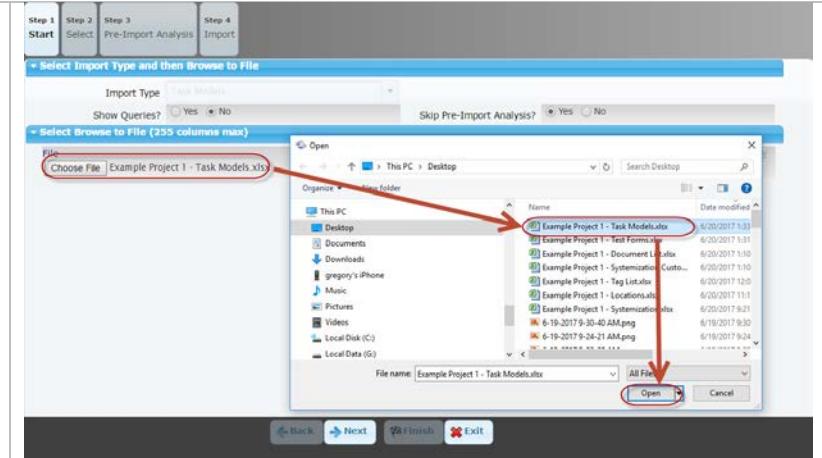


Figure: Import Edit Form (browse to file)

Step 2: Map Fields to Columns

Once SC loads the file, it will try to map the columns to the fields in the database view.

Select FIELD NAME dropdown to map to SC field. Then assign the collision behavior.

Press FINISH to start import.

Tool Tip:

The PHASE and STAGE ARE IMPORTANT fields they are used to group tasks for completions reporting.

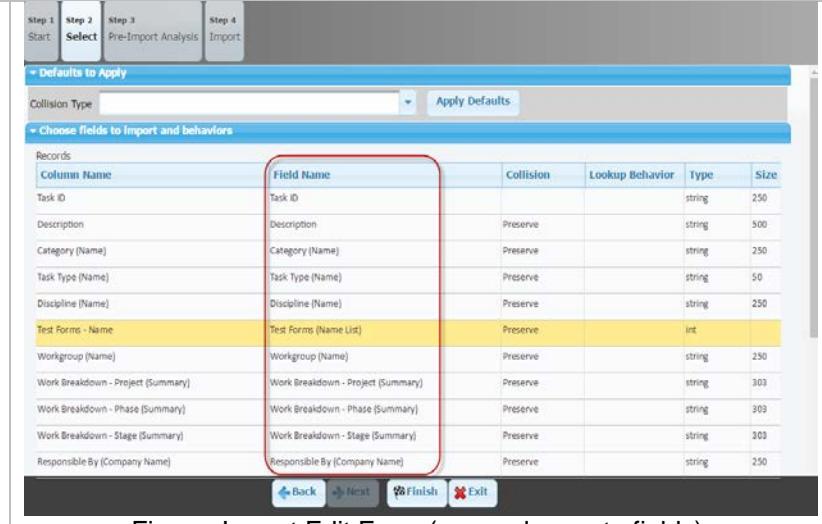


Figure: Import Edit Form (map columns to fields)

2.4.9 - Importing Task Model Inspection Steps (simple checklists)

Task Models, used for digital inspections, can be modified via the user interface, or they can be imported. Make sure if you import inspection steps a single task model is loaded first, and then upon up the Task Model edit form to review. The example below is an example of a checklist with a header above a collection of inspection sub-steps. You will also see that (for the case of training), that the second section of the inspection steps uses different labels (e.g. yes, no, N/A vs. accept, reject, N/A). Note: by default the simple inspection step will automatically default to the “accept, reject, N/A” configuration.

The screenshot shows the 'Task Step Tool Bar' with various buttons for selecting all, none, or specific steps, as well as for navigating between steps and headers. Below the toolbar, there are dropdown menus for selecting the header type ('CE Standard Header') and color ('LightSlateGrey').

The main area displays two sections of inspection steps:

- Section 1 (GENERAL):** Contains three sub-steps (1.1, 1.2, 1.3) with 'Step Action' columns for 'Accept', 'Reject', and 'N/A'. The 'PL' column indicates 'Reject' for all three.
- Section 2:** Contains four sub-steps (2.1, 2.2, 2.3, 2.4) with 'Step Action' columns for 'Yes', 'No', and 'N/A'. The 'PL' column indicates 'No' for all four.

Item No.	Sub Step	Required	Step Action			PL	Weight %			
			Accept	Reject	N/A					
1.1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Batteries stored in accordance with Vendor and or Preservation Manual requirements			<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Reject ▾	
1.2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	External inspection of batteries for damage			<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Reject ▾	
1.3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Check the Integrity of Vendor preservation			<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Reject ▾	
In the event that there is no Vendor preservation or it has been compromised:										
Item No.	Sub Step	Required	Step Action			PL	Weight %			
			Yes	No	N/A					
2.1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Batteries stored in a climate controlled area, above ground			<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	No ▾	
2.2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Batteries not stacked on top of each other			<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	No ▾	
2.3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Terminals protected with insulating covers			<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	No ▾	
2.4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Barrier around storage area to prevent accidental damage			<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	No ▾	

Figure: Task Model Inspection Step Configuration for simple checklist

Project Setup

A	B	C	D	E	F	G	H	I	J	K	L	M	N
Task ID	Step Sequence	Substep?	Inspection Type	Show Header	Step Headers	Step Action	Step Points	Step Parameter	Step Non-Compliance Trigger	Step Required?	Show Label	Access Code	Percentage Weight Step
TM-01057	1		Label or Header	1		GENERAL	1						
TM-01057	2	1	Inspection with 3 (Radio Button)	1		Batteries stored in accordance with Vendor and or Pre	1.1	Reject	1	0			
TM-01057	3	1	Inspection with 3 (Radio Button)	0		External inspection of batteries for damage	1.2	Reject	1	0			
TM-01057	4	1	Inspection with 3 (Radio Button)	0		Check the integrity of Vendor preservation	1.3	Reject	1	0			
TM-01057	5		Label or Header	1		In the event that there is no Vendor preservation or it has been compromised	2						
TM-01057	6	1	Inspection with 3 (Radio Button)	1	Yes,No,N/A	Batteries stored in a climate controlled area, above ground	2.1	Reject	1	0			
TM-01057	7	1	Inspection with 3 (Radio Button)	0	Yes,No,N/A	Batteries not stacked on top of each other	2.2	Reject	1	0			
TM-01057	8	1	Inspection with 3 (Radio Button)	0	Yes,No,N/A	Terminals protected with insulating covers	2.3	Reject	1	0			
TM-01057	9	1	Inspection with 3 (Radio Button)	0	Yes,No,N/A	Barrier around storage area to prevent accidental damage	2.4	Reject	1	0			

PUT IN 1 TO SHOW HEADER AND THE LABEL (ACCEPT, REJECT, N/A) ABOVE THE FIRST INSPECTION

WHEN IMPORTING A STEP OR SUB-STEP THAT HAS 1.10, XLS MUST SEE IT AS A TEXT VALUE, SO USE: '1' OR FOR 1.10 USE '1.10'

FOR LABEL OR HEADER ROWS, MAKE SURE THE TRIGGER COLUMN CELL IS BLANK.

Figure: Import Task Model Inspection Steps

Another Example:

If you wanted to have a similar checklist as above, but wanted a text value entered, use Inspection with 1 Input (Text) as the inspection type, and do not assign a PL trigger.

Item No.	Sub Step	Required	Step Action					Accept	Reject	N/A	PL	Weight %
			1	2	3	4	5					
2.1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	In the event that there is no Vendor preservation or it has been compromised								Reject	
2.2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Anti-condensation heater isolated from power source									
2.3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Measure windings to earth insulation resistance and record results									
2.4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	VCI installed in terminal box								Reject	
2.5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Anti-condensation heater energised								Reject	
2.6	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Cable entries plugged								Reject	
2.7	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Shaft rotated 3 1/4 revolutions. (DO NOT ROTATE SHAFTS WITH SLEEVE / PLAIN BEARINGS)								Reject	

Figure: Task Model Inspection Step Configuration w/ Text Entry

A	B	C	D	E	F	G	H	I	J	K	L	M	N
Task ID	Step Sequence	Substep?	Inspection Type	Show Header	Step Headers	Step Action	Step Points	Step Parameter	Step Non-Compliance Trigger	Step Required?	Show Label	Access Code	Percentage Weight Step
TM-01063	1		Label or Header	1		GENERAL	1						
TM-01063	2	1	Inspection with 3 (Radio Button)	1		External inspection of equipment for damage / corrosion	1.1	Reject	1	0			
TM-01063	3	1	Inspection with 3 (Radio Button)	0		Check the integrity of Vendor preservation	1.2	Reject	1	0			
TM-01063	4	1	Inspection with 3 (Radio Button)	0		Equipment protected from construction activities	1.3	Reject	1	0			
TM-01063	5		Label or Header	1		In the event that there is no Vendor preservation or it has been compromised	2						
TM-01063	6	1	Inspection with 3 (Radio Button)	1		Anti-condensation heater isolated from power source	2.1	Reject	1	0			
M-01063	7	1	Inspection with 1 Input (Text)	0		Measure windings to earth insulation resistance and record results	2.2				1	0	
TM-01063	8	1	Inspection with 3 (Radio Button)	0		VCI installed in terminal box	2.3	Reject	1	0			
TM-01063	9	1	Inspection with 3 (Radio Button)	0		Anti-condensation heater energised	2.4	Reject	1	0			
TM-01063	10	1	Inspection with 3 (Radio Button)	0		Cable entries plugged	2.5	Reject	1	0			
TM-01063	11	1	Inspection with 3 (Radio Button)	0		Shaft rotated 3 1/4 revolutions. (DO NOT ROTATE SHAFTS WITH SLEEVE / PLAIN BEARINGS)	2.6	Reject	1	0			

Figure: Import Task Model Inspection Steps

2.4.10 - Importing Test Profiles (via Asset Type Perspective)

The more traditional approach to assigning check sheets to tags in the database is based on a test matrix. These matrices define which asset types would get what type of check sheet. In SC we assign task models because not all clients use paper-based approach, some just go fully digital with only using task models. The image below shows the same asset type import but with additional columns where we defined which task model should be assigned to what asset type. If the column has 3 columns of TMs, then you would import 3 times, 1 per column.

A	B	C	D	E	F
1	Asset Type - Name	Asset Type - Description	Asset Type - Discipline	Task Model	Task Model
20	FCV	Flow Control Valve	INST	TM-00021	TM-00024
72	PCV	Pressure Control Valve	INST	TM-00021	TM-00024
74	PDCV	Pressure Differential Control Valve	INST	TM-00021	TM-00024
112	TCV	Temperature Control Valve	INST	TM-00021	

Figure: Example Asset Type Import (assigns TMs to asset types)

Step 1: Browse File & Load XLS File

Importing can be performed from either the ASSET TYPE or IMPORT modules. This training is from the asset type module.

Press IMPORT button.

Browse to file and press OPEN.

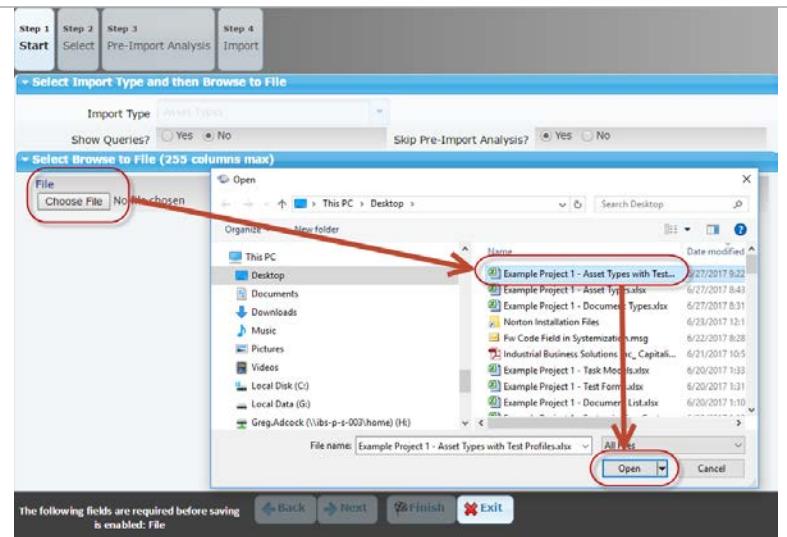


Figure: Import Edit Form (browse to file)

Step 2: Map Fields to Columns

Once SC loads the file, it will try to map the columns to the fields in the database view.

Select FIELD NAME dropdown to map to SC field. Then assign the collision behavior.

Press FINISH to start import.

Repeat per TM column in XLS file.

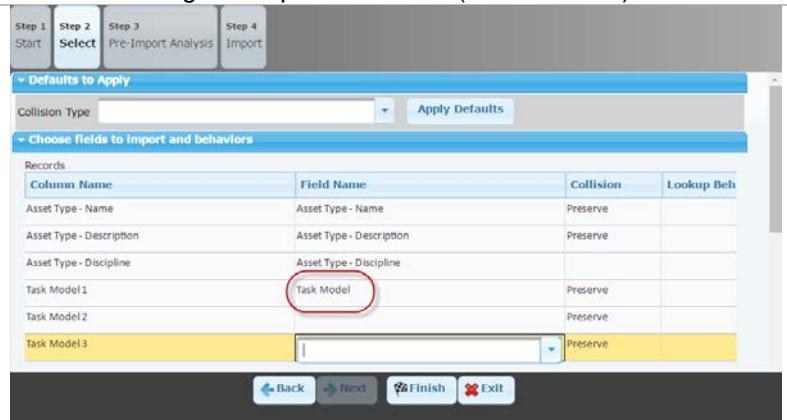


Figure: Import Edit Form (map columns to fields)

SECTION 3

Project Planning & Model Development

3.1 – Checksheet and Test Form Library

The test forms and checklist library is a best practice “go-by” library. This module is used ONLY if you plan to administer check sheets with QR codes and do not plan to use the digital/mobile approach to task execution. The library will manage the creation, approval and change control. Each check sheet is assigned a task model, so that a test forms can be assigned to assets, loops, packs, systems etc. SC was designed this way as some clients do not use paper, only mobile. In addition a TM can also have additional data that forms do not such as resources, tools, material requirements, and inspection steps.

The paper based QR coded forms utilize the Microsoft Word Mail Merge functionality where it will populate a static form with project data dynamically. The uploading of completed forms will be performed using the proprietary SC document/form uploader utility. It is located in the file sharing module.

Note: If your company is just going digital using mobile devices and not using paper based QR coded test forms, then skip section 3.1 in its entirety.

The Test forms library will list all test forms, check sheets, certificates etc. It will also contain access to the mail merge templates.



3.1.1 - Understanding Document Category (Test Form)

It is important that any test form, check sheet, and certificate as the OOB category, called Test Form. Any document type can be bound to a Test Form category which notify SC that they can be assigned to a task model. If you do not see the form you created available for selection in the Task Model edit form, this would be the reason.

The screenshot shows a table of document types on the left and a detailed edit form on the right. A red arrow points from the 'B Checksheet' row in the table to the 'Category' field in the edit form. The 'Category' field contains 'Test Form - Equipment Test Form' and is circled in red.

Name	Description
B Checksheet	Static Commissioning
Calibration Sheet	Equipment Calibration Sheet
Certificate	Certificate
Cover Page	Vendor Cover Page
Field Inspection Checklist	Field Inspection Checklist
Inspection Test Record	Inspection Test Record
Notice	Notice
Permit	
Record	
Report	Report

General
Document Type
 Name: B Checksheet
 Description: Static Commissioning
 Abbreviation: B
 Category: Test Form - Equipment Test Form (circled)
 Procedure? (radio buttons: Yes, No)
 Offline Mobile? (radio buttons: Yes, No)
 Include In Line Segment Drawings? (radio buttons: Yes, No)
 Controlled? (radio buttons: Yes, No)
 Lifespan(Days):
 Save Exit

 Figure: Document Type Edit Form – MUST have Test Form Category

Tool Tip:

You can create different document types to accommodate the different types of forms, such as Field Installation Checklist (FIC), Inspection Test Record (ITR) and Certificate. HOWEVER, make sure the category is set to TEST FORM, otherwise it will not be considered a form for mail merge. This applies also for CERTIFICATES.

3.1.2 - Understanding the Form Requirements

Each Form record would have an uploaded MS Word document. Documents are usually uploaded via the interface one-by-one, as once they are uploaded a user would then assign the document to a dummy asset tag and mail merge the form to ensure it was compiled correctly.

The generation of a mail merged form will automatically populate the MS Word document with task, system, asset, loop or pack information and print to PDF format with a distinct QR code. In addition, only ACTIVE forms will be able for assignment to a Task Model. The feature ensures that only specific forms can be used on a project. This is useful feature when you are pulling or referencing a test form from a larger test form library.

A test form record must have a form name, description, form type, discipline and Interface Tool (which will always be CCMS Tasks unless you are developing punch list mail merge form).

Tool Tip:

If the user presses “Create Associated Task Model” it will create a task model and automatically link to the test form. ONLY do this if task models DOES NOT exist.

The screenshot shows a detailed edit form for a form record. Several fields are circled in red: 'Is Active?' (radio buttons: Yes, No), 'Form Type' (dropdown: Test Form - Test Form), 'Interface Tool' (dropdown: CCMS Tasks), 'Asset Discipline' (dropdown: INST), 'Group Type' (dropdown), 'Projects' (dropdown: 1 selected), 'Company' (dropdown: IBS), and 'Create Task Model' (button). The 'Create Task Model' button is circled in red.

Step 1 General
Step 2 Revision History
Step 3 Comments
Workflow
 Originated Submitted (circled)
 Verified Approved

Form Information
 Form Name: I3
 Description: Pressure Relieving Device Inspection
 Is Active? (radio buttons: Yes, No) (circled)
 Form Type: Test Form - Test Form (circled)
 Interface Tool: CCMS Tasks (circled)
 Asset Discipline: INST
 Group Type:
 Projects: 1 selected
 Company: IBS
 Revision: 0
 Rev. Description:
 Expires? (radio buttons: No, Yes)

Upload File Associated To Form
 Word File: (I3 - Pressure Relieving Device Inspection_1(b).docx)
 Choose File: No file chosen
 clear view

Upload Associated Jasper Form
 Jasper Form:
 Choose File: No file chosen
 clear view

Cancel Verify Save Exit Create Task Model (circled) Email Form

Figure: Form Edit Form

3.1.3 - Basic Requirements for the QR Code – Mail Merged Form

For a Mail Merge Form to be successfully uploaded using SC File Upload Utility, there are some basic requirements that need to be met.

The QR code needs to be square.		
If there is a border around the QR Code, there needs to be white space.		

3.1.4 - Accessing mail merge templates & Formatting a Check Sheet

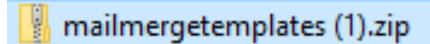
SC includes OOB set of mail merge templates that contain a list of fields that can be copied and pasted into a test form. If you are developing a cable specific test form (e.g. point to point), then you would pull fields from the cable template. If you want to populate an electrical test form, then you would pull from the electrical template. If you want to create test form for a “vendor package” then you would pull fields from the Pack template.

Step 1: Access Templates

Select the MAIL MERGE TEMPLATES button.

It will download a ZIP file containing the templates for the different asset disciplines, loops, cable and pipe packs, and system or subsystem based forms.

Once pressed it will download the ZIP file to your DOWNLOADS folder.



Name	Type
rvAssets_TestForms_Cable.docx	Microsoft Word Document
rvAssets_TestForms_Electrical.docx	Microsoft Word Document
rvAssets_TestForms_Instruments.docx	Microsoft Word Document
rvAssets_TestForms_Loop.docx	Microsoft Word Document
rvAssets_TestForms_Mechanical.docx	Microsoft Word Document
rvAssets_TestForms_Other.docx	Microsoft Word Document
rvAssets_TestForms_Pack.docx	Microsoft Word Document
rvAssets_TestForms_PackAssets.docx	Microsoft Word Document
rvAssets_TestForms_PackCable.docx	Microsoft Word Document
rvAssets_TestForms_PArea.docx	Microsoft Word Document
rvAssets_TestForms_Piping.docx	Microsoft Word Document
rvAssets_TestForms_PLCDCS.docx	Microsoft Word Document
rvAssets_TestForms_Subsystem.docx	Microsoft Word Document
rvAssets_TestForms_System.docx	Microsoft Word Document
rvCertificate_TestForms.docx	Microsoft Word Document
rvPTWPermit_TestForms.docx	Microsoft Word Document
rvPunchlist_TestForms.docx	Microsoft Word Document
rvWorkPackage_TestForms.docx	Microsoft Word Document

		DocumentType Name Document Name Document Description
Project No: «WorkBreakdownUp3Identifier» Project: «WorkBreakdownUp3Name» Phase: «WorkBreakdownUp2Name» Stage: «WorkBreakdownUp1Name» Job Card: «JobName» Task No.: «TaskName» Area: «PhysicalLocationUp2Summary» Location/Facility: «PhysicalLocationUp1Summary» / «PhysicalLocationUp1Name» System Ref.: «ProcessBreakdownUp1Identifier» System Description: «ProcessBreakdownUp1Name» / «ProcessBreakdownUp1Summary» Sub-system Ref.: «ProcessBreakdownIdentifier» Sub-system Description: «ProcessBreakdownName» Tag No.: «Name» Description: «Description» Manufacturer / PO: «ManufacturerName» / Model / Serial No.: «OEMModelNumber» / «SerialNumber» E-Rm / MCC / Cubical: «ElectricalSourceCCNumber» / Voltage / Amps / kW: «ElectricalVoltage» / «ElectricalAmps» / «ElectricalKiloWatts» Drawing No.: «DocumentWorkflowList» Comments: «Comments»		
No. №	Check Description Описание видов проверок	OK NOT OK Ф.И.О. DATE Дата
1 Confirm all transport packing removed Убедиться в том, что транспортная упаковка снята. 2 Confirm relay correctly installed and undamaged. Убедиться в правильности монтажа и исправности поврежденный реле. 3 Check and record relay Manufacturer, Relay Type and Record serial #. Проверить соответствие фирмы-изготовителя, типа реле и записать серийный №		

TEST FORM WITH MAIL MERGE FIELDS
(for Electrical Equip)

Test Form
Loop Check Data Record
Planned Task ID: T-00004-0057
Loop No: 103103-A -103305

Project No:	0000-01	Project:	Example Project
Phase:	Startup	Stage:	Pre-commissioning
Job Card:	JC-000007	Task No.:	T-00004-0057
Area:	/		
System Ref.:	1100-103-07	System Description:	FIRE / GAS DETECTION - OSBL EAST, REFRIG. SYG.; UTIL. AREA; CCR
Sub-system Ref.:			
Loop Number:	103103-A -103305	Category:	Process Variable:
	Analog Input/Output		
Drawing No.:	Loop / 100-J5-103103-A-103305, Location / 25576-100-J2-08AX-00006, Datasheet / 25576-100-JQD-JQ05-33031, P&ID / M6-1T103-00022		
Comments:			
LOOP COMPONENTS			
Tag No:	Description	Tag No	Description
1100-AE-9305	FG-04 GAS DETECTOR NEAR V-1104 DE-GASSING DRUM		
1100-AT-9305	FG-04 GAS DETECTOR NEAR V-1104 DE-GASSING DRUM		

MAIL MERGED FORM READY FOR COMPLETION
(for Control Loop)

Tool Tip:

Upon request, IBS can send you sample forms by discipline and asset or group type. These forms would contain best practice headers, footers, title blocks and would require minor changes.

OOB Template Forms:

- Mechanical Template
- Electrical Template
- Instrument Template
- Cable Template
- Piping Template
- I/O Template
- Loop Template
- Vendor Pack Template
- Pipe Pack Template
- Cable Pack Template
- Certificate
- System/Subsystem Template

	<div style="text-align: center; margin-bottom: 10px;"> «DocumentTypeName» «DocumentDescription» «DocumentName» </div> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">Project No:</td> <td>«WorkBreakdownUp3Identifier»</td> <td style="width: 25%;">Project:</td> <td>«WorkBreakdownUp3Name»</td> </tr> <tr> <td>Phase</td> <td>«WorkBreakdownUp2Name»</td> <td>Stage:</td> <td>«WorkBreakdownUp1Name»</td> </tr> <tr> <td>Job Card</td> <td>«JobName»</td> <td>Task No:</td> <td>«TaskName»</td> </tr> <tr> <td>Area:</td> <td>«PhysicalLocationUp2Summary»</td> <td>Location/Facility:</td> <td>«PhysicalLocation»/«PhysicalLocationUp1Summary»</td> </tr> <tr> <td>System Ref.</td> <td>«ProcessBreakdownUp1Identifier»</td> <td>System Description:</td> <td>«ProcessBreakdownUp1Name»</td> </tr> <tr> <td>Sub-system Ref.</td> <td>«ProcessBreakdownIdentifier»</td> <td>Sub-system Description:</td> <td>«ProcessBreakdownName»</td> </tr> <tr> <td>Cable Tag No.</td> <td>«Name»</td> <td>Description:</td> <td>«Description»</td> </tr> <tr> <td>Cable Type:</td> <td>«CableType»</td> <td>Cable Tray:</td> <td>«CableTrayNum»</td> </tr> <tr> <td>Voltage / Source / Insulation:</td> <td>«CableVoltage» / «CablePowerSource» / «CableInsulationResistance»</td> <td>Cable Length / Size:</td> <td>«CableLength» / «CableSize»</td> </tr> <tr> <td>From:</td> <td>«CableFrom»</td> <td>To:</td> <td>«CableTo»</td> </tr> <tr> <td>Service:</td> <td>«Service»</td> <td></td> <td></td> </tr> <tr> <td>Drawing No.</td> <td>«DocumentList»</td> <td></td> <td></td> </tr> <tr> <td>Comments</td> <td>«Comments»</td> <td></td> <td></td> </tr> </table>	Project No:	«WorkBreakdownUp3Identifier»	Project:	«WorkBreakdownUp3Name»	Phase	«WorkBreakdownUp2Name»	Stage:	«WorkBreakdownUp1Name»	Job Card	«JobName»	Task No:	«TaskName»	Area:	«PhysicalLocationUp2Summary»	Location/Facility:	«PhysicalLocation»/«PhysicalLocationUp1Summary»	System Ref.	«ProcessBreakdownUp1Identifier»	System Description:	«ProcessBreakdownUp1Name»	Sub-system Ref.	«ProcessBreakdownIdentifier»	Sub-system Description:	«ProcessBreakdownName»	Cable Tag No.	«Name»	Description:	«Description»	Cable Type:	«CableType»	Cable Tray:	«CableTrayNum»	Voltage / Source / Insulation:	«CableVoltage» / «CablePowerSource» / «CableInsulationResistance»	Cable Length / Size:	«CableLength» / «CableSize»	From:	«CableFrom»	To:	«CableTo»	Service:	«Service»			Drawing No.	«DocumentList»			Comments	«Comments»		
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Figure: Cable Template

	<div style="text-align: center; margin-bottom: 10px;"> «DocumentTypeName» «DocumentDescription» «DocumentName» </div> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">Project No:</td> <td>«WorkBreakdownUp3Identifier»</td> <td style="width: 25%;">Project:</td> <td>«WorkBreakdownUp3Name»</td> </tr> <tr> <td>Phase</td> <td>«WorkBreakdownUp2Name»</td> <td>Stage:</td> <td>«WorkBreakdownUp1Name»</td> </tr> <tr> <td>Job Card</td> <td>«JobName»</td> <td>Task No.</td> <td>«TaskName»</td> </tr> <tr> <td>Area:</td> <td>«PhysicalLocationUp2Summary»</td> <td>Location/Facility:</td> <td>«PhysicalLocation»/«PhysicalLocationUp1Summary»</td> </tr> <tr> <td>System Ref.</td> <td>«ProcessBreakdownUp1Identifier»</td> <td>System Description:</td> <td>«ProcessBreakdownUp1Name»</td> </tr> <tr> <td>Sub-system Ref.</td> <td>«ProcessBreakdownIdentifier»</td> <td>Sub-system Description:</td> <td>«ProcessBreakdownName»</td> </tr> <tr> <td>Tag No.</td> <td>«Name»</td> <td>Description:</td> <td>«Description»</td> </tr> <tr> <td>Manufacturer / PO:</td> <td>«ManufacturerName» / «PurchaseOrder»</td> <td>Model / Serial No:</td> <td>«OEMModelNumber»/«SerialNumber»</td> </tr> <tr> <td>Design / Op. Load:</td> <td>«MechanicalDesignLoad» / «MechanicalOperatingLoad»</td> <td>Dimensions / Material:</td> <td>«MechanicalDimensions» / «MechanicalMaterial»</td> </tr> <tr> <td>Drawing No.</td> <td>«DocumentList»</td> <td></td> <td></td> </tr> <tr> <td>Comments</td> <td>«Comments»</td> <td></td> <td></td> </tr> </table>	Project No:	«WorkBreakdownUp3Identifier»	Project:	«WorkBreakdownUp3Name»	Phase	«WorkBreakdownUp2Name»	Stage:	«WorkBreakdownUp1Name»	Job Card	«JobName»	Task No.	«TaskName»	Area:	«PhysicalLocationUp2Summary»	Location/Facility:	«PhysicalLocation»/«PhysicalLocationUp1Summary»	System Ref.	«ProcessBreakdownUp1Identifier»	System Description:	«ProcessBreakdownUp1Name»	Sub-system Ref.	«ProcessBreakdownIdentifier»	Sub-system Description:	«ProcessBreakdownName»	Tag No.	«Name»	Description:	«Description»	Manufacturer / PO:	«ManufacturerName» / «PurchaseOrder»	Model / Serial No:	«OEMModelNumber»/«SerialNumber»	Design / Op. Load:	«MechanicalDesignLoad» / «MechanicalOperatingLoad»	Dimensions / Material:	«MechanicalDimensions» / «MechanicalMaterial»	Drawing No.	«DocumentList»			Comments	«Comments»		
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Area:	«PhysicalLocationUp2Summary»	Location/Facility:	«PhysicalLocation»/«PhysicalLocationUp1Summary»																																										
System Ref.	«ProcessBreakdownUp1Identifier»	System Description:	«ProcessBreakdownUp1Name»																																										
Sub-system Ref.	«ProcessBreakdownIdentifier»	Sub-system Description:	«ProcessBreakdownName»																																										
Tag No.	«Name»	Description:	«Description»																																										
Manufacturer / PO:	«ManufacturerName» / «PurchaseOrder»	Model / Serial No:	«OEMModelNumber»/«SerialNumber»																																										
Design / Op. Load:	«MechanicalDesignLoad» / «MechanicalOperatingLoad»	Dimensions / Material:	«MechanicalDimensions» / «MechanicalMaterial»																																										
Drawing No.	«DocumentList»																																												
Comments	«Comments»																																												

Figure: Mechanical Template

3.2– Task Models and Dependencies

The Task Model (TM) is required to create any task for an asset, loop, pack or system/subsystem, and certificate. A certificate can also have a recurrence. The only time you would apply a recurrence is if you are developing a preservation or maintenance task model. The highlighted attributes below are important fields that require further explanation.

The screenshot shows the 'Task Model Edit Form' interface. At the top, there are tabs for Step 1 General, Step 2 Materials and Tools, Step 3 Resources, ..., Step 4 Documents, Step 5 Comments, and Workflow (Originated, Submitted, Verified, Approved). Below these are sections for Primary Data, WBS Association, Safety & Environmental Requirements, and Scheduling. Key fields highlighted with red boxes include: 'Is Active?' (radio buttons Yes/No), 'Execution Type' (dropdown Digital Execution), 'Asset Types' (dropdown 9 selected), 'Task Description' (Pressure Relieving Device Inspection), 'Task Category' (PC - Precommissioning), 'Task Discipline' (INST - Instrument & Controls), 'Task Type' (ITR - Inspection Test Record), 'Priority' (dropdown 2: Medium), 'Created By' (Thompson, Ryan), 'Risk Rating' (Low), 'Systemization Type' (dropdown), 'Loop Type' (dropdown), 'Pack Type' (dropdown), 'Contract ID' (dropdown), 'Revision' (0), 'Affected Workgroups' (1 selected), 'Piping Segment Type' (dropdown), 'Steps Closing?' (radio buttons Yes/No), 'Certificate Group' (IE Const - I/E Contractor), 'Data Exchange' (dropdown), 'Project' (0000-01 - Example Project), 'Phase' (2 - Startup), 'Stage' (1 - Pre-commissioning), 'Activity' (dropdown), 'Persons' (1), 'Duration(hrs)' (2.00), 'Recurrence' (button), 'Allow Notifications?' (radio buttons Yes/No/N/A), 'Responsible By' (IBS - Industrial Business Solutions (IBS)), and 'Supplier' (dropdown). At the bottom are buttons for Cancel, Approve, Save, Exit, Update Tasks, and Email Task.

Figure: Task Model Edit Form

Field	Description / Purpose
Is active	Only TMs that are active can and will be assigned to objects in SC.
Task Type	Used to define what type of task and extends to searching and reporting
Execution Type	Used to define if TM is paper or paper/digital enabled
Asset Types	Used for specific types of assets, then select DISCIPLINE and then multi-select the different types of equipment this TM would be assigned. This is one way to create a "Test Profile" for specific types of equipment.
Loop Type	Used for control loops, then you can develop a TM for a specific type of loop. This creates a "Test Profile" for specific types of loops.
Pack Type	Used for Pipe, Cable or Asset Pack then select type. This is a way to create a "Test Profile" for specific types of packages.
Systemization Type	Used for systems or subsystems, select this dropdown and define if it is at the plant, process, system or subsystem level. This is used to configure task models for certificates, or start-up task, which are not "asset based".
WBS association	Assigning the TM to a specific phase and stage is VERY IMPORTANT, as it will provide

Recurrence	<p>status report on all tasks for a particular phase or stage.</p> <p>Use this setting if you have a TM that is repetitive. This would be used for preservation or maintenance tasks.</p>
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3.2.1 - Creating Digital Inspection Steps

The TM INSPECTION STEPS enable a user to develop BOTH SIMPLE and COMPLEX DIGITAL FORMS using the SC HTML 5 Smart Forms (SF) technology. A SF is designed for advanced offline task execution. Companies utilize the SF technology as it provides the most robust DIGITAL method of task execution that can perform any type of task. A digital task can be checked-out and executed online/offline using the SC IOS or Windows mobile applications, or they can be developed digitally, and printed off with a QR code.

Digital Execution

Printed Digital Task

Standard Header (fixed configuration): SC comes with different header configurations.

Phase:	JBX Construction Completion	Stage:	JBX Construction Completion
Project:	Jimblebar Expansion (JBX)	Project No.:	A393-P01
Area:		Location / Facility:	
System Ref:	004-06	System:	Borefield Turkey's Nest WH56
Sub-System Ref:	1494-004-47	Sub-System:	Transfer Pump Kiosk
Tag No:	KK911	Work Scope:	
Drawing No:	940-E-12302, 940-E-12306, 940-E-12312, 940-E-12314	Tech Specs:	
Comments:	WBS: 1413-00; Size: 7.754m x 2.4m; Equip. Details: REFER TO DWG		

Standard Footer (fixed configuration): SC comes with Completion/Sign-off configurations.

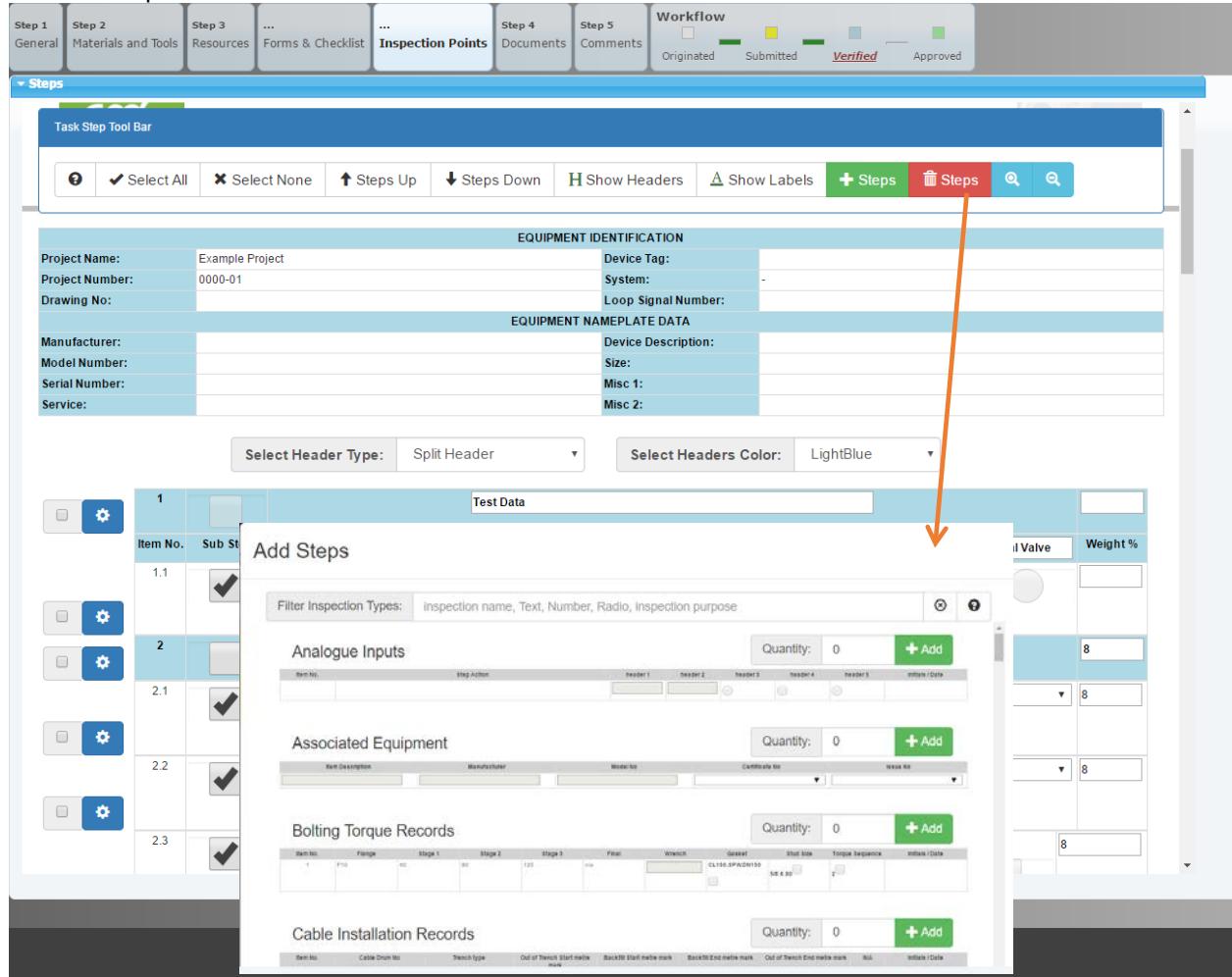
Comments and Observations	
6ry4trr	

Completed		
I hereby confirm the work has been completed in accordance with contract specified drawings, specifications & standards.		
Performed By Contractor	Review By Supervisor / Lead Engineer	Accepted By
Name:	Name:	Name:
Title:	Title:	Title:
Date:	Date:	Date:

Submit
Complete
Close

The inspection step configuration is a rather large complex function, so we will cover only the most commonly used configurations to develop inspection steps.

Select the INSPECTION STEP tab in the TM edit form. Select + STEPS (green button) to load list of different step controls.



The screenshot shows the 'Task Step Tool Bar' with several buttons: Select All, Select None, Steps Up, Steps Down, Show Headers, Show Labels, + Steps (highlighted in red), - Steps, and two search icons. Below the toolbar is a table for 'EQUIPMENT IDENTIFICATION' with fields for Project Name (Example Project), Project Number (0000-01), Drawing No., Device Tag, System, Loop Signal Number, Manufacturer, Model Number, Serial Number, Service, Device Description, Size, Misc 1, and Misc 2. At the bottom of the table are dropdown menus for 'Select Header Type' (Split Header) and 'Select Headers Color' (LightBlue). The main area is titled 'Add Steps' and contains four sections: 'Analogue Inputs', 'Associated Equipment', 'Bolting Torque Records', and 'Cable Installation Records'. Each section has a table with columns for Item No., Sub Step, and various data fields. A vertical orange arrow points from the '+ Steps' button in the toolbar down to the 'Add Steps' section.

See Exhibit: Smart Forms Inspection Step Configurations for Full of Configurations.

3.2.2 - Common Inspection Steps for Asset Tasks

The inspection step below is the most common step configuration. It is good for simple yes, no, n/a, or accept, reject, n/a type of questions.

- **Inspection with 3 (Radio Button):** Enter in QTY of steps that would use this control. Press +ADD. This will create a series of steps using the same control. User can now enter in test for each Step Action. They can also select the PL trigger in the dropdown.

Inspection with 3 (Radio Button)

Item No.	Step Action	header 1	header 2	header 3	Initial / Date
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		
1	Confirm stainless steel ID tag is installed.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Reject <input type="button" value="▼"/>
2	Tag # correct as per PID. (P1xxxx) (PSxx-xxxx).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Reject <input type="button" value="▼"/>
3	Installation is clear of damage & confirm protected where necessary.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Reject <input type="button" value="▼"/>

- **Inspection with 1 Input (Dropdown List):** Enter in QTY of steps that would use this control. Press +ADD. Enter Step Action Text and comma separated text in the dropdown control. Text enter in the dropdown will be the options to the field technician when executing the task.

Inspection with 1 Input (Drop Down List)

Item No.	Step Action	Inspection Answer	N/A	Initials / Date
		<input type="button" value="▼"/>	<input type="checkbox"/>	
20	Put in custom text on what you want the technician to do, they would then select from the dropdown (list of options)	GPM GPM.PSIG.XXXX	<input type="checkbox"/>	<input type="button" value="▼"/>
21		option 1 option 1.option 2.option3	<input type="checkbox"/>	<input type="button" value="▼"/>

- **Table 4 Input (Text or Checkbox) w/ columns:** Add a table where user can name each column and define the text for each box. A user would then select if they want the field technician to enter text or just “tick” a box. See a few examples below.

Table 4 Input (Text or Checkbox) w/ columns

Description																																																																				
Input 1	Input 2	Input 3	Input 4																																																																	
Item No.	Sub Step	Required	ELEMENT	TRANSMITTER	CONTROLLER	VALVE																																																														
25	<input type="checkbox"/>	<input type="checkbox"/>	MFG <input type="text"/>	Input 2 <input type="button" value="▼"/>	Input 3 <input type="button" value="▼"/>	Input 4 <input type="button" value="▼"/>																																																														
26	<input type="checkbox"/>	<input type="checkbox"/>	MODEL <input type="button" value="▼"/>	Input 2 <input type="button" value="▼"/>	Input 3 <input type="button" value="▼"/>	Input 4 <input type="button" value="▼"/>																																																														
27	<input type="checkbox"/>	<input type="checkbox"/>	SN <input type="button" value="▼"/>	Input 2 <input type="button" value="▼"/>																																																																
SETS WHAT CONTROL THE TECHNICIAN WOULD SEE. EITHER ENTER IN TEXT, OR JUST USE CHECK BOX.																																																																				
<table border="1"> <thead> <tr> <th colspan="10">POSSIBLE HAZARDS and PRECAUTIONS</th> </tr> </thead> <tbody> <tr> <td>9</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td>Acid <input checked="checked" type="checkbox"/></td> <td>Access Road Cr <input type="checkbox"/></td> <td>Ammonia Gas <input type="checkbox"/></td> <td>Arsine Gas <input type="checkbox"/></td> <td>Carbon Dioxide <input type="checkbox"/></td> <td>GFCI <input type="checkbox"/></td> <td>Hydrogen Sulfide <input type="checkbox"/></td> <td></td> </tr> <tr> <td>9.1</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td>Avoid Skin Cont <input checked="checked" type="checkbox"/></td> <td>Barricade Area <input type="checkbox"/></td> <td>Blasting <input type="checkbox"/></td> <td>Caustics <input type="checkbox"/></td> <td>Fire Protection <input type="checkbox"/></td> <td>Hot Surfaces <input type="checkbox"/></td> <td>Hydrogen Sulfide <input type="checkbox"/></td> <td></td> </tr> <tr> <td>9.2</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td>Carbon Monoxide <input type="checkbox"/></td> <td>Caustics <input type="checkbox"/></td> <td>Fire Protection <input type="checkbox"/></td> <td>GFCL <input type="checkbox"/></td> <td>Hot Surfaces <input type="checkbox"/></td> <td>Hydrogen Sulfide <input type="checkbox"/></td> <td></td> </tr> <tr> <td>9.3</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td>Haul Roads Kre <input type="checkbox"/></td> <td>High Voltage Tr <input type="checkbox"/></td> <td>Hot Surfaces <input type="checkbox"/></td> <td>Hydrogen Sulfide <input type="checkbox"/></td> <td></td> <td></td> <td></td> </tr> <tr> <td>9.4</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>							POSSIBLE HAZARDS and PRECAUTIONS										9	<input type="checkbox"/>	<input type="checkbox"/>	Acid <input checked="checked" type="checkbox"/>	Access Road Cr <input type="checkbox"/>	Ammonia Gas <input type="checkbox"/>	Arsine Gas <input type="checkbox"/>	Carbon Dioxide <input type="checkbox"/>	GFCI <input type="checkbox"/>	Hydrogen Sulfide <input type="checkbox"/>		9.1	<input type="checkbox"/>	<input type="checkbox"/>	Avoid Skin Cont <input checked="checked" type="checkbox"/>	Barricade Area <input type="checkbox"/>	Blasting <input type="checkbox"/>	Caustics <input type="checkbox"/>	Fire Protection <input type="checkbox"/>	Hot Surfaces <input type="checkbox"/>	Hydrogen Sulfide <input type="checkbox"/>		9.2	<input type="checkbox"/>	<input type="checkbox"/>	Carbon Monoxide <input type="checkbox"/>	Caustics <input type="checkbox"/>	Fire Protection <input type="checkbox"/>	GFCL <input type="checkbox"/>	Hot Surfaces <input type="checkbox"/>	Hydrogen Sulfide <input type="checkbox"/>		9.3	<input type="checkbox"/>	<input type="checkbox"/>	Haul Roads Kre <input type="checkbox"/>	High Voltage Tr <input type="checkbox"/>	Hot Surfaces <input type="checkbox"/>	Hydrogen Sulfide <input type="checkbox"/>				9.4	<input type="checkbox"/>	<input type="checkbox"/>							
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9.4	<input type="checkbox"/>	<input type="checkbox"/>																																																																		

3.2.3 - Inspection Step for Loop Tasks

The Loop Test inspection step is designed for Loops, where they have a list of child objects (tags). This control will list dynamically all the loop tags in a table below. The field technician would then enter in the test criteria in each box.

- Loop Test (Devices added from loop):** Adds a step that will dynamically list the loop devices (tags assigned to the loop) vertically under the DEVICE column. A QTY of 1 is all that is required.

Loop Test (Devices added from loop)												Quantity:	1	+ Add	
Tag	PV/Output Rising						PV/Output Falling						Alarm/Trip Setpoint		
	Device	0%	25%	50%	75%	100%	100%	75%	50%	25%	0%	Rising	Falling	Hysteresis	
Item No															
2.1	Device	0%	25%	50%	75%	100%	100%	75%	50%	25%	0%	Rising	Falling	Hysteresis	
2.1	1100-AT-9303														
2.1	1100-AE-9303														

3.2.4 - Inspection Steps for Pack Tasks

Inspection steps configurations for PACKs are the same as any check sheet for an asset, with the exception that on most inspection step configurations, a user can define if they want to list the “child tags” for a particular step.

Packs/Skids Tracking (1)		Reports					
	Status	Pack ID	Datasheet	Description	Pack Type	# Assets	# Tasks
			<input type="checkbox"/> Y <input type="checkbox"/> N				
	past due	898872		Pump Vendor Package	Vendor	6	1
<hr/>							
Assets (6)		Pack Tasks (1)	Pack Forms (1)	Asset Tasks (6)	Punchlist Items (0)	Asset Documents (25)	Pack Documents (0)
Asset Tag		Task Assignment		Datasheet	Type	Assigned Te...	Completed Tests
				<input type="checkbox"/> Y <input type="checkbox"/> N			
1100-P-1203-A		1100-P-1203-A			PP	1	1
1100-P-3207-A		1100-P-3207-A			PP	1	1
1100-P-3207-B		1100-P-3207-B			PP	1	1
1100-P-3401-A		1100-P-3401-A			PP	1	1
1100-P-3401-B		1100-P-3401-B			PP	1	1
1100-P-3602-A		1100-P-3602-A			PP	1	1

Figure: Vendor Pack Module

Example: Take a simple inspection step where we want to list the child tags for the configured step. Select the GEAR icon (left side) for the step and select USE PACK CHILDREN.

The screenshot shows a configuration interface for inspection steps. A red box highlights the 'Use Pack Children' button in the sidebar. Another red box highlights a note: 'THE STEP IS NOW CONFIGURED TO SHOW THE PACK CHILDREN. USER WILL HAVE ABILITY TO PUT IN A GENERAL COMMENT FOR THE INSPECTION STEP TO BE APPLIED ACROSS ALL PACK TAGS.' A third red box highlights a general instruction: 'Please answer this Information for EACH of the pack tags.'

Figure: Task Model Inspection Step Configuration (Vendor Pack) – Use Pack Children

MOBILE EXECUTION:

The screenshot shows a task execution table. A red box highlights a specific row: '1 898872 : Please answer this information for EACH of the pack tags'. Below it, a detailed view of the steps is shown. A red box highlights a child step: '1.1 1100-P-3207-A : Confirm Cooling system has been correctly cleaned and flushed'. A red arrow points from this child step to a note: 'THE STEP CONFIGURATION IS APPLIED TO EACH OF THE PACK TAGS. THE STEP ACTION WILL CONCATENATE THE DIFFERENT CHILD TAGS IN FRONT OF THE STEP ACTION.' The table has columns for Item No., Step Action, Accept, Reject, N/A, Initials / Date, and PL.

Figure: CCMS Task Execution – Dynamic Step Creation

3.3– Punchlist Configurations

The primary configurations for Punch Listing utilize CATEGORY and/or PRIORITY. Some clients may only use CATEGORY, and if that is the case, then do not enter any priority items; same applies if only PRIORITY is only being used. SC can define which category and/or priority is deemed critical. Any Punch list (PL) that has a critical category or priority assigned to it will automatically reject a completed task, or if non-critical, flag a task as partially complete. This doesn't change completion state of a task, just puts in this pseudo status in the GUI. These two items are used for reporting.

To configure PL items, let's first look at the PL edit form to see the different attributes and lookup tables.

The screenshot shows the 'Punchlist ID: PL-00143' and 'Description: 1: Inspect Orifice for Damage, Physical Defects, Preservation'. Key fields highlighted with red circles include 'Punchlist Category: CAT 1 - Items to be completed by', 'Punchlist Type: Item Damaged - Item Damaged', 'Priority: 1: A-High', 'Responsible Workgroup', 'Start Date', and 'Due Date: 23-Jun-2017 03:58 AM'. The bottom right corner features a gear icon.

Figure: Punch list Edit Form


Tool Tip:

Accessing the configurations for the punch list module, select the GEAR icon at the bottom to load a list of configuration modules, select as needed.

Field / Purpose	Example
Category Categories can be used to classify a punch list record. They also can be configured to stop certificates (if a critical category) completion. This list is editable.	
Type Types can be used to help standardize punch lists and to simplify a selection list for the user when creating a PL record. A new type can be added on demand from the PL edit form, but only users who have rights to the vPunchlistTypes view.	
Priority Priority is used to define which PLs would hold up the completion of a certificate. It also sets the DUE date for a punchlist X days from creation date (e.g. life-span days). Threshold setting defines what state of a task (if it has a PL of this priority) will change the state of task completed to "partial completion" or "rejected"	

Form

The form dropdown provides a user the ability to assign a PL mail merge template form to the PL. The PL record can be mail merged into PDF format (w/ QR code) to be printed out and filled out (completed) in the field and scanned back into the database, similar to a paper-based test form. It will auto-complete the PL.

Tool Tip:

Go to Forms library and access the templates to put the Punch list mail merge fields into your PL form.

«ID»

«PunchlistItem»

«PunchlistDescription»

«PunchlistCategory»

«IsException»

«PunchlistException»

«PunchlistCategoryDescription»

«PunchlistType»

«PunchlistComment»

«Priority»

Workgroup

Because projects can sometimes have a very large list of workgroups and admin can go into the workgroup module and define which workgroups they want to see in the workgroup dropdown.

The screenshot shows a software interface for managing workgroups. At the top, there are four tabs: Step 1 General, Step 2 Categories, Step 3 Titles, and Step 4 Resources. The Step 1 General tab is active. Below the tabs, there's a section titled 'Primary Data' with fields for 'Workgroup' (set to 'Maintenance'), 'Description', and 'AIE?' (radio buttons for Yes and No). A red circle highlights the 'Punchlist/Non-Compliances?' checkbox, which is set to 'Yes'. Further down, there are dropdowns for 'Type' (set to 'Operations') and 'Color' (set to 'Brown'). At the bottom of the screen, there are 'Save' and 'Exit' buttons.

Responsible Company

Since projects can have hundreds, if not thousands of companies, and admin can configure which company is selectable from the dropdown. To configure, open company record (in company's module) and select PUNCHLIST from the RESPONSIBILITIES dropdown.

The screenshot shows a software interface for managing company records. At the top, there are four tabs: Step 1 General, Step 2 Address and Contact, Step 3 Resources, and Step 4 Comments. The Step 1 General tab is active. Below the tabs, there are fields for 'Name' (set to 'ACME'), 'Address', 'Status', and 'Category type'. A dropdown menu for 'Responsibilities' is open, showing several options like 'General', 'Project', 'Financial', 'RFI', 'Strategic', and 'ISIP'. A red circle highlights the 'Financial' option. At the bottom, there are 'Save' and 'Exit' buttons.

Due Date

As described above, the due date can be auto configured by the category or priority. A PL due date will be automatically calculated based on the classifications and helps with standardizing turnaround times to clear out or complete a PL item.

3.4– Certificate Types and Configuration

Assurance Certificates are designed to ensure required tasks/forms and punch lists are completed in order to complete and transfer custody from party A to party B. In the real-world projects cannot wait until everything is done and therefore when an admin configures a set of certificates for a company instance, or project, they can configure:

Figure: Certificate Type Edit Form

Item	Purpose / Description
Sequence	Sequencing of certificate only comes into effect for Certificate Type Status Report. It will show certificates from left to right as columns in this report.
Task Model	The TM is used to create a certificate instance. The TM is used to define at what level is a certificate assigned to in the systemization Treeview (e.g. process area, system or subsystem).
Receiving Workgroup	The workgroup that will receive the system(s) or subsystem(s) and assets once a certificate is completed. It will color the skyline items and also against the assets, loops etc.
Systemization Locking	This feature is rarely used and typically on larger more complex projects. When a certificate is completed, and custody is transferred to the receiving workgroup, then any user associated with the receiving workgroup can only modify systemization associations to assets, loops and packs.
Auto-email	Emails are automatically sent to receiving users based on role profiles and

	system, location and/or WBS boundaries.
Cert Type Column on Reports	Defines which certificates show up on certificate completions reports.
Partial Certificate	Defines if a certificate is to allow partial completion. Partial certificates allow for iterations of the same certificate, where an admin can configure a partial certificate by a group of tasks, complete that iteration, then submit the final iteration of pending tasks. It does not use the exceptions functionality.
Task State	Defines the “readiness” of completing a certificate by either looking at the completion or closure state of associated CCMS planned tasks. If the certificate requires closure of all tasks, then all tasks completed and non-completed must be treated as exceptions if trying to complete a certificate. Most projects just use the Completed state.
Punch list Thresholds	Punch list thresholds are used to define the allowance of completing a certificate with pending punch lists (not-completed) that are even critical A punches. It can allow for certificates to be completed even if there is a priority A punch. These would be treated as exceptions and allow for completion. If an admin set the threshold at priority B punches, then all priority A punches MUST be completed, and only non-completed priority B punches can be treated as exceptions.

3.5– Turnover Package Types and Configurations

The Turnover Packages (TOP) module is designed to compile data, documents and reports from SC based on the “Package Type” and the associated content items, which we call the Table of Content (TOC) items. Before completing “Package Types” you first must finish the TOCs by configuring the different content items to be included in each package.

Configuration is performed in 2 different modules:

- 1) Package Types
- 2) Table of Content (TOCs)

Tool Tip:

Select the GEAR icon in the TOP module to access the configuration modules.



Figure: TOP Module

3.5.1 - Configuring Table of Content (TOC) Items

An individual TOC configuration can be assigned to one or more package types. Each TOC can be configured by the items in table below.

Figure: Example TOC configuration

Note: Ignore Sequence field. It is no longer used as sequencing is done in the package type.

Item	Purpose / Description
Package Type	Assign TOC to one or more Package types. When a user creates a TOP by package type it will automatically include this (and other) content items with their pre-configurations (e.g. report, XLS)
Manager	Select which database view (e.g. vPunchlist or vAssets) that the section will pull data and documents from. For this example, it is showing that the section is pulling from the mechanical asset list, using the "Mechanical Tag Index" report, and also includes a XLS file where it will auto-populate the Export view, enabling the user to then select the fields they want and order of layout in the XLS export file.
Completed Forms	This option is only selected for sections that are exporting a completions test forms (vTasks_TestsPlanned), Certificates (vCertificates), or NOEs (vNOEs). User would need a separate TOC for Tasks, Certificates and NOEs.
Planned Forms	This option includes Mail Merged OR PDF generated Smart Forms that are Blank. SC will compile the non-completed forms, forms planned but not yet completed. This is commonly set to NO .
Document Files	This option is if you have documents uploaded manually to the TOC for a particular TOP. For example, if there is a document that was not loaded in SC, or generated from SC, but a project wants to upload to the TOP so that it can be included with the package, it will be captured and reported on for this TOC section. This is commonly set to NO .
NOE files	This option is ONLY used in a project using the NOE module. If it was used, select YES, and SC will dump out the NOE completed / signed forms and include these (which are not considered test forms) as part of the TOC when exported. This is only for NOEs.
Filter by WBS	This option is to apply additional filter by WBS (e.g. phase, stage, activity) and was an old configuration. SC has not been updated to remove this option. This should be set to NO .

Example: Create TOC to include Task Completions Report with Export of Forms

Step 1: Pick Manager and Report

- Select MODULE (view)
- Select REPORT
- Select SHOW EXCEL is YES
- Select include COMPLETED FORMS
- Select PLANNED FORMS (blank original forms)
- Select Include COMPLETED FORMS

Tool Tip: To ensure you have all tasks (for assets, loops, packs) reference the vTasks_PlannedTask view as it contains ALL completions tasks.

STEP 2: Pick Export Fields

- Select Fields
- Arrange in order (top to bottom, is left to right in XLS export)
- Enter in alias name (will change the column header name when export). If required.

Figure: Example TOC configuration

Records (9)	#	Column Name	Database Column	Alias
	1	Asset - Tag	AssetTag	
	2	Asset - Asset Type (Summary)	AssetTypeSummary	
	3	Task ID	TaskName	
	4	Description	TaskDescription	
	5	Task Model (Name)	TaskModelName	
	6	Category (Summary)	TaskCategorySummary	
	7	Discipline (Name)	TaskDiscipline	
	8	Actual End Date	ActualEndDate	
	9	Actual Start Date	ActualStartDate	

Figure: Example TOC configuration

**STEP 3: Apply Saved Filter
(if applicable)**

- Open search panel
- Select fields
- Press SEARCH (to view what would be included with the filters)
- Press SAVE

Tool Tip: This is ONLY used if you want to create a TOC where you only want to pull specific types of tasks (e.g. Motor Run-Ins). Generally, this is not used.

The screenshot shows the 'Export/Report Restrictions' dialog box. At the top, there are three tabs: Step 1 General, Step 2 Export Column Fields, and Step 3 Criteria. The Step 3 Criteria tab is selected. Below the tabs is a section titled 'Export/Report Restrictions (50071)' with two tabs: General and Advanced. The General tab is selected. On the right side of the dialog is a grid table with columns: Status, Actions, Task ID, Datasheet, and Description. The grid contains several rows of task data, each with a small preview icon and a 'Details' button. At the bottom of the dialog are buttons for Reset, Search, AND, OR, Save, and Exit.

Example End Result: TOCs are compiled for the TOP like:

As defined in the TOC it would compile completed forms, provide you the selected Status Report, and XLS file with same completions related information.

The screenshot shows a file explorer window. It displays a folder structure under 'TOP-00013.zip'. Inside the folder, there are several sub-folders: '1 Systemization', '2 Engineering Data', '3 Completions Handover', and 'Index.pdf'. Under '3 Completions Handover', there are files named 'Digital', 'Scanned Forms', 'Completions Reporting.csv', and 'Completions Reporting.pdf'. The 'Index.pdf' file is also visible at the top level.

Files Exported

The screenshot shows a 'Task Completion summary' report. The title bar says 'by Systemization'. The report includes sections for 'Systemization', 'Plant: 1000 - TRAIN 1', 'Process Area: 1003-112 - UTILITIES', 'System: 1100-112-04 - DRAINS, UP/RO REJECT SUMP & PUMP', and 'Subsystem: 1100-112-04-01-T1'. It lists tasks for assets like 'Asset_1100-CT-112011-PC-1100-CT-42 CURRENT TRANSFORMER', 'JC-000149', 'Asset_1100-CT-11001-PC-1100-CT-42 CURRENT TRANSFORMER', 'JC-000149', and 'Asset_1100-CT-11001-PC-1100-CT-42 CURRENT TRANSFORMER'. The report provides details such as Task Form, Responsible, Completion Details, and Task ID.

Report

The screenshot shows a 'Completions Data Exported' report. It features a large table with columns for Task Type, Task Summary, Task Category, Task Category/Parameter, Task Detail, Functionality, Task Detail/Functionality, Task Length, Task Priority, Task Length, Task Priority, Start Date, End Date, and Created By. The table lists numerous inspection test records, each with a unique ID, description, and status. For example, record 1 is 'Inspection Test Record' with ID 'T-00006-1240 - Log Check Data Record' and record 12 is 'Inspection Test Record' with ID 'T-00006-1240 - Log Check Data Record'.

Completions Data Exported

See Turnover Packages (TOPs) section for how to create TOPs.

3.5.2 - Configuring Turnover Package Types

Creating a Package Type is easy, it only requires a name and to be given the type of Handover/Turnover Package, then the user selects and orders the TOCs in the 2nd tab. The Package Type module is designed to define not just Turnover Packages for a completions project, but also can be used to configure any type of package for dumping data and documents from SC. It is also used to develop tailored load sheets for maintenance systems.

Only the package types where Handover Type is selected will display the TOC tab.

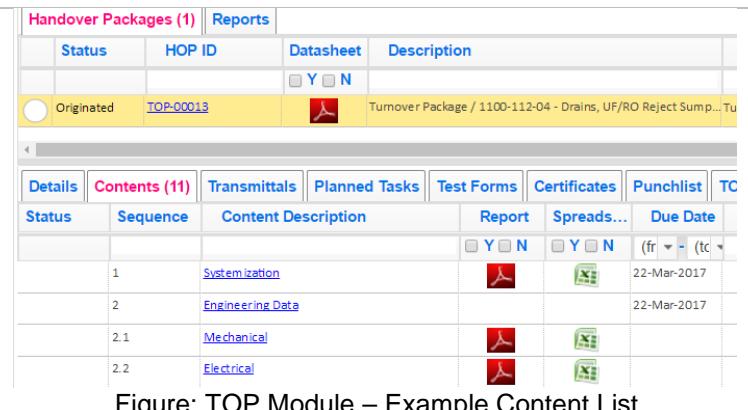
Figure: Package Type Edit Form

Item	Purpose / Description
When assigning TOCs to a TOP, simply select the dropdown in the CONTENT column.	
If you want to have sub-sections in the TOP, select the checkbox in the CHILD column. This will renumber the sections.	
If you want just a parent grouping as a label, just put in a description and DO NOT select a content item.	

Figure: Package Type Edit Form

When a TOP is created, and a Package Type is assigned, it will automatically assign its content.

You will notice that section 2 has not XLS or PDF report that is because it is just a label for a group of child sections (e.g. 2.1, 2.2).



The screenshot shows a software interface for managing turnover packages. At the top, there's a header bar with tabs for 'Handover Packages (1)' and 'Reports'. Below this is a table with columns: Status, HOP ID, Datasheet, and Description. A row is selected, showing 'Originated' status, HOP ID 'TOP-00013', and a description of 'Turnover Package / 1100-112-04 - Drains, UF/RO Reject Sump... Tu'. There are checkboxes for 'Y' and 'N' under 'Datasheet'. Below this is another table titled 'Contents (11)' with columns: Details, Sequence, Content Description, Report, Spreads..., and Due Date. It lists four items: '1 Systemization' (Report, Spreadsheets, Due Date 22-Mar-2017), '2 Engineering Data' (Report, Spreadsheets, Due Date 22-Mar-2017), '2.1 Mechanical' (Report, Spreadsheets), and '2.2 Electrical' (Report, Spreadsheets).

Figure: TOP Module – Example Content List

See Turnover Packages (TOPs) section for how to create TOPs.

SECTION 4

Project Preparation – Work Packaging and Scheduling

Now that we have covered how to create a Task Model and determined what type of objects the TM would be assigned to (e.g. assets, loops, packages), we can now start assigning the test profiles to like kind objects. Assigning tasks can be done manually, by profile or by an Auto method. The Auto method is the most robust and simple method.

CCMS planned tasks can be created from either the Task Model, or from the respective “task assignment” modules. If a user is assigning tasks to assets, then they would assign tasks in the “Tasks, by Assets” module. If a user is to created tasks for loops, then they would assign tasks in the “Tasks, by Loops” and so on.

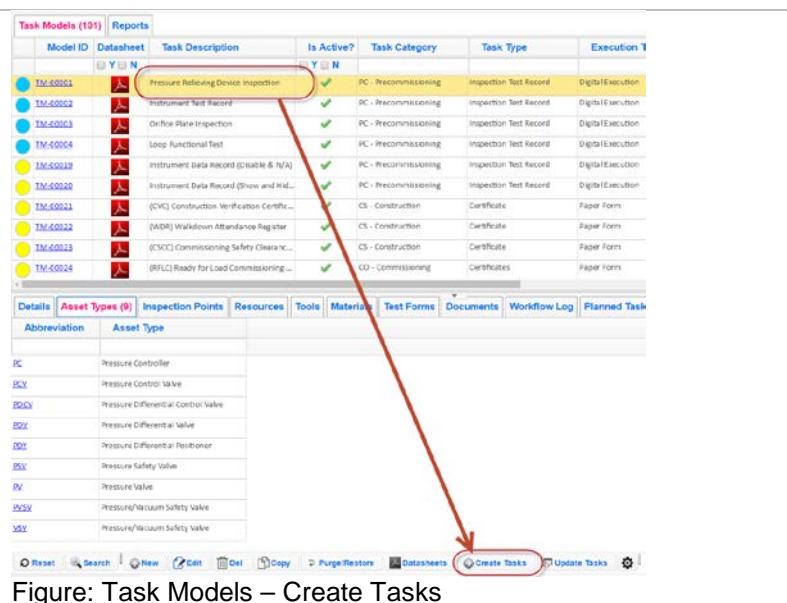
4.1 – Task/Form Assignment

4.1.1 - Assigning Tasks from the Task Model Module

To assign tasks from the task model, select the task model row in the TM module.

Step 1: Pick TM & Create Tasks

Note: Select the row, but not the hyperlink as the hyperlink will load the TM edit form.



The screenshot shows a grid titled "Task Models (101)" with columns: Model ID, Datasheet, Task Description, Is Active?, Task Category, Task Type, and Execution. A red arrow points from the "Task Description" column of the first row to the "Create Tasks" button at the bottom of the grid. The first row contains the text "Pressure Reducing Device Inspection". The "Create Tasks" button is located at the bottom right of the grid area.

Model ID	Datasheet	Task Description	Is Active?	Task Category	Task Type	Execution
TM-00001	Y	Pressure Reducing Device Inspection	✓	PC - Precommissioning	Inspection Test Record	Digital Execution
TM-00002	N	Instrument Test Record	✓	PC - Precommissioning	Inspection Test Record	Digital Execution
TM-00003	N	On-Rate Plate Inspection	✓	PC - Precommissioning	Inspection Test Record	Digital Execution
TM-00004	N	Local Functional Test	✓	PC - Precommissioning	Inspection Test Record	Digital Execution
TM-00012	N	Instrument Data Record (Reusable & n/A)	✓	PC - Precommissioning	Inspection Test Record	Digital Execution
TM-00020	N	Instrument Data Record (Show and Hide)	✓	PC - Precommissioning	Inspection Test Record	Digital Execution
TM-00021	N	(CVC) Construction Verification Certific...	✓	CS - Construction	Certificate	Paper Form
TM-00022	N	(WDR) Walkdown Attendance Register	✓	CS - Construction	Certificate	Paper Form
TM-00023	N	(CSCC) Commissioning Safety Clearanc...	✓	CS - Construction	Certificate	Paper Form
TM-00024	N	(RFLC) Ready for Load Commissioning...	✓	CO - Commissioning	Certificates	Paper Form

Figure: Task Models – Create Tasks

Step 2: Create CCMS Tasks

- Select CCMS Tasks
- Select CREATE button

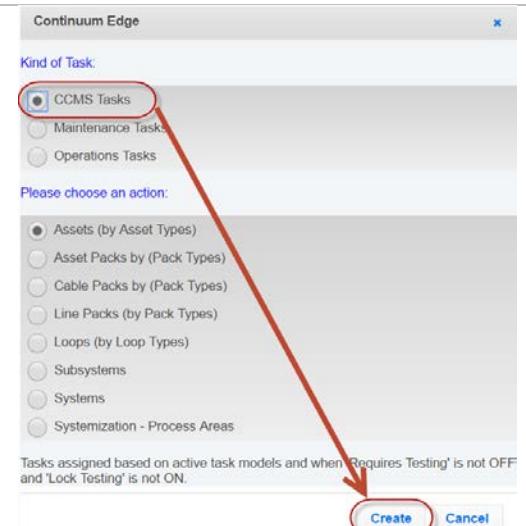


Figure: Example TOC configuration

STEP 3: Select Asset Types

SC will display all asset types assigned to the TM. It will also show the number of tags per asset type.

- Select ASSET TYPES
- Press NEXT

Note: Press CNTL down and left click individual records, OR hold SHIFT down and left click top row, and then left click bottom row.

STEP 4: Select Assets

SC will display all assets that do not have the TM assigned but should.

- Select CHECKBOX(S)
- Press FINISH

SC will then respond with configuration of X tasks being created.

Asset Type	Datasheet	Asset Type Description	Descript.	Function	Process Variab...	Asset Type Model	Task C...	Asset Cost
PCV	Y	Pressure Controller	INST	P - Pressure	Controller	Y	13	430
PCV	Y	Pressure Control Valve	INST	P - Pressure	Valve	Y	8	8
PCV	Y	Pressure Differential Control Valve	INST	P - Pressure	Valve	Y	20	20
PCV	Y	Pressure Differential Value	INST	P - Pressure	Valve	Y	20	20
PSV	Y	Pressure Differential Positioner	INST			Y	20	20
PSV	Y	Pressure Safety Valve	INST	P - Pressure	Valve	Y	1334	1334
PSV	Y	Pressure Valve	INST	P - Pressure	Valve	Y	128	128
PSV	Y	Pressure/Vacuum Safety Valve	INST	P - Pressure	Valve	Y	18	18
PSV	Y	Pressure/Vacuum Safety Valve	INST	P - Pressure	Valve	Y	20	20

Figure: Example TOC configuration

Asset Type	Asset ID	Asset Description	Task Model ID	Task Description
PCV - Pressure Control Valve	1100-PCV-106812	FUEL GAS TO HOT OIL START-UP HEATER H-3401	TM-00001	Pressure Relieving Device Inspection
PCV - Pressure Control Valve	1100-PCV-106812	FUEL GAS TO HOT OIL START-UP HEATER H-3401	TM-00001	Pressure Relieving Device Inspection
PCV - Pressure Control Valve	1100-PCV-106816	FUEL GAS TO HOT OIL START-UP HEATER H-3401	TM-00001	Pressure Relieving Device Inspection
PCV - Pressure Control Valve	1100-PCV-106816	FUEL GAS TO HOT OIL START-UP HEATER H-3401	TM-00001	Pressure Relieving Device Inspection
PCV - Pressure Control Valve	1100-PCV-106816	H-3401-SK-01 FUEL GAS SKID	TM-00001	Pressure Relieving Device Inspection

4.1.2 - Assigning Tasks to Assets

Assigning tasks to assets is performed in the “Tasks by Assets”, located in the completions tab.

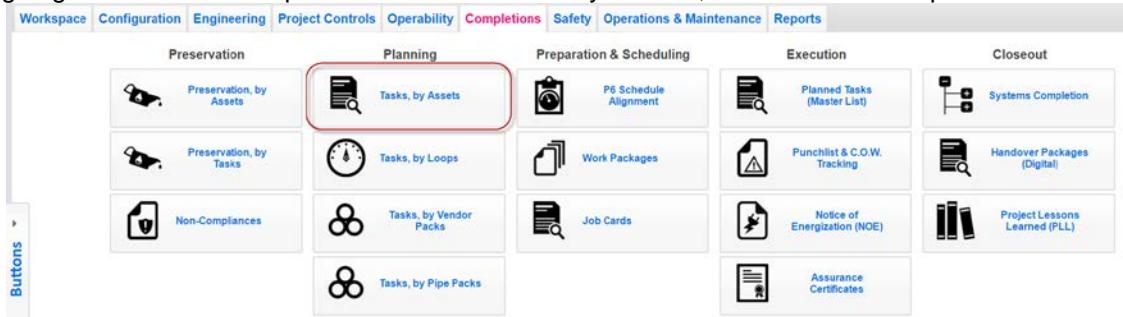


Figure: Tasks, by Assets

By configuring Task Models to asset types, it sets the business rule of what tasks should be assigned to any one tag. However, there are exceptions from the rule. For this reason, a user has the ability edit assignment requirements, based on these 3 items:

This is a screenshot of a software dialog titled 'Asset Task Assignment Edit Form'. It shows two tabs at the top: 'Step 1 Main Data' and 'Step 2 Planned Tests'. The 'Main Data' tab is active. It contains sections for 'Asset Data' (Asset Tag: (Batch Editing 4 records), Service: FCV, Asset Type: FCV), 'Location Association' (Physical Location, Subsystem), 'OEM Details' (CMMS Func. Loc., CMMS Mat. Code, Manufacturer, OEM Part Number, Model No., Catalog No., Serial Number, Weight(Dry), Purchase Order), and 'Requires Testing (T1C, T1R, ...)'. The 'Requires Testing' section is circled in red and contains fields for 'Requires Tasks' (radio buttons for Yes or No) and 'Task Assignment Locked?' (checkboxes for Yes or No). At the bottom are 'Save' and 'Exit' buttons.

Figure: Asset Task Assignment Edit Form (individual tag or batch of tags)

- **Required Tasks:** This option provides ability to EXCLUDE asset(s) from being assigned a test profile (collection of tasks) or individual tasks. It sets the exception from the rule for a particular asset. Reason could be that the asset is out of scope.
- **Task Assignment Locked:** This option locks the task assignment for the asset, so if a test profile is updated for that type of asset; it will not change or insert (assign) new tasks. The tasks associated for the particular asset is locked.
- **Audit Required:** This option will put the specific asset, and its associated tasks into a CCMS Task Audit module that sets requirement of more rigorous review and closure process. Not recommended unless absolutely necessary, as the standard closure workflow is sufficient for most projects.

METHOD 1: ASSIGNMENT WIZARD - AUTO METHOD

The Auto Method is a very powerful way to assign tasks to batches of assets, by using the search panel (usually by discipline and a collection of asset types) and Batch Assigning (creating CCMS planned tasks, and instance of a Task Model) to all selected assets. If an admin has taken the time to develop task models, assign to asset types, then assign the test profile to every asset in the database can be done in ONE CLICK OF A BUTTON. Very powerful.

Step 1: Query Assets

Filter Tags by Discipline

Select BATCH ASSIGNMENT

Note: It is recommended that the auto method is applied based on discipline, whereby a user would filter for all Instrument Tags, then press Batch Assignment button.

The screenshot shows the continuumEDGE software interface. At the top, there's a navigation bar with links like Logout, Configuration, Engineering, Project Controls, Operability, Completions, Safety, Operations & Maintenance, Shutdown-Turnaround, and Dashboards. Below the navigation is a search bar and a user profile. The main area is titled 'Inspections and Test Forms Completions By Assets Manager' and shows a grid of asset tags. A red box highlights the 'Batch Assignment' button in the toolbar at the bottom.

Figure: Tasks by Assets Modules – Batch Assignment

Step 2: Auto Method

Select AUTO

Continuum Edge

Please chose an ASSICNMENT action:

- Manual (Batch editing assignments; Task assignment filtered by Active Task Models)
- Profile (Available when all selected asset types are the same)
- Auto (Tasks assigned based on active Asset-Type task models and only for assets where 'Requires Testing' is not OFF and 'Lock Testing' is not ON)

Manual

Auto

Cancel

Figure: Task Asssignment Wizard (Auto)

Step 3: Select Asset Type(s)

User can select all asset types or use the filter panel to restrict asset types. In this case, we are assigning TMs to all Control Valves.

Select the asset types (left click and hold shift down, right click last record, it will select all in between)

Press NEXT

The screenshot shows the 'Asset Types Selection' dialog. On the left is a filter panel with dropdowns for Asset Type, Asset Type Model, Criticality, Asset Type Definition, Functional Code, Process Variable, and Task Count. On the right is a list of asset types with checkboxes. The 'Control Valve' asset type is highlighted with a red box. A red arrow points from this highlighted item to the 'Next' button at the bottom of the dialog.

Figure: Task Asssignment Wizard (Auto)

Step 4: Select Row(s)

The interface will then list assets of the selected types that DO NOT have the required tasks (as defined in the task model).

Select Top Checkbox to select all records listed OR select as needed.

Press FINISH to complete the task assignment.

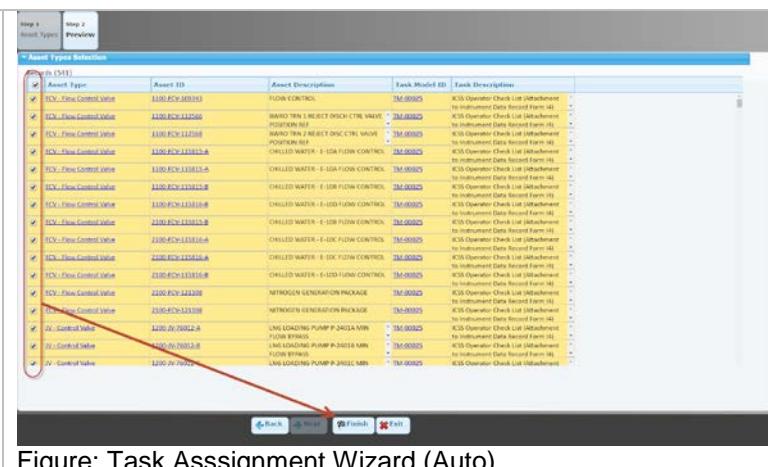


Figure: Task Assignment Wizard (Auto)

METHOD 2: ASSIGNMENT WIZARD - PROFILE METHOD

The Profile Method is used where IF you query by a particular asset type (not more than one), then the UI will list all assets of that type. The user would then multi-select the assets (of same type) for batch assignment. The option you have when doing this is assigning tasks based on profile. This method is useful if you are doing smaller sets of “batch assignment” (e.g. 1 to 20 or so tags). The most efficient assignment method is the AUTO method.

Step 1:

- Query for ASSET TYPE
- Press BATCH ASSIGNMENT
- Press PROFILE

Figure: Tasks by Assets Modules – Batch Assignment

Step 2: Select Desired TMs

- Select PLANNED TASKS tab
 - Select EDIT LIST
 - Select SEARCH to load list of tasks
(based on asset type test profile)
 - Left click to select TMs, press the >
button to assign to Asset(s)
 - Select DONE
 - Press SAVE

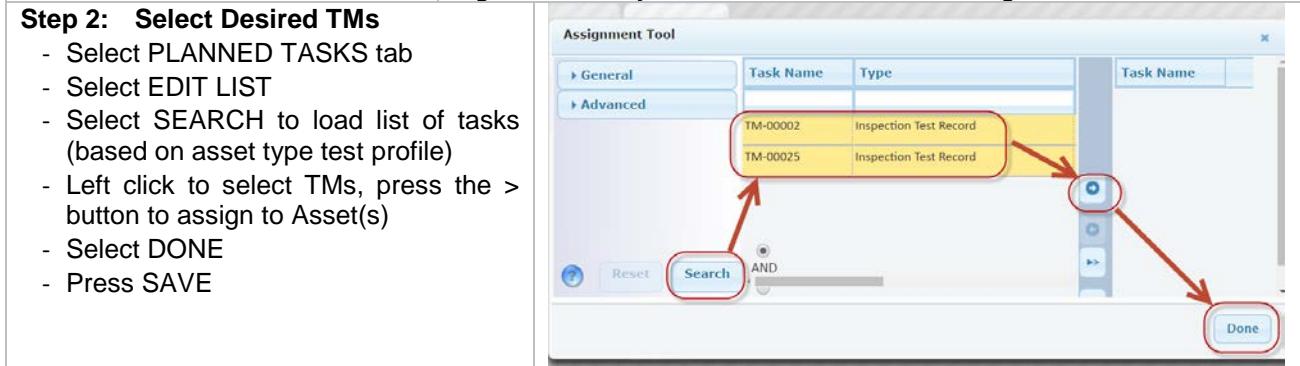


Figure: Task Assignment Window

METHOD 3: ASSIGNMENT WIZARD - MANUAL METHOD

The Manual Method is similar to the Profile method, however does not pre-determine which task should be assigned based on the type of asset. It will allow you to assign any task to the asset regardless of the test profile. This method is used on a case-by-case basis and seldom.

Step 1: Select Asset(s)

- Query for a set of assets or select from list view.
- Press BATCH ASSIGNMENT
- Press MANUAL

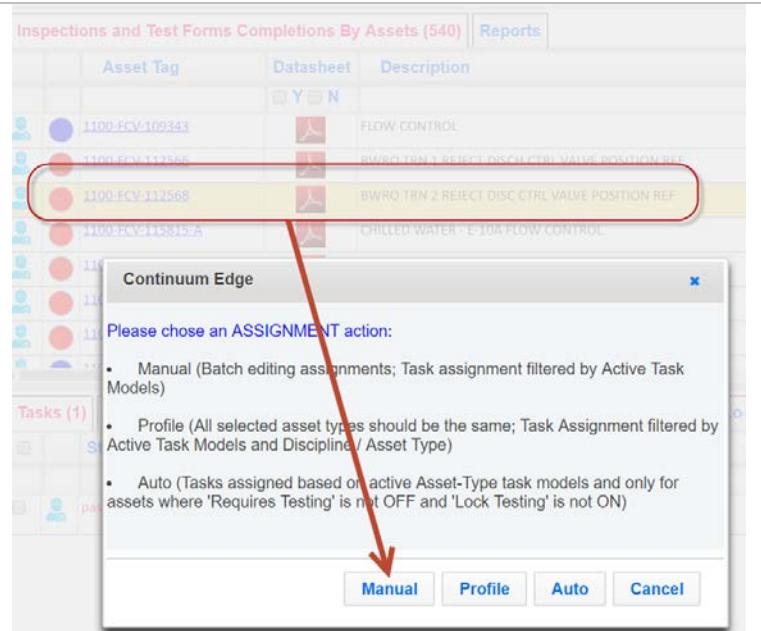


Figure: Tasks by Assets Modules – Batch Assignment

Step 2: Search and Select TM(s)

- Press SEARCH to load all TMs
- Left click on the TMs
- Press > button
- Press DONE
- Press SAVE

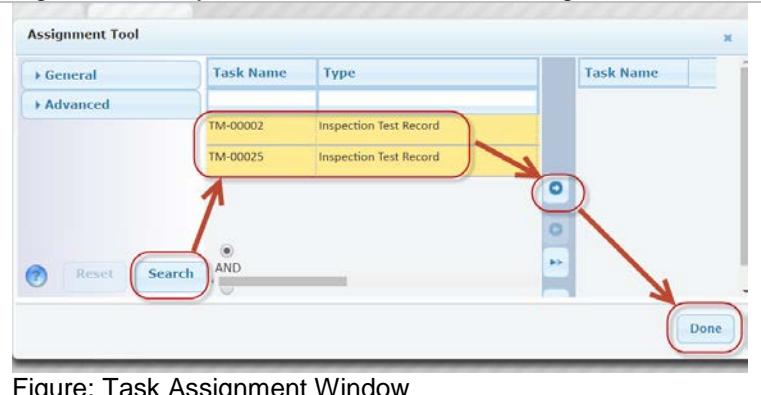


Figure: Task Assignment Window

4.1.3 - Assigning Tasks to Loops

Creating Loop Tasks is done in the “Tasks, by Loops” module. This module will list all the control loops on the project. Just as you create a “Test profile” for an asset type, you would create a Test profile (or collection of task models) for a type of loop. If you want to keep it simple, you create only one type of loop and create a single task model called Loop Functional Test.

Assigning tasks to Loops is performed in the “Tasks by Loops”, located in the completions tab.

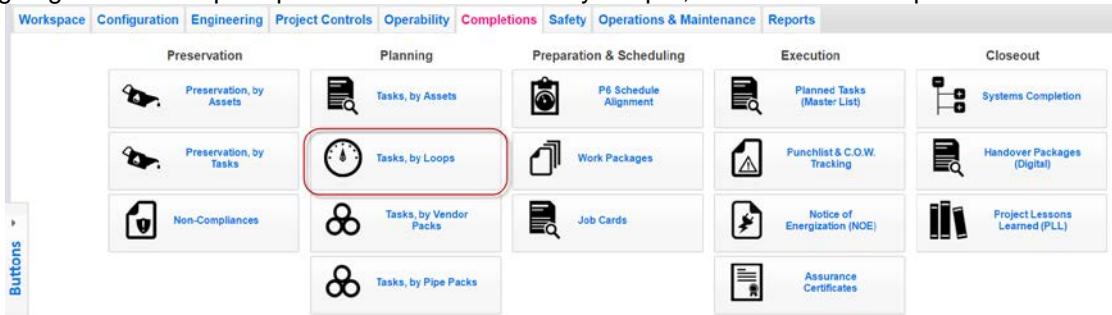


Figure: CCMS Switchboard > Loop Module

The Task assignment for loops is EXACTLY the same as it is for assets. The only difference is that the administrator would create task models that have an LOOP TYPE. To assign loop tasks, simply use the AUTO method to query all loops, or loops by certain types. **SEE INSTRUCTIONS in section 8.1.1 for the AUTO method.**

Users can still use the Manual or Profile methods.

The Task Model configuration must have this field set to be considered a “Loop Test” and your Loops must also have a “Loop Type” so SC can triangulate assignment.

The image shows the Task Model Edit Form. A red box highlights the 'Loop Type' dropdown menu, which is open to show options like 'Analog Input/Output', 'Analog Input', 'Analog Output', 'Digital Input/Output', 'Discrete Input', and 'Discrete Output'. Other fields visible include Model ID, Task Description, Task Category, Task Type, Risk Rating, Date Created, and Activity.

Figure: Task Model Edit Form – Configured for a Loop

4.1.4 - Assigning Tasks to Packs

Creating Pack Tasks is done in the respective “pack” module. To create pack tasks, enter the Cable Pack, Pipe Pack, or Vendor Pack module. Each “pack” module works the same in regard to assigning tasks. In general, a Cable Pack has a “Cable Discipline” and assigns Cables as child tags. The Pipe Pack has a “Piping Discipline” and assigns Piping/Lines and/or instruments as child tags. The Vendor Pack is typically a “Multi-Discipline” pack that can assign any tag as a child object.

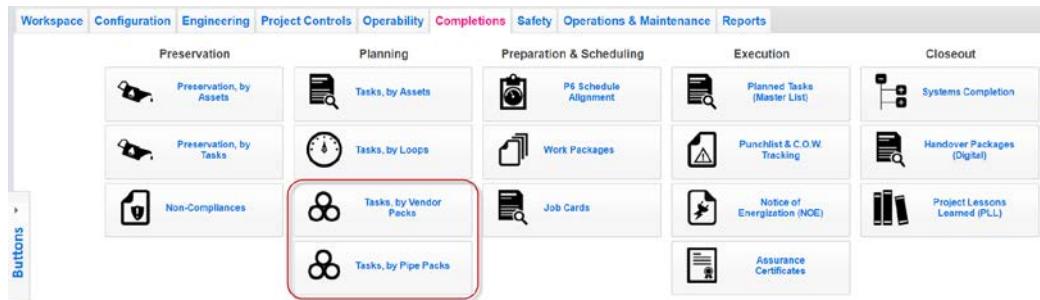


Figure: CCMS Switchboard > Vendor, Cable or Pipe Pack

The Task assignment for CABLE, PIPE AND VENDOR PACKS is EXACTLY the same as it is for assets. The only difference is that the administrator would create task models that have an PACK TYPE. To assign Pack Tasks, simply use the AUTO method to query all TMs based on the packs test profile. **SEE INSTRUCTIONS in section 8.1.1 for the AUTO method.**

Users can still use the Manual or Profile methods.

When creating a “Pack Type” a user can classify if they are a “Cable”, “Piping” or “Multi” tag package. This is how SC knows which pack goes into the Cable Pack, Pipe Pack or Vendor Package modules. The Task Model configuration MUST have a PACKAGE TYPE.

Pack Types (4)			Reports
Name	Description	Discipli..	
Low Voltage Cable	Power, Control and Instrument Cable	CABL	
Pipe Painting	Pipe Painting	PIPE	
Pipe Spools		PIPE	
Vendor		MULTI	

Task Model Edit Form – Pack Type

Step 1 General	Step 2 Materials and Tools	Step 3 Resources	Step 4 Forms & Checklists	Step 5 Documents	Comments	Workflow
Primary Data <div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 5px;"> Model ID: TM-01074 <input checked="" type="radio"/> Is Active? <input type="radio"/> No Execution Type: Digital Execution Priority Systematization Type Responsible Workgroup Contract ID Piping Segment Type Certificate Group </div> <div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 5px;"> Task Description: Spool Pack Installation Task Category: CS - Construction Task Discipline Created By: Adcock, Greg Loop Type Affected Workgroups: Select Options Revision: I Steps Closing? <input checked="" type="radio"/> Yes <input type="radio"/> No Data Exchange </div> <div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 5px;"> Pack Type (Select one of 4 records) Low Voltage Cable - Power, Control and Instrument Cable Pipe Painting - Pipe Painting Pipe Spools structural - structural (Add New) </div>						
WBS Association <div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 5px;"> Project: D000-01 - Example Project Stage Activity </div>						
Safety & Environmental Requirements <div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 5px;"> Requires Permits? <input checked="" type="radio"/> Yes <input type="radio"/> No Requires Isolations? <input checked="" type="radio"/> Yes <input type="radio"/> No Requires HIRA? <input checked="" type="radio"/> Yes <input type="radio"/> No </div>						
<input type="button" value="Submit"/> <input type="button" value="Save"/> <input type="button" value="Exit"/> <input type="button" value="Update Tasks"/> <input type="button" value="Email Task"/>						

4.2 – Job Cards

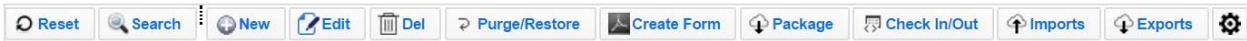
The Job Cards module is not a required module for completions, but it is used to dramatically simplify the ADMINISTRATION of CCMS planned tasks. It utilizes a “Creation Wizard” where it will step a user through the creation of Job Cards, and auto assign which CCMS planned tasks by common attributes, such as same subsystem, phase, discipline and/or responsible company.

The JC is also used to PUSH A SCHEDULED DATE to all planned tasks, so that every level 5 or 6 CCMS task is populated with a scheduled start/end dates, thereby simplifying the generation of an S-Curve. It is also easier for the administrator to “batch checkout” tasks to a user(s) of mobile devices, or “batch print” all paper based QR coded forms with supportive drawings, asset datasheets, and other reference material. Access the module from the Completions switchboard or menu.



Figure: Job Card Module

At the bottom of the JC module, there are several “action buttons”, which:



- NEW will step the user through the JC creation wizard
- EDIT/DELETE will allow for editing or removal of a JC (does not delete the tasks)
- PURGE/RESTORE will allow a user to restore a JC and its associated task assignments
- CREATE FORM provides options how to compile the check sheets in the JC
- PACKAGE will compile a ZIP file with the test forms, datasheets, drawing
- CHECKIN/CHECKOUT will only enable when the tasks associated with a JC is selected
- IMPORTS enables a user to import a list of JCs and scheduling information
- EXPORTS enables a user to export JC information and associated tasks

CREATE FORMS options include mail merge, digital task, and completed forms in PDF format.

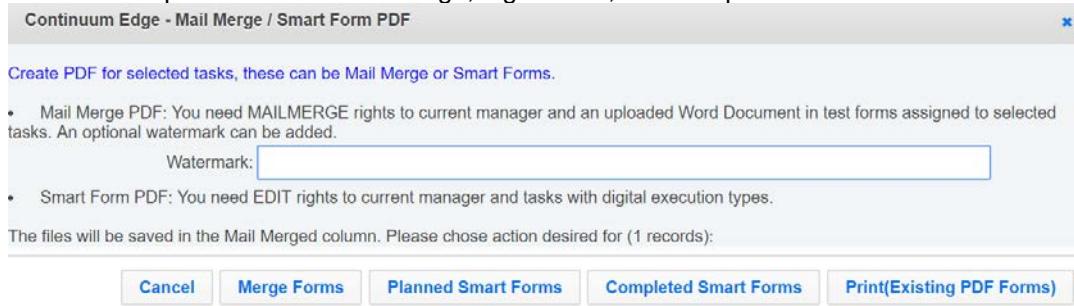


Figure: Create Form Action

4.2.1 - Create Job Cards using Wizard

This section will cover using the wizard to create JCs which is the most efficient and common approach to setting up JCs and assigning tasks.

Step 1: New JCs

Select NEW

The screenshot shows the 'Job Cards (366)' screen. At the top, there are tabs for 'Job Cards (366)' and 'Reports'. Below the tabs is a table with columns: Status, Job ID, Description, Work Categ..., Card, Work Type, and Job. Several rows of job cards are listed, each with a small icon and a preview of its details. One specific row is highlighted in yellow, showing 'JC-000738' with the description '1100-112-04 /CABL/Early Works' and 'CONST - Constructic' under 'Work Type'. Below this table is another table titled 'Tasks (5)' with columns: Status, Actions, Task ID, Datasheet, Description, Exec Type, Task Dis..., and Task Type. It lists five task entries, each with a status (Partial, Checked Out by Greg Adcock, Closed, Started, past due), an action button ('Check In'), a task ID (T-01072-0001 to T-01072-0005), a datasheet icon, a description, an exec type (Digital Executive), and a task discipline (CABL). At the bottom of the interface are various buttons: Reset, Search, New, Edit, Del, Purge/Restore, Create Form, Package, Check in/Out, Imports, Exports, and a gear icon.

Figure: Job Card Module – Creation Wizard

Step 2: Select JC Creation Method

The 4 highlighted options are the most commonly used. In this example, we will select create by system and combined disciplines.

Select option

Press NEXT

The screenshot shows the 'JC Wizard' interface. At the top, it says 'Step 1 ... Start General ... Select Systemization'. Below this is a title 'Select Creation Method'. A list of options is shown with the fourth option, 'Create a Job for each System with Combined Disciplines', highlighted with a red rectangle. Other options include 'Create a blank Job Card', 'Create a Job for each Subsystem and Discipline', 'Create a Job for each Subsystem with Combined Disciplines', 'Create a Job for each System and Discipline', 'Create Jobs for ALL Systemization-Stage-Activity-Title code combinations', 'Create Jobs for Systemization-Stage-Activity-Title codes with existing planned tasks', and 'Copy an existing Job Card'. At the bottom are buttons for 'Back', 'Next', 'Finish', and 'Exit'.

Figure: JC Wizard (grouping)

Step 3: Select General Options

Select the DISCIPLINE(S)

Select NEXT

Tool Tip:

Task Assignment section will define which tasks (based on tasks started or completed) should be auto-assigned to the job card.

If tasks are already started, but not completed and do not have a JC assigned, you would select the 2nd option.

Figure: JC Wizard (task attributes)

Step 4: Select Associations

Select the PHASE and/or STAGE

Select PLANT and SYSTEMS and/or SUBSYSTEMS list

Select FINISH

Tool Tip:

If your task models go down to the stage level, then JCs should also be broken out by stages, not phases.

Figure: JC Wizard (systemization selection)

Tool Tip:

JCs can group tasks by Contract ID. This option is a very useful option if you wanted to group all tasks based on a system, phase, discipline(s) and contract. It would allow the project to report on completions by Contract and could tie payments to % complete by contract.

4.2.2 - Updating Task Scheduling from a Job Card

The JC wizard is also VERY useful to update planned start/end dates for planned tasks. A user can import a list of new updated scheduling of the Jobs, and then “Batch Update” those dates to all tasks associated with all JCs selected. This is a useful feature to batch update scheduling outside of importing dates for individual tasks defined in the vTests_PlannedTasks view (which is the master task view in the SC database).

Step 1:

Select one or more JCs
Press BATCH EDIT
Press PUSH SCHEDULE

Tool Tip:

When batch editing records, it will only show text (or data) in fields where the data is the same across the records selected. In this example, Category and Stage are the same, so they will appear. The scheduled dates are not shown as the 2 JCs have different dates. User would just PUSH SCHEDULE to all tasks associated with the 2 JCs.

Figure: Job Card Module – Batch Update

4.3 – Assurance Certificates

Assurance Certificates are designed to ensure all the required tasks/forms and punch lists are completed in order to complete and transfer custody of a system(s) or subsystem(s), and associated assets from party A (e.g. construction) to party B (e.g. commissioning). Since in most projects there can be “exceptions” to the rule, where 95% of all work is completed, but there are several tasks or punch list that have yet to be completed or closed out, a supervisor can complete a certificate and select the pending tasks/PLs to be treated as Exceptions.

Tool Tip:

Certificate types are configured for a “Company Instance” meaning that if an instance has several projects, each project will have the ability to assign the certificates defined in the instance. A user has the ability to create their own certificates and assign them and does not require a new instance to be created.

Project Preparation – Work Packaging and Scheduling

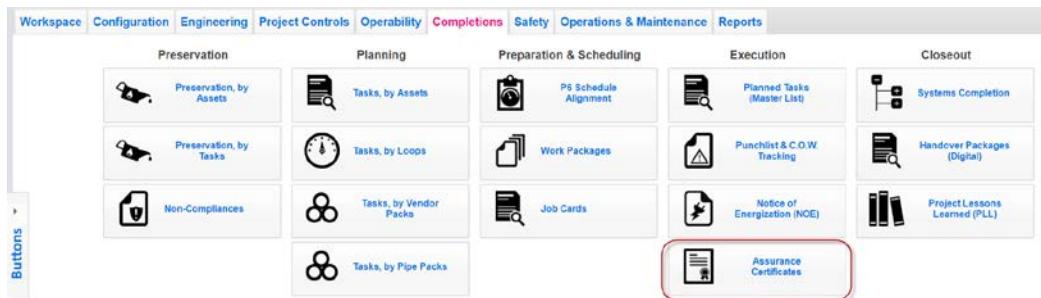


Figure: Certificate Module

At the bottom of the Certificates module, there are several “action buttons”, which:



- NEW will open up the Certificate Creation Wizard
- EDIT/DELETE will allow for editing or removal Certificates
- PURGE/RESTORE will allow a user to restore a Certificate
- DATASHEETS generate a single PDF of a batch selection of Certificates
- MAIL MERGE will compile all MS Word Test Forms into 1 PDF file (w/ QR codes)
- EXECUTE will
- COMPLETED FORMS will compile into 1 PDF file all completed forms for selected Certificate

Tool Tip:

The MAIL MERGE button merges the Mail Merge Certificate Form (in test forms library) that is associated with the Certificate task model. It is NOT intended to merge the task forms triangulated by the certificate.

The screenshot shows a web-based configuration interface for a certificate type named 'RFLC'. The 'Task Model' dropdown is highlighted with a red arrow. Other visible fields include 'Sequence' (set to 4), 'Description' ('(RFLC) Ready for Load Commissioning Assurance'), and 'Receiving Custody (Workgroup) on Completion' ('Commissioning'). The 'Task Model' dropdown contains the value 'TM-00024 - (RFLC) Ready for Load Commissioning Assurance'.

Figure: Certificate Type Edit Form – Task Model (Test Form association)

A Certificate will triangulate tasks, punch lists, assets, documents based on the following:

The screenshot shows the 'Step 1 General' tab selected in the top navigation bar. The 'Primary Information' section includes fields for Certificate Tag (CERT-000039), Description (RFLC Ready for Load Commissioning Assurance Certificate), Certificate Type (RFLC), Email Notification (Select Options), Forecasted Date (19-Jan-2017 03:55 PM), Scheduled Date, Sign-Off Date, and Workflow status (Open, Completed, Closed). The 'Work Breakdown Association' section shows a project assigned to phase 2 - Startup and stage 1 - Pre-commissioning. The 'Location Associations' section shows a plant assigned to process area 1200-260 - GAS COMPRESSION. A red box highlights the WBS assignment section under Work Breakdown Association.

Figure: Certificate Edit Form

Item	Purpose
WBS	WBS assignment will filter tasks that have the same phase and/or stage. Tool Tip: It will exclude tasks that are assigned to only phase, as the certificate is looking for items down to the STAGE level. It is important to align your Task Model WBS assignment with the Certificate implementation.
Systemization/Location	Systemization assignment will filter tasks that are assigned to assets, loops, or packs that have same system(s) and/or subsystem(s) assigned. It will also filter PLs based on same concept.

4.3.1 - Create Certificates using Wizard

The Certificate Creation Wizard is designed to expedite and standardize the assignment of Certificates to system(s) and/or subsystem(s). A certificate can have a many-to-one relationship between the certificate and systems/subsystems.

Step 1: Determine what Systemization Level

Select NEW
Select OPTION
Select NEXT

Tool Tip:

The most common selections are highlighted options, where you can assign a particular certificate type to each system or subsystem.

The screenshot shows the 'Step 1 Start' tab selected in the top navigation bar. The 'Select Creation Method' section contains five radio button options: 'Create a blank Certificate', 'Create a Certificate for each selected Certificate Type', 'Create a Certificate for each selected System', 'Create a Certificate for each selected Subsystem' (which is selected and highlighted with a red box), and 'Copy an existing Certificate'. A message at the bottom states 'The following fields are required before saving is enabled: Certificate Type'. Navigation buttons for Back, Next, and Finish are visible at the bottom.

Figure: Certificate Wizard – Level

Step 2: Select Certificate Type

Select CERTIFICATE TYPE

Select NEXT

Tool Tip:

This option the user is assigning the selected certificate type to all systems selected on next tab.

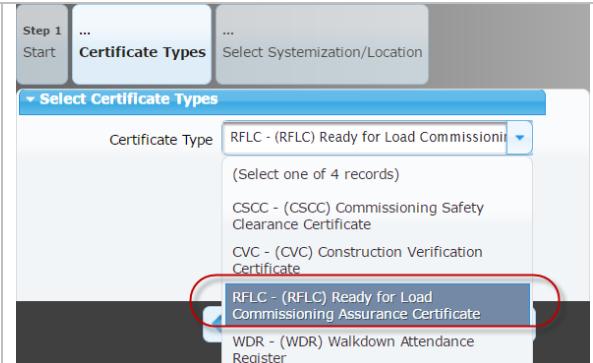


Figure: Certificate Wizard –Type

Step 3: Select WBS and Systemization

Select PHASE / STAGE

Select SYSTEMS

Press FINISH

Upon completion it will create the RFLC certificate for the 950 systems. Each certificate will triangulate all tasks and punch lists based on their system boundary and WBS assignment, in this case down to the stage level.

Tool Tip:

If Tasks are only down to the phase level, then the certificate configuration will filter out those tasks, as the certificate is a narrower definition.

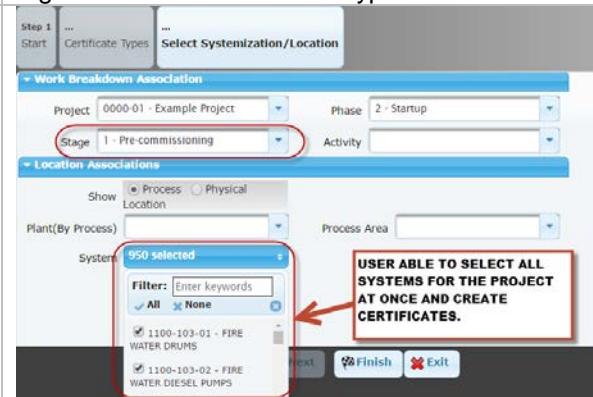


Figure: Certificate Wizard – Systems

4.3.2 - Completing a Certificate with Exceptions

Completing a certificate can be done in three (3) ways:

1. No pending tasks and/or punch list and can complete without exceptions
2. Pending Tasks and/or punch list and must complete WITH exceptions
3. Complete “Partial Certificate” by generating iterations using “Task Group” configuration

METHOD 1: COMPLETING WITH NO EXCEPTIONS
Step 1: Edit Certificate

Select CERTIFICATE

Select EDIT

Tool Tip:

Use the SEARCH panel and filter in General section for any certificate where “Pending Tasks = No”. It will show all certificates that have not pending tasks.

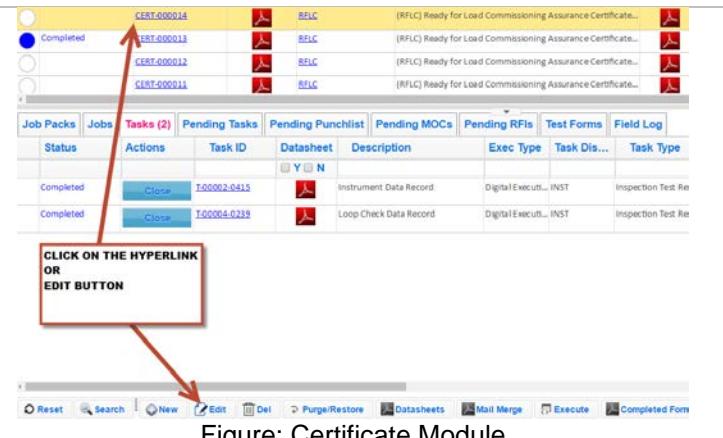


Figure: Certificate Module

Step 2: Complete & Notify

Press COMPLETE

Send EMAIL (or not)

Tool Tip:

When a certificate is moved through its approval or completion workflow, it will prompt user to send email notification which will go to any user who can perform the next state of the workflow, in this case CLOSE state.

In the USER APPLICATIONS module, an admin can adjust the OOB workflow for the certificates where it will not prompt user to send email.

Figure: Certificate Edit Form - Completion

METHOD 2: COMPLETE CERTIFICATE WITH EXCEPTIONS
Step 1: Select & Complete

Select CERTIFICATE

Select EDIT

Select COMPLETE

Enter in Exception Comment (will apply to all tasks)

Press SET EXCEPTIONS

Tool Tip:

If there are also pending PLs then it will upon SET EXCEPTIONS, it will load the pending PL list.

Figure: Certificate Edit Form - Exceptions

Step 2: Enter Exception Comment

Select COMPLETE
Enter in Exception Comment
(will apply to all PLs)

Press SET EXCEPTIONS

Each punch list will be flagged as an Exception in the Punch list manager.

Tool Tip:

CERTIFICATE TYPE configuration can define which PL priorities or categories would be considered an exception.
See PL Configuration section.



Figure: Certificate Module

The Certificate datasheet will display the tasks and PLs that are exceptions.

CE Project Solution Certificate Datasheet					
Certificate Punchlists					
Completed	<input type="checkbox"/> T-00004-250	T-00004-251	Loop Check Data Record		
Completed	<input type="checkbox"/> T-00004-251	T-00004-2516	Loop Check Data Record		
Completed	<input type="checkbox"/> T-00004-2516	T-00009-0016			
Closed	<input checked="" type="checkbox"/> T-00699-0017	T-00699-0018			
	<input checked="" type="checkbox"/> T-00699-0018	T-00699-0008			
	<input checked="" type="checkbox"/> T-00700-0008	T-00700-0007			
Completed	<input checked="" type="checkbox"/> T-00700-0007	T-00701-0002			
Completed	<input checked="" type="checkbox"/> T-00701-0002	T-00701-0003	Exxon E20B DC MOTOR	1200-P-1204BM	
Closed	<input checked="" type="checkbox"/> T-00701-0003	T-01070-0003	System Walkdown		
Comments					
Completion					
Print Name	Adcock, Greg	Print Name		Closed By	
Date/Time	22-Jun-2017 9:35	Date/Time			

THE CERTIFICATE DATASHEET WILL IDENTIFY WHICH TASKS AND/OR PUNCHLISTS ARE EXCEPTIONS. THIS CAN ALSO SHOW ON A MAIL MERGED CERTIFICATE.

4.4 – Notice of Energization (NOEs)

The NOE module is designed to systematically schedule and apply an approval process to equipment and instrument energization. The NOE will define what energization type (e.g. 480V energy source, 4.13KV etc.), location of energization, when in the project energization will take place, and specific equipment to be energized. Each NOE will have several approvers so that construction, commissioning and operations personnel are aware.

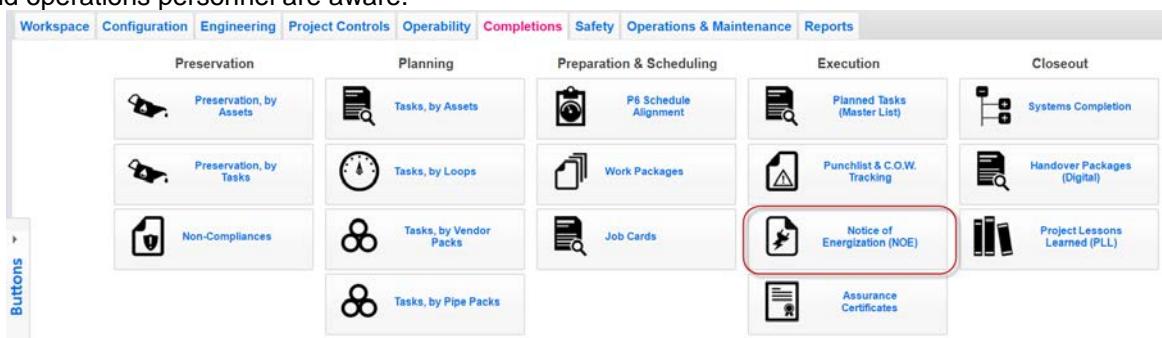


Figure: NOE Module

At the bottom of the NOE module, there are several “action buttons”, which:



- NEW will open up the NOE edit form
- EDIT/DELETE will allow for editing or removal of NOE(s)
- COPY will allow user to create a new NOE from a copy of an existing
- DATASHEETS will generate the NOE datasheet(s)
- ENERGIZATION LIMIT DRAWING enables user to upload single PDF file to support NOE

4.4.1 - Create NOE using Interface

Step 1: Create and Define NOE boundaries

Press NEW

Select ENERGIZATION TYPE

Select WBS (time in project to energize)

Select SYSTEM/SUBSYSTEM (filters assets)

Select CERTIFICATE (prereq. for NOE)

Select SCHEDULE DATE, PERSONS

Tool Tip:

There is NO NOE creation wizard as they are really very specific plans to energize equipment and broken down into what is available for energization, and not necessarily by system or subsystem.

Step 2: Define Equipment/Tags

Select “WHAT NEEDS TO BE ENERGIZED” tab

Enter COMMENTS

Select TAGS to be energized

Figure: NOE Edit Form - Scoping

Figure: NOE Edit Form – Assignment

Step 3: Define Support Documentation

Select “DOCUMENTS” tab

Select support documents (checkbox)

Tool Tip:

The documents listed are queried based on the systemization items selected in the General Tab

Document Type	Description
Datasheet	25576-200-JLD-I-10-54013
Datasheet	25576-200-IPD-IPG1-36016
Location	25576-200-J2-03AX-00032
Location	25576-200-J2-03AX-00033
Location	25576-200-J2-02DX-00004
Datasheet	25576-200-IPD-IPG1-37009
Datasheet	25576-200-IPD-IPG1-34026-A
P&ID	A0128-P&ID-00004
Single Line	DS-3336-RO-36540
P&ID	M6-1T103-00032
P&ID	M6-1T106-00033

Figure: NOE Edit Form – Ref. Documents

The NOE datasheet can use the default Crystal Reports (hard coded report), OR it can use a Mail Merge MS Word document similar to the punch list form so that clients can customize their own NOE datasheets.

Tool Tip:

The OOB datasheet as well as the mail merge NOE form references the electrical source information so that end users who utilize this form will see where to energize the equipment.

It is very useful to enter in the electrical source information, such as:

- Electrical Room
- MCC no
- Cubical no

Approvals and Completion		
Name	Applicant	Engineering - Project Manager
Submitted Date/Time	16-Feb-2017	Approved Date/Time
	Operations Superintendent	22-Feb-2017
Name	Name	Lead Discipline Engineer
Approved Date/Time	Approved Date/Time	Other Approver
Name	Name	
Approved Date/Time	Approved Date/Time	

Figure: NOE Datasheet

4.4.2 - NOE Approval Process

The approval of NOEs requires multiple (distinct) approvers. It does this so that users cannot just “pencil whip” a high risk preparatory task.

Step 4 (cont. from above):

Select APPROVE

Tool Tip:

Several distinct users must approve the NOE. A user with approval rights CANNOT approve on behalf of another. The specific titles and roles required to approve an NOE is configurable. Go to USER APPLICATIONS and edit NOE workflow.

Figure: NOE Edit Form – Approval

Note: If the client wants the workflow to be modified with different approvers, please contact your lead systems administrator.

4.5 – Turnover Packages (TOPs)

The Turnover Package (TOP) is one of the most important modules in the CCMS, as this is how it transfers data, files and other related content in a manner than other downstream applications or workgroups can easily consume. Each TOP will have pre-defined contents that will be restricted based on the TOP “systemization” and “WBS” assignments.

Not only is the TOP a powerful tool to standardize handover and compilation of information, it is also very useful for reporting, as each Table of Content (TOC) is assigned a pre-configured report. The TOP is assigned a system(s) and/or subsystem(s), each TOC will apply additional filter on the content it's compiling (e.g. punch lists, tasks, MOCs, certificates etc.).

Status	Sequence	Content Description	Report	Spreads...	Due Date	Transmittal ID	Tx Sheet	Responsible	% Compl...	Comp.
Originated	1	Systemization			22-Mar-2017	(fr, tc)	1	Example Company		(frc)
	2	Engineering Data			22-Mar-2017			Example Company		
	2.1	Mechanical						Example Company		
	2.2	Electrical						Example Company		
	2.3	Instrumentation						Example Company		
	2.4	Piping						Example Company		
	2.5	Documentation						Example Company		
	3	Completions & Handover						Example Company		
	3.1	Completions Reporting						Example Company		
	3.2	Certificate Completion						Example Company		
	3.3	Punchlist						Example Company		

Figure: Turnover Package (TOP) – Content List

Tool Tip:

It is important that “Systemization” is approved by the client first, as Mechanical Completion Packages (MCPs) are handed over at the subsystem level and Turnover Packages (TOPs) at the system or process level.

TOPs can be configured to be very specific in the content it compiles and transmits, or it can be enabled to include more information and documentation. The illustration below demonstrates how in Construction, they would compile Discipline specific packages, that will be included (full or partially) into the Subsystem based Mechanical Completion Packages, that some its content would be rolled over into the final Turnover Packages (TOPs) that are usually “process” or “system” based.

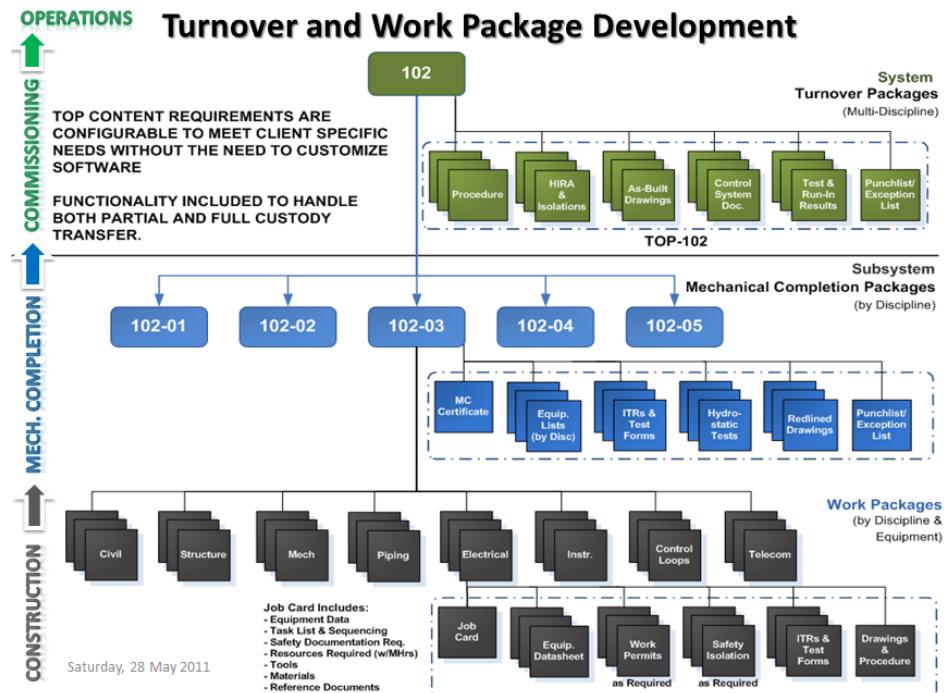


Figure: Typical Hierarchy and content of TOPs

At the bottom of the TOP module, there are several “action buttons”, which:



- NEW will step the user through the TOP creation wizard
- EDIT/DELETE will allow for editing or removal of a TOPs (does not delete the tasks)
- CREATE TRANSMITTAL will allow user to define what sections of a TOP they wish to transmit to another user, or non-user alike via SMTP email notification
- MAIL MERGE FILES will compile all completed forms into a single PDF or ZIP file
- DOCUMENTS will compile any PDF document associated to the TOP
- TOP PACKAGE will compile each section of the TOP and generate a ZIP file that can be downloaded via the Browser

4.5.1 - Create TOPs using Wizard

The TOP Creation Wizard is designed to harness the configuration of “Package Types” and then applies that to list of systems or subsystems.

Step 1: Create TOPs

Select NEW

Select SYSTEMIZATION LEVEL

Press NEXT

If creating a TOP for each system, user would select
“Create a TOP for each selected System”

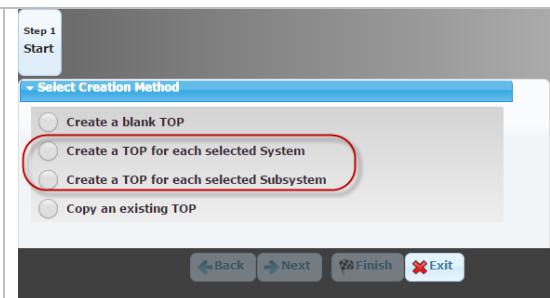


Figure: TOP Wizard – Level

Step 2: Select Package Type

Select Package Type

Press NEXT

Tool Tip:

The description will automatically be entered based on the package type (e.g. MCP with the System No and Description). A user can overwrite by putting in text that will be used for each TOP being created.

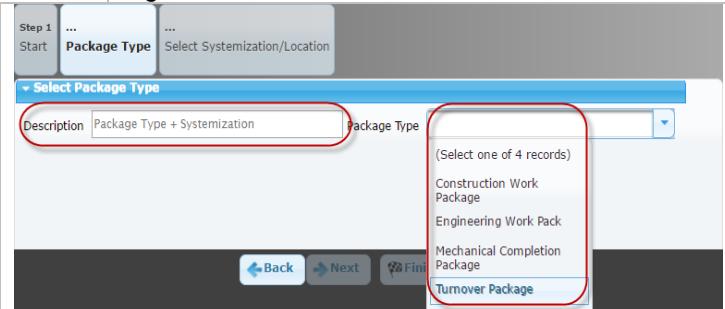


Figure: TOP Wizard – Package Type

Step 3: Select WBS & Systems

Select PHASE / STAGE

Select SYSTEMS

Press FINISH

Note:

If there are CCMS planned tasks assigned to phase, NOT stage, then the TOP should be configured to reference PHASE level not stages, or any tasks assigned to phase only would be excluded if Stage was selected.

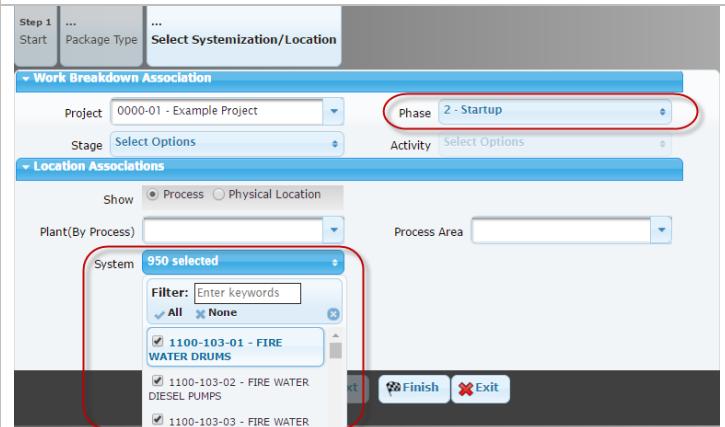


Figure: TOP Wizard – Package Type

The example below is one of the 950 TOPs created. If the wizard above defined 1 TOP per System, then it would create a TOP per system. Each TOP would triangulate the tasks/forms, punch lists, certificates, assets and documents that will be part of the handover.

Project Preparation – Work Packaging and Scheduling

Handover Packages (1)

Status	HOP ID	Datasheet	Description	Package Type	Custody	Pending T...	Pending P...
Originated	TOP-00013		Turnover Package / 1100-112-04 - Drains, UF/RO Reject Sump... Turnover Package			3	3

Reports

Details	Contents (11)	Transmittals (0)	Planned Tasks (27)	Test Forms (20)	Certificates (1)	Punchlist (4)	TOC Addtl Docs	Assets (116)	Asset Docs (41)
Status	Actions	Task ID	Datasheet	Description	Exec Type	Task Disc...	Task Type	Mailmerg...	Completed
past due	Check Out	T-00001-1887		Pressure Relieving Device Inspecti...	Digital Execut...	INST	Inspection Test Record		
Closed		T-00002-0765		Instrument Test Record	Paper Form	INST	Inspection Test Record		
Completed	Close	T-00002-0949		Instrument Test Record	Paper Form	INST	Inspection Test Record		
Completed	Close	T-00002-10026		Instrument Test Record	Paper Form	INST	Inspection Test Record		
Completed	Close	T-00002-10027		Instrument Test Record	Paper Form	INST	Inspection Test Record		

Figured: TOP Example

Tool Tip:

The TOP datasheet will index each content item (e.g. as shown early on in section 8.5) and its % completion. Some items will automatically populate the % completion if its task, punch list, certificate, or NOE related items.

SECTION 5

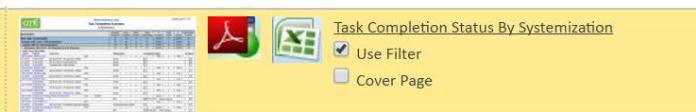
Reporting

5.1 – Task Completion Reports

5.1.1 - Task Completion by Systemization

Report Location:

Planned Tasks (Master List) Module

Exclusions:
tasks.

CE Project Solution
Task Completion Summary
by Systemization

continuumEDGE

Systemization	Assigned Equipment	Tasks Assigned	Tasks Complete	Tasks Outstanding	% Complete	Tasks Closed	% Closed	Outstanding PL Name
Plant: 1000 - TRAIN 1	53	62	29	33	46.8%	5	8.1%	7
Process Area: 1100-112 - UTILITIES	53	62	29	33	46.8%	5	8.1%	7
System: 1100-112-04 - DRAINS, UF/RO REJECT SUMP & PUMP	53	62	29	33	46.8%	5	8.1%	7
Asset / Loop / Pack Details								
Job ID	Task ID	Test Form	Responsible	Completion Details				Is Closed
Asset: 1000-FIT-1000 - PUMP DISCHARGE FLOW		INST	Atlas Copco	1	0	1	0.0%	0
JC-000042	T-00001-1887 - Pressure Relieving Device Inspection	I3	Baldor					
Asset: 1100-CT-112816 - PK-1100-ET-01 CURRENT TRANSFORMER		ELEC	Siemens	3	1	2	33.3%	1
	T-00125-0008 - Routine Preservation - Transformer		IBS					
	T-01000-0001 - MCC Feeder-Contactor Bucket	E01B	Exxon					
	T-01154-0010 - EA024D ELECTRICAL	ORG-ARW-AOP-TEM-00053	IBS					

5.1.2 - Task Completion Status by Systemization, Disc, and Asset Type

Report Location:

Planned Tasks (Master List)

Exclusion:

Only Asset Tasks. Excludes loop and pack tasks.

Index by Systemization Public Detail Level Highlight

Task Completion Status (Systemization, Discipline, & Asset Type)
 Use Filter Cover Page

Demonstration site
Task Completion Summary
By Systemization, Discipline, & Asset Type

Systemization	Assigned Equipment	Tasks Assigned	Tasks Complete	Tasks Outstanding	% Complete	Tasks Closed	% Closed	Outstanding PL Items
Plant: 2500 - Central Facility	47	48	17	31	35.4%	0	0.0%	16
Process: 2501 - Line 1 - Gas Compression	47	48	17	31	35.4%	0	0.0%	16
System: 2501-01 - Gas Compression	47	48	17	31	35.4%	0	0.0%	16
Subsystem: 2501-01-01 - Air Compressors & Air Receivers	47	48	17	31	35.4%	0	0.0%	16
Cable/Conduit		6	0	6	0.0%	0	0.0%	1
FO-C - FIBRE OPTIC, SINGLE MODE		6	0	6	0.0%	0	0.0%	1
Electrical		8	4	4	50.0%	0	0.0%	1
CP-E - Control Panel		1	1	0	100.0%	0	0.0%	1
JB-E - Electrical Junction Box		2	1	1	50.0%	0	0.0%	1
TR-E - Transformer		2	1	1	50.0%	0	0.0%	1
VSD-E - VSD		3	1	2	33.3%	0	0.0%	1
Instrument		34	13	21	38.2%	0	0.0%	16
AIT-I - Moisture Transmitter		3	3	0	100.0%	0	0.0%	5
JB-I - Instrument Junction Box		3	0	3	0.0%	0	0.0%	1
PDIT-I - Differential Pressure Indicating Transmitter		19	6	13	31.6%	0	0.0%	7
PIT-I - Pressure Indicating Transmitter		5	3	2	60.0%	0	0.0%	5
TIT-I - Temperature Indicating Transmitter		4	1	3	25.0%	0	0.0%	2
Totals:	47	48	17	31	35.4%	0	0.0%	16

5.1.3 - MH Task Completion by Systemization, Work Week and Discipline

Note:

Task Models must have Resources and MHs assigned

Report Location:

Planned Tasks (Master List)

Exclusion:

Only Asset Tasks. Excludes loop and pack tasks

Systemization	Assigned Equipment	Tasks Assigned	Tasks Complete	Tasks Outstanding	% Complete	Planned Mhrs	Remaining Mhrs	% Remaining
Plant: 2500 - Central Facility	47	48	17	31	35.4%	581.0	-51.0	-8.8%
Process: 2501 - Line 1 - Gas Compression	47	48	17	31	35.4%	581.0	-51.0	-8.8%
System: 2501-01 - Gas Compression	47	48	17	31	35.4%	581.0	-51.0	-8.8%
Subsystem: 2501-01-01 - Air Compressors & Air Receivers	47	48	17	31	35.4%	581.0	-51.0	-8.8%
Work Week: 22-Nov-2015	1	1	0	1	0.0%	525.0	-85.0	-16.2%
Cable/Conduit			1	0	0.0%	525.0	-85.0	-16.2%
Title: CCMS Coordinator			1	0	0.0%	25.0	15.0	60.0%
Title: Construction - E&I Technician			1	0	0.0%	500.0	-100.0	-20.0%
Work Week: 15-Nov-2015	5	5	3	2	60.0%	10.0	4.0	40.0%
Electrical			5	3	60.0%	10.0	4.0	40.0%
Title: Construction - Elect/Inst Supervisor			2	1	50.0%	4.0	2.0	50.0%
Title: Construction - Electrical Technician			3	2	66.7%	6.0	2.0	33.3%
Unscheduled Work Week	41	42	14	28	33.3%	46.0	30.0	65.2%
Cable/Conduit			5	0	0.0%			
Unassigned Title			5	0	0.0%			
Electrical			3	1	33.3%	9.0	6.0	66.7%
Title: Construction - Electrical Technician			3	1	33.3%	9.0	6.0	66.7%
Instrument			34	13	38.2%	37.0	24.0	64.9%
Title: Commissioning - Instrument Technician			31	13	41.9%	15.5	9.0	58.1%
Title: Commissioning - Instrumentation			3	0	0.0%	6.0	6.0	100.0%
Title: Engineering - Controls Systems Engineer			31	13	41.9%	15.5	9.0	58.1%
Totals:	47	48	17	31	35.4%	581.0	-51.0	-8.8%

5.1.4 - Commissioning Readiness Report

Note: This report will require configuration. Contact your SC representative

Report Location:

Planned Tasks (Master List)

Exclusion:

None. Includes all Tasks, Certificates and NOEs however may not meet your configuration.

Summary (5 items)

Commissioning Readiness															
Overall complete:	No Load Commissioning Readiness									Load Commissioning Readiness			Operations Readiness		
	Construction Tasks Complete / Plan	WDR Status	Cat 1 Punchlist Complete / Plan	CVC Status	NOE Status	CSCC Status	No Load Task Complete / Plan	Cat 2 Punchlist Complete / Plan	RFLC Status	Cat 3 Punchlist Complete / Plan	Cat 4 Punchlist Complete / Plan	Load Tasks	ATO Status		
Plant: 002 - ER - Chassis Body 26	0/218 0%	0/22 0%	0/22 0%	0/22 0%	0/22 0%	26/930 49%	0/22 0%	0/22 0%	0/22 0%	0/16 0%	0/22 0%				
Process Area: 002 - 0025 - CHP	0/218 0%	0/22 0%	0/22 0%	0/22 0%	0/22 0%	26/930 49%	0/22 0%	0/22 0%	0/22 0%	0/16 0%	0/22 0%				
System: 002-01 - PRIMARY CRUSHER SUB 100	0/218 0%	0/22 0%	0/22 0%	0/22 0%	0/22 0%	26/930 49%	0/22 0%	0/22 0%	0/22 0%	0/16 0%	0/22 0%				
Subsystem: 002-01-01 - Switchroom, MCC & switchroom services SUB 100	0/27 0%	Not Created	Not Created	Not Created	Not Created	20/1365 54%	Not Created	Not Created	Not Created	Not Created	Not Created				

5.2 – Punchlist Completion Reports

5.1.1 - Punchlist Summary Scorecard by Systemization and Category

Report Location:

Punchlist

Exclusion:

Closed PLs

Punchlist Summary (by Systemization and Category: Scorecard)										
Overall closed ls:	CE Project Solution									
	Total Reported	Rejected	Not Started	In Progress	Completed	Closed	% Closed	On Hold	Overdue	
Plant: 1000 - TRAIN 1	56	1	35	1	11	8	14.5%	0	35	
Process Area: 1100-103 - DETECTION SYSTEMS	14	0	5	1	4	4	28.6%	0	6	
System: 1100-103-02 - FIRE WATER DIESEL PUMPS	2	0	1	1	0	0	0.0%	0	2	
(no category assigned)	1	0	0	1	0	0	0.0%	0	1	
CAT 2	1	0	1	0	0	0	0.0%	0	1	

5.1.2 - Punchlist Status by Responsible Company

Report Location:

Punchlist
Closed PLs

Index/Status

Public

[Master Punchlist Index \(by Responsible Company and Opened Items\)](#) Use Filter Cover Page

CE Project Solution
Punchlist Summary By Company
by Responsible Company and Opened Items

continuumEDGE®

Responsible: ABB - Electrical Equipment Manufacturer

Past Due: 2

Completed: 1

Item	Asset Tag - Description	Originator	Status	Completed By	Completed Date	
Discipline	Deficiency Description	Priority	Category	Due Date	Closed By	Closed Date
PL-00072	1100-XY-112014 - UF FILTER/RO REJECT PUMP P-3602A	Boyko, Glenn	Completed	Boyko, Glenn	2/16/2017	
INST	5.5: SPEED CONTROL AVAILABLE?	A-High	Items to be completed before handover of the Package to the next phase	2/13/2017		
PL-00070	1100-AE-112056 - POTABLE WATER TK-3604 TO DISTRIBUTION HEADER	Boyko, Glenn	Past Due			
INST	12: Confirm plate thickness is within 0.01 x DN (in mm) (FE only)	B-Low	Items generated by the client/operations	2/22/2017		

5.3 – Certificate and NOE Completion Reports

5.3.1 - Certificate Completion Details by Systemization and Type

Note: this report will require that an admin configure certificate types with sequence (1-4) and "show on report".

Report Location:

Assurance Certificates

Exclusion:

None

Systemization																
Plant: 1000 - TRAIN 1																
Process Area: 1100-103 - DETECTION SYSTEMS																
System: 1100-103-07 - FIRE / GAS DETECTION - OSBL EAST, REFRIG. SYG.; UTIL. AREA; CCR																
Unassigned Subsystem																
Task Discipline	RFLC															
	Total	Complete	Closed	%Closed	Total	Complete	Closed	%Closed	Total	Complete	Closed	%Closed	Total	Complete	Closed	%Closed
INST	378.00	377.00	8.00	2.1												
Category / Priority	Punchlist															
	Total	Complete	Closed	%Closed	Total	Complete	Closed	%Closed	Total	Complete	Closed	%Closed	Total	Complete	Closed	%Closed
A-High	1.00	1.00	0.00	0.0												
B-Low	2.00	1.00	1.00	50.0												
COMM	Total	Complete	Closed	%Closed	Total	Complete	Closed	%Closed	Total	Complete	Closed	%Closed	Total	Complete	Closed	%Closed
A-High	1.00	1.00	0.00	0.0												
CONST	Total	Complete	Closed	%Closed	Total	Complete	Closed	%Closed	Total	Complete	Closed	%Closed	Total	Complete	Closed	%Closed
A-High	1.00	1.00	0.00	0.0												
B-Low	2.00	2.00	1.00	50.0												

5.3.2 - Certificate Index Report

Report Location:

Assurance Certificates

Exclusion:

None

Certificate Tag	Type	Plant	Process Area	# Systems	# Subsystems		
Description			Tasks	Punchlists	Completed Date	Closed Date	Status
CERT-000007	RFLC	1000 - TRAIN 1	1100-103 - DETECTION SYSTEMS	1	0		
(RFLC) Ready for Load Commissioning Assurance Certificate / 1T-103-07 - FIRE / GAS DETECTION - OSBL EAST, REFRIG. SYG.; UTIL. AREA; CCR				377/378	6/6	08-Feb-2017	Completed

5.3.3 - Certificate Completions Summary by System

Note: This report will dynamically list the different certificate types from left to right (as columns) but admin must sequence the certificate types and show on report = yes.

Report Location: Assurance Certificates
Exclusion: None

Summary	Public			<input checked="" type="checkbox"/> Use Filter	<input type="checkbox"/> Cover Page
---------	--------	--	--	--	-------------------------------------

		CE Project Solution			continuumEDGE®	
		Certificate Completions Summary Report				
		by System				
		RFLC	Total			
Systemization		20 5 25.0%	20 5 25.0%			
1000 - TRAIN 1		20 5 25.0%	20 5 25.0%			
1100-103 - DETECTION SYSTEMS		20 5 25.0%	20 5 25.0%			
1100-103-01 - FIRE WATER DRUMS		1 1 100.0%	1 1 100.0%			
1100-103-02 - FIRE WATER DIESEL P		1 0 0.0%	1 0 0.0%			
1100-103-03 - FIRE WATER DISTRIBUTOR		1 0 0.0%	1 0 0.0%			
1100-103-04 - FIRE WATER DISTRIBUTOR		1 0 0.0%	1 0 0.0%			
1100-103-05 - FIRE WATER DISTRIBUTOR		1 1 100.0%	1 1 100.0%			

5.3.4 - NOE Status by Systemization

Note: This report references the full approval status of the NOEs, and reference to the prerequisite Certificate.

Report Location: NOE
Exclusion: Only system based does not list the equipment to be energized.

Index/Status	Public			<input checked="" type="checkbox"/> Use Filter	<input type="checkbox"/> Cover Page
--------------	--------	--	--	--	-------------------------------------

		CE Project Solution			continuumEDGE®												
		NOE Status															
		by Systemization															
Plant: 1000 - TRAIN 1																	
Process Area: 1100-109 - AIR COMPRESSION																	
Systemization		NOE Tag	Certificate		NOE Current Work Flow Status												
			ID	Complete	Rejected / Revoked	Originated	Submitted	Partially Approved	Approved	Closed							
Systems	Subsystems	1	1	1	0	1	0	0 0.0%	0 0.0%	0 0.0%							
1100-109-01,1100-109-02,1100-109-03,1100-109-04,1100-109-05,1100-109-06,1100-09-07,1100-109-08,1100-109-09,1100-109-10		NOE-00006	CERT-000035	YES	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>							

5.3.5 - NOE Forecast

Report Location:

NOE

Exclusion:

None



This screenshot displays a detailed NOE Forecast report from the CE Project Solution. The header includes the Continuum Edge logo and the title 'CE Project Solution NOE Forecast'. The main content area is titled 'Past Due' and shows a table of assets. The table has columns for NOE Tag, Description, Certificate, Assets, Systems, Subsystems, Approvers, and Sched. Date. The 'Assets' section lists several items under 'NOE-00005', including 'Testing' (Certificate: CERT-000031, Open) and three current transformers (1100-CT-112816, 1100-CT-112817, 1100-CT-46900). The 'Systems' section lists '1100-112-04 - DRAINS, UF/RO REJECT SUMP & PUMP'.

SECTION 6

Exporting

6.1 – Export Module

The Export module is designed to generate pre-defined exports with specific data sets (e.g. assets), against specific fields (e.g. name, description, type, mfg.), in a specific order, and with a specific export name. An export can also export the XLS file to a pre-defined FTP server at a set recurrence schedule. Although most users who can generate reports are likely to export that report into an XLS file, they need special “Export Role” to access the export module.

Tool Tip:

Since data management is critical to data integrity, persons who are given the ability to export data from the database should be restricted to minimum amount of people. Reason being is that it could create multiple versions of the same data. It should only be used to transfer data to other third-party systems or used report XLS reporting.



Figure: Accessing the Export Module

The export module will list all exports created. It will also provide information on how frequent an export has been utilized and will log the exports in the secondary panel below. It will define the date, time and person who access (or generated) the XLS file.

Export Wizard (12) Reports

Saved Export Name	Export View	FTP site	Saved Export	Run Export	30 days Usage	Overall Usage
Documents (112-004 system only)	ovDocuments		[X]	[X]	0	0
Forms and Checklist Library (custom)	ovDocumentForms		[X]	[X]	0	0
PCTs Export for P6 Scheduler	ovProjectControlTasks		[X]	[X]	0	1
Physical Location Tree (custom)	ovPhysicalLocations		[X]	[X]	0	0
Systemization Custody Log (example p...)	ivProcessBreakdownsCustod...		[X]	[X]	1	2
Systemization Tree (All)	ovProcessBreakdowns		[X]	[X]	1	2
Task Models (custom)	ovTaskModels		[X]	[X]	1	1
Work Breakdown Tree (custom)	ivWorkBreakdowns		[X]	[X]	0	0

Export Log (1) Details

Date	User	Company	Report Name	Export?	Saved Report
(from) ▾ ▾ (to) ▾	Greg Adcock	IBS	ovTaskModels	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	

Figure Export Module

6.1.1 - Develop Saved Exports (From Export Module)

Developing exports is a simple process and can be done with custom filters. This instruction will review how to develop and share an export.

Step 1: Create New Export

Select NEW

Select EXPORT VIEW (TYPE)

Press NEXT

The following fields are required before saving is enabled: Export Type

Back Next Finish Exit

Figure: Export Edit Form – Select View

Step 2: Edit Export Content

Select EDIT LIST

Press SEARCH to load list of fields

Double-click fields to load (left to right)

OR

Left click (hold CNTRL down) and left click additional fields.

Press > icon to assign (left to right)

Press DONE

Assignment Tool

Fields Column Name

OEM - Stock/Vendor ID
Asset - Priority
Technical Specs
Asset - Parent Asset
Asset - RMS Functional Location
Asset - CMMS Material Code
Work Breakdown - Project (Summary)
Systemization - Process Plant ID

Column Name

Asset - Name/Tag
Asset - Discipline
Asset - Asset Type (Summary)
Asset - Description
Asset - Service
Asset - Status

Reset Search Done

Figure: Export Edit Form – Select Fields

Step 3: Rename Columns (if req.)

Enter ALIAS name for fields where the user wants changed.

Tool Tip:

ALIAS names will change the column name from the default name in SC to a user defined name.

Step 1 Start Step 2 Criteria Step 3 Location & Scheduling Step 4 Export

Select Export Type

Export Type Assets

Choose Fields to Export

Records (6)	#	Column Name	Database Column	Alias
Edit List	1	Asset - Name/Tag	Name	
	2	Asset - Discipline	Discipline	
	3	Asset - Asset Type (Summary)	AssetTypeSummary	Type
	4	Asset - Description	Description	
	5	Asset - Service	Service	
	6	Asset - Status	AssetStatus	Status

Back Next Finish Exit

Figure: Export Edit Form – Column Names

Step 4: Save Export

Enter NAME

Press FINISH

The screenshot shows the 'Step 4: Export' screen of the export wizard. At the top, tabs for 'Step 1 Start', 'Step 2 Criteria', 'Step 3 Location & Scheduling', and 'Step 4 Export' are visible. The 'Step 4 Export' tab is selected. Below it, the 'Set Location' section has 'File type' set to 'CSV (All file sizes)' and 'Export data to' set to 'Local Drive (Immediate)'. The 'Saved Export' section contains a 'Saved Export Name' field with the value 'Assets (Just 5 fields)'. A red box highlights this field, and a red arrow points to the 'Finish' button at the bottom right.

Figure: Export Edit Form – Export Name

Step 5: Share Export

To generate the on-demand (real time) export, select the RUN EXPORT XLS icon. The SAVED EXPORT XLS icon will load the original export when the export profile was originally created.

The screenshot shows the 'Access Saved Export' interface. It features a table with columns: 'Saved Export Name', 'Export View', 'FTP site', 'Saved Export', and 'Run Export'. There are two rows in the table. The first row is 'Assets (112-004 system only)' with 'ovAssets' in the 'Export View' and 'FTP site' columns. The second row is 'Assets (Just 5 fields)' with 'ovAssets' in the 'Export View' and 'FTP site' columns. The 'Run Export' column for the second row has a yellow background. A red arrow points from the 'Run Export' icon for the second row to a context menu. The context menu is open and includes options: 'Open link in new tab', 'Open link in new window', 'Open link in incognito window', 'Save link as...', 'Copy link address' (which is circled in red), 'Open image in new tab', 'Save image as...', 'Copy image', 'Copy image address', 'Search Google for image', 'Inspect', and 'Ctrl+Shift+I'.

Figure: Access Saved Export

Tool Tip:

The XLS file can be shared with both users and non-users. Send them the link address by right clicking on the RUN REPORT icon and select COPY LINK ADDRESS. Paste URL into an email.

6.1.2 - Develop an Export for FTP Server

In the case a project wants a periodic export placed on a client FTP server, the export can be configured to deliver the file at a scheduled frequency. To develop a FTP enabled XLS file, the instructions remain THE same as previous section, with the exception of Step 4 (Location and Scheduling).

Step 4:

Select FTP radio button
 Enter in FTP SITE
 Enter in FTP FOLDER
 Enter in FTP PORT
 Enter in FTP USERNAME
 Enter in FTP PASSWORD

Select RECURRENCE

Press FINISH

Figure: Export Edit Form – FTP Export Setup

Tool Tip:

SC replicated the general concepts from MS outlook scheduling features. A user can define the start/end date AND times they wish the export to be processed.

We recommend generating exports during off-peak hours.

Figure: Export Edit Form – Frequency Configuration

SECTION 7

Test Form Templates

The following sections are template headers, title-blocks and sign-offs for paper-based forms.

7.1 – General Header with QR Code

«Image:image1» «Image:image2»

«DocumentTypeName»

«DocumentDescription»

«DocumentName»

7.2 – General Sign-off Box

COMMENTS, OBSERVATIONS & ATTACHMENTS (NO PUNCHLIST ITEMS TO BE INCLUDED HERE)					
COMPLETED					
I hereby confirm the work has been completed in accordance with Contract specified drawings, specifications & standards.					
PERFORMED BY CONTRACTOR:		REVIEW BY SUPERVISOR/LEAD ENGINEER:		ACCEPTED BY:	
Signature:		Signature:		Signature:	
Name:		Name:		Name:	
License No:		Title:		Title:	
Date:		Date:		Date:	

7.3 – General Asset Titleblock

Project No:	«WorkBreakdownUp3Identifier»	Project:	«WorkBreakdownUp3Name»
Phase	«WorkBreakdownUp2Name»	Stage:	«WorkBreakdownUp1Name»
Job Card	«JobName»	Task No.	«TaskName»
Area:	«PhysicalLocationUp2Summary»	Location/Facility:	«PhysicalLocation»/«PhysicalLocationUp1Summary»
System Ref.	«ProcessBreakdownUp1Identifier»	System Description:	«ProcessBreakdownUp1Name»
Sub-system Ref.	«ProcessBreakdownIdentifier»	Sub-system Description:	«ProcessBreakdownName»

Tag No.	«Name»	Description:	«Description»
Drawing No.	«DocumentList»		
Comments	«Comments»		

7.4 – Mechanical Asset Titleblock

Project No:	«WorkBreakdownUp3Identifier»	Project:	«WorkBreakdownUp3Name»
Phase	«WorkBreakdownUp2Name»	Stage:	«WorkBreakdownUp1Name»
Job Card	«JobName»	Task No.	«TaskName»
Area:	«PhysicalLocationUp2Summary»	Location/Facility:	«PhysicalLocation»/«PhysicalLocationUp1Summary»
System Ref.	«ProcessBreakdownUp1Identifier»	System Description:	«ProcessBreakdownUp1Name»
Sub-system Ref.	«ProcessBreakdownIdentifier»	Sub-system Description:	«ProcessBreakdownName»
Tag No.	«Name»	Description:	«Description»
Manufacturer / PO:	«ManufacturerName» / «PurchaseOrder»	Model / Serial No:	«OEMModelNumber»/«SerialNumber»
Design / Op. Load:	«MechanicalDesignLoad» / «MechanicalOperatingLoad»	Dimensions / Material:	«MechanicalDimensions» / «MechanicalMaterial»
Drawing No.	«DocumentList»		
Comments	«Comments»		

7.5 – Electrical Asset Titleblock

Project No:	«WorkBreakdownUp3Identifier»	Project:	«WorkBreakdownUp3Name»
Phase	«WorkBreakdownUp2Name»	Stage:	«WorkBreakdownUp1Name»
Job Card	«JobName»	Task No.	«TaskName»
Area:	«PhysicalLocationUp2Summary»	Location/Facility:	«PhysicalLocation»/«PhysicalLocationUp1Summary»
System Ref.	«ProcessBreakdownUp1Identifier»	System Description:	«ProcessBreakdownUp1Name»
Sub-system Ref.	«ProcessBreakdownIdentifier»	Sub-system Description:	«ProcessBreakdownName»
Tag No.	«Name»	Description:	«Description»
Manufacturer / PO:	«ManufacturerName» / «PurchaseOrder»	Model / Serial No:	«OEMModelNumber»/«SerialNumber»
E-Rm /MCC/ Cubical	«ElectricalSourceElectricalRoom» / «ElectricalSourceMCCNumber» / «ElectricalSourceMCCCubical»	Voltage / Amps / kW:	«Electrical Voltage» / «ElectricalAmps» / «ElectricalKiloWatts»
Drawing No.	«DocumentwRevList»		
Comments	«Comments»		

7.6 – Cable Titleblock

Project No:	«WorkBreakdownUp3Identifier»	Project:	«WorkBreakdownUp3Name»
Phase	«WorkBreakdownUp2Name»	Stage:	«WorkBreakdownUp1Name»
Job Card	«JobName»	Task No:	«TaskName»
Area:	«PhysicalLocationUp2Summary»	Location/Facility:	«PhysicalLocation»/«PhysicalLocationUp1Summary»
System Ref.	«ProcessBreakdownUp1Identifier»	System Description:	«ProcessBreakdownUp1Name»
Sub-system Ref.	«ProcessBreakdownIdentifier»	Sub-system Description:	«ProcessBreakdownName»
Cable Tag No.	«Name»	Description:	«Description»
Cable Type:	«CableType»	Cable Tray:	«CableTrayNum»
Voltage / Source / Insulation:	«CableVoltage» / «CablePowerSource» / «CableInsulationResistance»	Cable Length / Size:	«CableLength» / «CableSize»
From:	«CableFrom»	To:	«CableTo»
Drawing No.	«DocumentList»		
Comments	«Comments»		

7.7 – Piping Asset Titleblock

Project No:	«WorkBreakdownUp3Identifier»	Project:	«WorkBreakdownUp3Name»
Phase	«WorkBreakdownUp2Name»	Stage:	«WorkBreakdownUp1Name»
Job Card	«JobName»	Task No.	«TaskName»
Area:	«PhysicalLocationUp2Summary»	Location/Facility:	«PhysicalLocation»/«PhysicalLocationUp1Summary»
System Ref.	«ProcessBreakdownUp1Identifier»	System Description:	«ProcessBreakdownUp1Name»
Sub-system Ref.	«ProcessBreakdownIdentifier»	Sub-system Description:	«ProcessBreakdownName»
Tag No.	«Name»	Description:	«Description»
Hydrostatic (Press)	«PipingHydrostaticTestPressure»	Des. & Op. (Press)	«PipingDesignPressure» / «PipingOperatingPressure»
To / From:	«PipingFrom» / «PipingTo»	Des. & Op. (Temp)	«PipingDesignTemp» / «PipingOperatingTemp»
Insulation / Lined:	«PipingInsulationType» / «PipingIsLined»	Fluid / Pipe Material	«PipingProcessFluid» / «PipingMaterial»
Drawing No.	«DocumentList»		
Comments	«Comments»		
System Medium:	Potable Water / Other Water / Air / Chemical / Oil / Other :		

7.8 – Instrument Asset Titleblock

Project No:	«WorkBreakdownUp3Identifier»	Project:	«WorkBreakdownUp3Name»
Phase	«WorkBreakdownUp2Name»	Stage:	«WorkBreakdownUp1Name»
Job Card	«JobName»	Task No.	«TaskName»
Area:	«PhysicalLocationUp2Summary»	Location/Facility:	«PhysicalLocation»/«PhysicalLocationUp1Summary»
System Ref.	«ProcessBreakdownUp1Identifier»	System Description:	«ProcessBreakdownUp1Name»
Sub-system Ref.	«ProcessBreakdownIdentifier»	Sub-system Description:	«ProcessBreakdownName»
Tag No.	«Name»	Description:	«Description»

Manufacturer / PO:	«ManufacturerName» / «PurchaseOrder»	Model / Serial No:	«OEMModelNumber»/«SerialNumber»
Line No/Parent:	«InstrumentLineNum» / «InstrumentParent»	Range / Scale:	«InstrumentRange»/«InstrumentScale»
Power Supplied by:	«InstrumentPowerSuppliedBy»	Op. Press/ Op Temp.:	«InstrumentOperatingPressure»/«InstrumentOperatingTemp»
Drawing No.	«DocumentList»		
Comments	«Comments»		

7.9 – I/O Tag Titleblock

Project No:	«WorkBreakdownUp3Name»	Project:	«WorkBreakdownUp3Name»
Phase	«WorkBreakdownUp2Name»	Stage:	«WorkBreakdownUp1Name»
Job Card	«JobName»	Task No.	«TaskName»
System Ref.	«ProcessBreakdownUp1Identifier»	System Description:	«ProcessBreakdownUp1Name»
Sub-system Ref.	«ProcessBreakdownIdentifier»	Sub-system Description:	«ProcessBreakdownName»
PLC Tag:	«Name»	Equipment Type:	«Description»
Address:	«PLCIOAddress»	Service Description:	«Service»
Drawings	«DocumentList»		

7.10 – Loop Titleblock

Project No:	«WorkBreakdownUp3Identifier»	Project:	«WorkBreakdownUp3Name»			
Phase	«WorkBreakdownUp2Name»	Stage:	«WorkBreakdownUp1Name»			
Job Card	«JobName»	Task No.	«TaskName»			
Area:	«PhysicalLocationUp2Summary»	Location/Facility:	«PhysicalLocation»/«PhysicalLocationUp1Summary»			
System Ref.	«ProcessBreakdownUp1Identifier»	System Description:	«ProcessBreakdownUp1Name»			
Sub-system Ref.	«ProcessBreakdownIdentifier»	Sub-system Description:	«ProcessBreakdownName»			
Loop No.	«InstrumentLoopSummary»					
Process Variable:	«ProcessVariable»	Description:	«ProcessVariableDescription»			
Line No/Parent:	«InstrumentLineNum» / «InstrumentParent»	Range / Scale:	«InstrumentRange»/«InstrumentScale»			
Drawing No.	«LoopDocuments»					
Comments	«LoopComments»					
LOOP COMPONENTS						
«LoopDevices»						

7.11 – Vendor Pack Titleblock

Project No:	«WorkBreakdownUp3Identifier»	Project:	«WorkBreakdownUp3Name»
Phase	«WorkBreakdownUp2Name»	Stage:	«WorkBreakdownUp1Name»
Job Card	«JobName»	Task No.	«TaskName»
Area:	«PhysicalLocationUp2Summary»	Location/Facility:	«PhysicalLocation»/«PhysicalLocationUp1Summary»
System Ref.	«ProcessBreakdownUp1Identifier»	System Description:	«ProcessBreakdownUp1Name»

Sub-system Ref.	«ProcessBreakdownIdentifier»	Sub-system Description:	«ProcessBreakdownName»
Vendor Pack Tag:	«AssetPackName»	Description:	«AssetPackDescription»
Drawing No.	«DocumentList»		
Comments	«AssetPackComments»		

7.12 – Pipe Pack Titleblock

Project No:	«WorkBreakdownUp3Identifier»	Project:	«WorkBreakdownUp3Name»
Phase	«WorkBreakdownUp2Name»	Stage:	«WorkBreakdownUp1Name»
Job Card	«JobName»	Task No.	«TaskName»
Area:	«PhysicalLocationUp2Summary»	Location/Facility:	«PhysicalLocation»/«PhysicalLocationUp1Summary»
System Ref.	«ProcessBreakdownUp1Identifier»	System Description:	«ProcessBreakdownUp1Name»
Sub-system Ref.	«ProcessBreakdownIdentifier»	Sub-system Description:	«ProcessBreakdownName»
Pipe Pack Tag:	«AssetPackName»	Description:	«AssetPackDescription»
Drawing No.	«DocumentList»		
Comments	«AssetPackComments»		

LINE LIST

Line Number	From	To	Size	Class	Product
«LineName001»	«LineFrom001»	«LineTo001»			«LineProcessFluid001»
«LineName002»	«LineFrom002»	«LineTo002»			«LineProcessFluid002»
«LineName003»	«LineFrom003»	«LineTo003»			«LineProcessFluid003»
«LineName004»	«LineFrom004»	«LineTo004»			«LineProcessFluid004»
«LineName005»	«LineFrom005»	«LineTo005»			«LineProcessFluid005»
«LineName006»	«LineFrom006»	«LineTo006»			«LineProcessFluid006»
«LineName007»	«LineFrom007»	«LineTo006»			«LineProcessFluid007»
«LineName008»	«LineFrom008»	«LineTo008»			«LineProcessFluid008»
«LineName009»	«LineFrom009»	«LineTo009»			«LineProcessFluid009»
«LineName010»	«LineFrom010»	«LineTo010»			«LineProcessFluid010»
«LineName011»	«LineFrom011»	«LineTo011»			«LineProcessFluid011»
«LineName012»	«LineFrom012»	«LineTo012»			«LineProcessFluid012»
«LineName013»	«LineFrom013»	«LineTo013»			«LineProcessFluid012»
«LineName014»	«LineFrom014»	«LineTo014»			«LineProcessFluid014»
«LineName015»	«LineFrom015»	«LineTo015»			«LineProcessFluid015»
«LineName016»	«LineFrom016»	«LineTo016»			«LineProcessFluid016»
«LineName017»	«LineFrom017»	«LineTo017»			«LineProcessFluid017»
«LineName018»	«LineFrom018»	«LineTo018»			«LineProcessFluid018»
«LineName019»	«LineFrom019»	«LineTo019»			«LineProcessFluid019»
«LineName020»	«LineFrom020»	«LineTo020»			«LineProcessFluid020»

7.13 – Cable Pack Titleblock

Project No:	«WorkBreakdownUp3Identifier»	Project:	«WorkBreakdownUp3Name»
Phase	«WorkBreakdownUp2Name»	Stage:	«WorkBreakdownUp1Name»
Job Card	«JobName»	Task No.	«TaskName»
Area:	«PhysicalLocationUp2Summary»	Location/Facility:	«PhysicalLocation»/«PhysicalLocationUp1Summary»
System Ref.	«ProcessBreakdownUp1Identifier»	System Description:	«ProcessBreakdownUp1Name»
Sub-system Ref.	«ProcessBreakdownIdentifier»	Sub-system Description:	«ProcessBreakdownName»
Cable Pack	«AssetPackName»	Description:	«AssetPackDescription»
Drawing No.	«DocumentList»		
Comments	«AssetPackComments»		
Cable Number «CableList»	From «CableFromList»	To «CableToList»	Cable Length «CableLengthList»

7.14 – Certificate

Project No:	«WorkBreakdownUp3Identifier»	Project:	«WorkBreakdownUp3Name»
Phase	«WorkBreakdownUp2Name»	Stage:	«WorkBreakdownUp1Name»
Area:	«PhysicalLocationUp2Summary»	Location/Facility:	«PhysicalLocationUp1Identifier» - «PhysicalLocationUp1Name» «PhysicalLocationName»
System Ref.	«ProcessBreakdownUp1Identifier»	System Description:	«ProcessBreakdownUp1Name»
Sub-system Ref.	«ProcessBreakdownIdentifier»	Sub-system Description:	«ProcessBreakdownName»
Exceptions:			Outstanding Cat 1 PL items: «PLPendingCat1» Outstanding Cat 2 PL items: «PLPendingCat2» Outstanding Cat 3 PL items: «PLPendingCat3» Outstanding Cat 4 PL items: «PLPendingCat4»

7.15 – Punchlist Mail Merge Form Template

«Image:image1»

Punch Resolution Card
Punch Item # «PunchlistItem»

«Image:QRCode»

Punch #	Category	Punch Origin	Punch Type

Exhibits

«PunchlistItem»	«PunchlistCategory»	«PunchlistType»	«JobCategory»
Created Date	Created By	Clear By Date	Punch Discipline
«OriginatedDate»	«OriginatorResource»	«DueDate»	«PunchlistDisciplineSummary»

Plant	«ProcessBreakdownUp3Summary»
Process Area	«ProcessBreakdownUp2Summary»
System	«ProcessBreakdownUp1Summary»
Sub-System	«ProcessBreakdown»

Associated Task #	Associated Equipment/Tag	Responsible Company
«TaskName»	«AssetTag»	«ResponsibleCompanyName»
Punch Description	«PunchlistDescription»	
Action Required	«ActionRequired»	
Punch Comment	«PunchlistComment»	

Action Taken	«ActionTaken»
Closing Comment	«ClosingComment»

	Completed By	Verified By	Closed By
Company	«ResponsibleCompanyName»		
Name (Print)	«CompletedByResource»	«VerifiedByResource»	
Signature			
Date	«CompletedDate»	«VerifiedDate»	

SECTION 8

Exhibits