

# SPI V7 – SPI V2009 Work Flow Feature

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1. The SPI Workflow is the communication part between the Process Group (SPI process data module) and the Engineering group (SPI specification module). This feature only applies to SPI instrument tags.
2. The function must be turned ON by the system administrator if the domain is an Engineering Company domain or by the system or domain administrator if the domain is an Owner Operator Domain.
3. There are 2 options for this feature (Full and Without Document Binder).
4. It will require the creation of 2 SPI groups, one for Process and the other for Engineering. This means separate SPI access rights as well.

## SPI Domain Type = Engineering Company

The screenshot shows the 'System Administration' application window with the 'Domain Definition' dialog box open. The dialog box is divided into three main sections: 'Domain', 'Domain type', and 'Workflow'.  
- The 'Domain' section contains four text input fields: 'Domain:' (containing 'OSI\_SEED'), 'Number:', 'Description:', and 'Administrator:'.  
- The 'Domain type' section contains two radio buttons: 'Engineering company' (selected) and 'Owner operator'. Below these are two checkboxes: 'Exclusive claim mode' and 'Merge without deleting from project'. At the bottom of this section is a 'Domain usage:' dropdown menu set to 'None'.  
- The 'Workflow' section contains two dropdown menus. The first is 'Instrumentation and process data:' with a list showing 'Full' (selected), 'Without Document Binder', and 'None'. The second is 'Custom title block assignment method:' with a list showing 'Special (used in Specifications module c...'.  
The application window has a menu bar with 'File', 'Options', 'Activities', 'Reports', 'Tools', 'Add-Ins', 'DBA', 'SmartPlant', 'Window', and 'Help'. A toolbar with icons for home, edit, save, print, and help is located below the menu bar.

## SPI Domain Type = Owner Operator

The screenshot shows the 'Domain Administration - OSI\_SEED' application window. The 'Project Activities' dialog box is open, displaying the following fields and controls:

- Project:** A dropdown menu with 'As-Built' selected.
- Description:** An empty text input field.
- Project Administrator:** A dropdown menu with 'DBA' selected.
- Plant:** A dropdown menu with 'All Plants' selected.
- Instrumentation/process data workflow:** A dropdown menu with 'Full' selected.
- Do not propagate wire tag names
- Project usage:** A dropdown menu.
- SmartPlant Project status:** A dropdown menu with 'Active' selected.
- Notes:** A large empty text area.
- Action:** An empty text input field.

On the right side of the dialog, there is a vertical column of buttons: Apply, Close, Edit, New, Delete, Reserve..., Scope..., Merge..., Publish..., Colors..., Logo..., Import..., and Help.

## SPI Access Rights Domain Level for Engineering Group

Domain Administration - OSI\_SEED - [Access Rights]

File Options Activities Reports Tools Add-Ins DBA SmartPlant Window Help

Grant maximum access rights

Group list:	Item or activity:	Mode
Administrator	Administration Reports	Access Denied
Designers	Assign Groups to Projects	Access Denied
Engineers	Assign Users to Groups	Access Denied
Domain Level	Browser Module Access	Full (Add / Delete / Update)
Plant Level	Claim Entities for Project	Access Denied
Unit Level	Clear Locking	Access Denied
Process	Construction Supporting Tables	View Only
View	Custom Field Definition	View Only
	Define User Groups	Access Denied
	DeltaV Data	View Only
	Domain Definition Notes	Access Denied
	Drawing Block Management	View Only
	Field Personnel	Access Denied
	Form Data Templates	Full (Add / Delete / Update)
	Import Utility Access	View Only
	Instal. Index Manager	Full (Add / Delete / Update)
	Instr. Index Supporting Tables	Full (Add / Delete / Update)
	Logo Definition	Access Denied
	Macro Definitions	Full (Add / Delete / Update)
	Naming Convention Definition	Access Denied
	Plant Hierarchy Management	Full (Add / Delete / Update)
	Plant Owner Definition	Access Denied
	Process Data Supporting Tables	View Only
	Project Definition	Access Denied
	Reference Cable Management	View Only
	Reference Panel Management	View Only
	SAP Interface Access	View Only
	Segment-Wide Parameters	View Only
	SmartPlant Registration	View Only
	Specification Form Access	View Only
	Tag Category Definition	Full (Add / Delete / Update)
	Units of Measure Definition	View Only
	Update Statistics (Oracle)	Access Denied
	Wiring Supporting Tables	View Only

Grant Access Rights

Start WORK\_FLOW.doc [Com... Domain Administratio... 2:54 PM

## SPI Access Rights Plant Level for Engineering Group

The screenshot shows the 'Domain Administration - OSI\_SEED - [Access Rights]' window. The 'Group list' tree on the left is expanded to show the 'Engineering' group under the 'Plant Level'. The 'Item or activity' table on the right lists various system functions and their access modes for this group.

Name	Mode
Browser Manager Filter	Full (Add / Delete / Update)
Browser Manager Sort	Full (Add / Delete / Update)
Browser Manager Style	Full (Add / Delete / Update)
Browser Manager Style Headers	Full (Add / Delete / Update)
Cable Routing and Drums	View Only
Cable Routing Options Command	View Only
Connection Type	View Only
Construction Revision - Cables	View Only
Construction Revision - Instr.	View Only
Construction Revision - Panels	View Only
Construction Revision - Wires	View Only
Control System Tag Operations	View Only
DDP Module Supporting Tables	View Only
Document Binder Module Access	Full (Add / Delete / Update)
Enhanced Report Chg. (Layout)	View Only
Enhanced Report Chg. (Report)	View Only
Equipment Supporting Table	Full (Add / Delete / Update)
Fieldbus Segments	View Only
Hook-Up Definition	View Only
Hook-Up Item Managemen	View Only
Intrinsic Safety Definition	Full (Add / Delete / Update)
Line Definition	Full (Add / Delete / Update)
Maintenance Supporting Tables	View Only
P&ID Supporting Table	Full (Add / Delete / Update)
Plant Cable Management	View Only
Plant Panel Management	View Only
Publish	View Only
Retrieve	View Only
SP Electrical Interface	View Only
Telecom Panel Management	View Only
Telecom Supporting Tables	View Only
To Do List	View Only
Wire Group	View Only
Wiring Connections	View Only

At the bottom of the window, there is a 'Save access rights definition' button and a taskbar showing the Start button, Instrumentation application, Domain Administration application, SmartPlant Instrumentation application, and a Microsoft Office document.

## SPI Access Rights Unit Level for Engineering Group

The screenshot shows the 'Domain Administration - OSI\_SEED - [Access Rights]' window. The 'Group list' on the left is expanded to show the 'Unit Level' for the 'P1/A1/U1' group. The 'Item or activity' table lists various system functions and their corresponding access modes. The 'Dimensional Data Module Access' item is highlighted with a blue selection bar.

Name	Mode
Browser Buffer Use	Full (Add / Delete / Update)
Browser User Name, Change Date	Full (Add / Delete / Update)
Calculation Activities	Full (Add / Delete / Update)
Calculation Module Access	Full (Add / Delete / Update)
Calib. & Maint. Event Supervis	View Only
Calib. Options & Maint. Events	View Only
Calibration History Editing	View Only
Calibration Result Modific.	View Only
Construction Module Access	View Only
Dimensional Data Module Access	Full (Add / Delete / Update)
Global Revision Management	Full (Add / Delete / Update)
Hook-Ups Module Access	View Only
Instrument Index Module Access	Full (Add / Delete / Update)
Instrumentation Workflow Flag	Full (Add / Delete / Update)
Loop Definition	Full (Add / Delete / Update)
Loop Drawings Module Access	View Only
Loop-External Macro Source	View Only
Maintenance Module Access	View Only
Management of Local Revisions	Full (Add / Delete / Update)
Prevent. Maint. - Supervisor	View Only
Prevent. Maint. - Technician	View Only
Process Data Change in Specs	View Only
Process Data Definition	View Only
Process Data Module Access	View Only
Process Data Workflow Flag	View Only
Repair - Supervisor	View Only
Repair - Technician	View Only
Revision Deletion	Full (Add / Delete / Update)
Specification Definition	Full (Add / Delete / Update)
Specifications Module Access	Full (Add / Delete / Update)
Tag Definition	Full (Add / Delete / Update)
Wiring Module Access	View Only
Work Request - Supervisor	View Only
Work Request - Technician	View Only

At the bottom of the window, there is a 'Save access rights definition' button and a taskbar showing the Start button, 'Instrumentation' task, 'Domain Administratio...' task, 'SmartPlant Instrumentati...' task, and 'Document1 - Microsoft ...' task. The system clock shows 10:06 AM.

## SPI Access Rights Domain Level for Process Group

Domain Administration - OSI\_SEED - [Access Rights]

File Options Activities Reports Tools Add-Ins DBA SmartPlant Window Help

INTERGRAPH

Grant maximum access rights

Group list:	Item or activity:	Mode
Administrator	Administration Reports	Access Denied
Designers	Assign Groups to Projects	Access Denied
Engineers	Assign Users to Groups	Access Denied
Domain Level	Browser Module Access	Full (Add / Delete / Update)
Plant Level	Claim Entities for Project	Access Denied
DEFAULT	Clear Locking	Access Denied
P1	Construction Supporting Tables	View Only
Unit Level	Custom Field Definition	View Only
DEFAULT/DEFAULT/DEFAULT	Define User Groups	Access Denied
P1/A1/U1	DeltaV Data	View Only
Process	Domain Definition Notes	Access Denied
Domain Level	Drawing Block Management	View Only
Plant Level	Field Personnel	Access Denied
DEFAULT	Form Data Templates	View Only
P1	Import Utility Access	View Only
Unit Level	Instal. Index Manager	View Only
DEFAULT/DEFAULT/DEFAULT	Instr. Index Supporting Tables	View Only
P1/A1/U1	Logo Definition	Access Denied
View	Macro Definitions	View Only
	Naming Convention Definition	Access Denied
	Plant Hierarchy Management	Access Denied
	Plant Owner Definition	Access Denied
	Process Data Supporting Tables	Full (Add / Delete / Update)
	Project Definition	Access Denied
	Reference Cable Management	View Only
	Reference Panel Management	View Only
	SAP Interface Access	View Only
	Segment-Wide Parameters	View Only
	SmartPlant Registration	View Only
	Specification Form Access	View Only
	Tag Category Definition	View Only
	Units of Measure Definition	View Only
	Update Statistics (Oracle)	Access Denied
	Wiring Supporting Tables	View Only

Save access rights definition

Start Instrumentation Domain Administratio... SmartPlant Instrumentati... Document1 - Microsoft ... 10:07 AM



## SPI Access Rights Plant Level for Process Group

Domain Administration - OSI\_SEED - [Access Rights]

File Options Activities Reports Tools Add-Ins DBA SmartPlant Window Help

INTERGRAPH

Grant maximum access rights

Group list:	Item or activity:	
	Name	Mode
Administrator	Browser Manager Filter	Full (Add / Delete / Update)
Designers	Browser Manager Sort	Full (Add / Delete / Update)
Engineers	Browser Manager Style	Full (Add / Delete / Update)
Domain Level	Browser Manager Style Headers	Full (Add / Delete / Update)
Plant Level	Cable Routing and Drums	View Only
DEFAULT	Cable Routing Options Command	View Only
P1	Connection Type	View Only
Unit Level	Construction Revision - Cables	View Only
DEFAULT/DEFAULT/DEFAULT	Construction Revision - Instr.	View Only
P1/A1/U1	Construction Revision - Panels	View Only
Process	Construction Revision - Wires	View Only
Domain Level	Control System Tag Operations	View Only
Plant Level	DDP Module Supporting Tables	View Only
DEFAULT	Document Binder Module Access	View Only
P1	Enhanced Report Chg. (Layout)	View Only
Unit Level	Enhanced Report Chg. (Report)	View Only
DEFAULT/DEFAULT/DEFAULT	Equipment Supporting Table	View Only
P1/A1/U1	Fieldbus Segments	View Only
View	Hook-Up Definition	View Only
	Hook-Up Item Managemen	View Only
	Intrinsic Safety Definition	View Only
	Line Definition	Full (Add / Delete / Update)
	Maintenance Supporting Tables	View Only
	P&ID Supporting Table	View Only
	Plant Cable Management	View Only
	Plant Panel Management	View Only
	Publish	View Only
	Retrieve	View Only
	SP Electrical Interface	View Only
	Telecom Panel Management	View Only
	Telecom Supporting Tables	View Only
	To Do List	View Only
	Wire Group	View Only
	Wiring Connections	View Only

Save access rights definition

Start Instrumentation Domain Administratio... SmartPlant Instrumentati... Document1 - Microsoft ... 10:07 AM

## SPI Access Rights Unit Level for Process Group

Domain Administration - OSI\_SEED - [Access Rights]

File Options Activities Reports Tools Add-Ins DBA SmartPlant Window Help

INTERGRAPH

Grant maximum access rights

Group list: Administrator, Designers, Engineers, Domain Level, Plant Level, DEFAULT, P1, Unit Level, DEFAULT/DEFAULT/DEFAULT, P1/A1/U1, Process, Domain Level, Plant Level, DEFAULT, P1, Unit Level, DEFAULT/DEFAULT/DEFAULT, P1/A1/U1, View

Item or activity:

Name	Mode
Browser Buffer Use	Full (Add / Delete / Update)
Browser User Name, Change Date	Full (Add / Delete / Update)
Calculation Activities	Full (Add / Delete / Update)
Calculation Module Access	Full (Add / Delete / Update)
Calib. & Maint. Event Supervis	View Only
Calib. Options & Maint. Events	View Only
Calibration History Editing	View Only
Calibration Result Modific.	View Only
Construction Module Access	View Only
Dimensional Data Module Access	View Only
Global Revision Management	Full (Add / Delete / Update)
Hook-Ups Module Access	View Only
Instrument Index Module Access	View Only
Instrumentation Workflow Flag	View Only
Loop Definition	View Only
Loop Drawings Module Access	View Only
Loop-External Macro Source	View Only
Maintenance Module Access	View Only
Management of Local Revisions	Full (Add / Delete / Update)
Prevent. Maint. - Supervisor	View Only
Prevent. Maint. - Technician	View Only
Process Data Change in Specs	View Only
Process Data Definition	Full (Add / Delete / Update)
Process Data Module Access	Full (Add / Delete / Update)
Process Data Workflow Flag	Full (Add / Delete / Update)
Repair - Supervisor	View Only
Repair - Technician	View Only
Revision Deletion	Full (Add / Delete / Update)
Specification Definition	View Only
Specifications Module Access	View Only
Tag Definition	View Only
Wiring Module Access	View Only
Work Request - Supervisor	View Only
Work Request - Technician	View Only

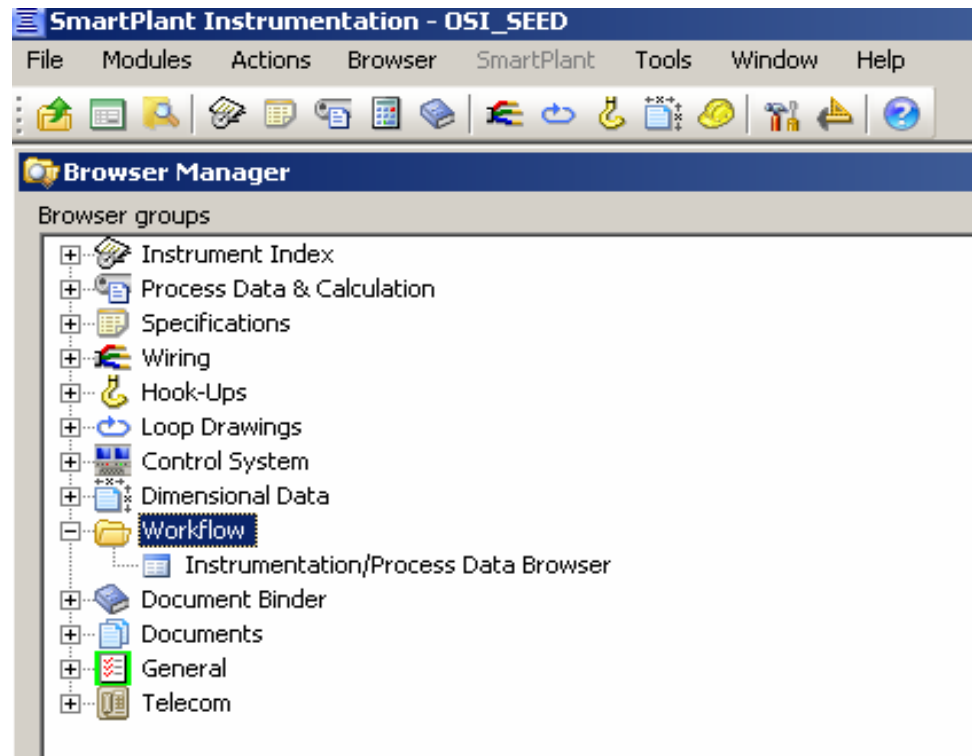
Save access rights definition

Start Instrumentation Domain Administratio... SmartPlant Instrumentati... Document1 - Microsoft ... 10:08 AM

Although the Workflow is turned ON, another access right must be set to eliminate Process data from being modified in the instrument tag spec (Unit Level)

Process Data Change in Specs	View Only
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When the Option is turned ON, SPI creates a new browser Group in the browser module. The browser is called Workflow.



In the workflow browser view, for each instrument tag, there will be 5 options to choose from:

Tag Number	Process Data Status	Instrument Type Desc
100-FE -1000	Process Data Required	Flow Element, Orifice Plate
100-FT -1000	Process Data not Required	Flow Transmitter, D/P
100-FV -1000	Process Data Required	Flow Valve, Control
100-FY -1000	Process Data Required	Flow I/P Converter

Lock out from Instrument
Release to Instrument
Lock out from Process

1. Process Data Not Required: (Available for Engineering Group to change)
  - This is the default setting for any instrument.
  - Instrument does not require any process data information.
  - Instrument spec can be created and issued (revision).
  
2. Process Data Required: (Available for Engineering and Process Group to change)
  - If the instrument type profile is set for Process Data Workflow required, then the instrument by default will have this flag.
  - Instrument does require process data information.
  - Instrument spec can be created and issued (revision).
  
3. Lock Out from Instrument: (Available for Process Group to change)
  - Instrument spec can not be issued (revision) while process data is not issued yet.
  
4. Release to Instrument: (Available for Process Group to change)
  - Process data is issued and the instrument is released to the spec to issue.
  
5. Lock Out from Process: (Available for Engineering Group to change)
  - Instrument is not available for process data modification after issued
  - Instrument spec can be issued (revision) and revised as well.

## SPI Instrument Type Profile Workflow Option

Miscellaneous

Skip loop creation

Process data workflow required

## SPI Workflow flags available to change by Engineering Group

Browser View - NMF		
Tag Number	Process Data Status	Instrument Type Desc
100-FE -1000	Process Data Required	Flow Element, Orifice Plate
100-FT -1000	Process Data not Required	Flow Transmitter, D/P
100-FV -1000	Process Data Required	Flow Valve, Control
100-FY -1000	Lock out from Process	Flow I/P Converter

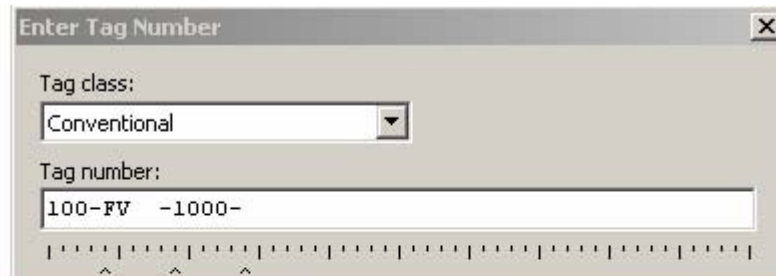
## SPI Workflow flags available to change by Process Group

Browser View - NMF		
Tag Number	Process Data Status	Instrument Type Desc
100-FE -1000	Process Data Required	Flow Element, Orifice Plate
100-FT -1000	Process Data Required	Flow Transmitter, D/P
100-FV -1000	Lock out from Instrument	Flow Valve, Control
100-FY -1000	Release to Instrument	Flow I/P Converter



Instrument is set to Process Data Not Required

1. Type in the tag number in process data tag window will result in the message below.
2. Using the search command, tag number will not appear.



Enter Tag Number

Tag class:  
Conventional

Tag number:  
100-FV -1000-

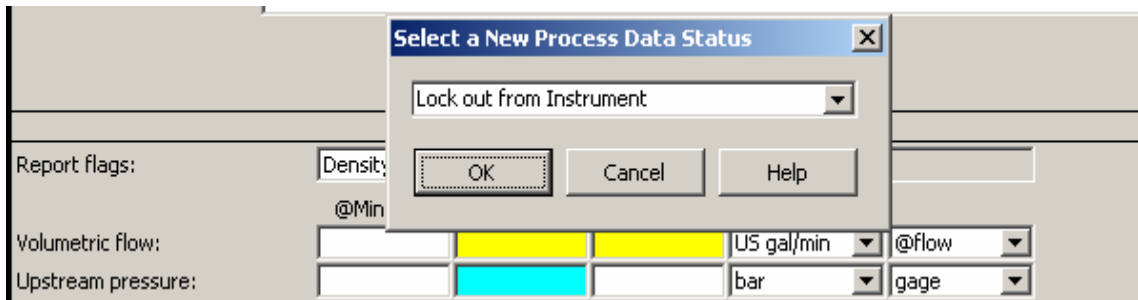
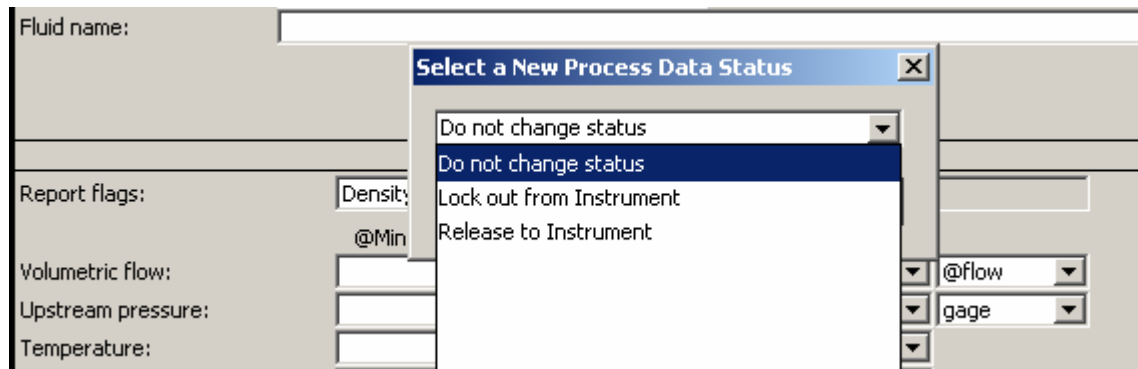


Search results

Tag Number	Service	Process Function	Process Data
100-FE -1000	WORKFLOW	Flow	No

Instrument is set to Process Data Required

1. Type in tag in number process data tag window will open process data sheet.
2. Process user MUST Save the changes to set the flag to Lock Out from Instrument OR user can change the flag from the Workflow browser.



## Instrument is set to Lock Out from Instrument

1. Instrument spec can be modified with the exception of process information.
2. Instrument spec can not be issued.

Instrument Specification - 100-FE -1000

Page 1 Notes

GENERAL	1	Tag Number	100-FE -1000			10	Project Name	OSI_SEED		
	2	Service	WORKFLOW			11	Plant Name	P1		
	3	Line Number	100-LINE-1000			12	Area Name	A1		
	4	P&ID Number	100-PID-100			13	Unit Name	U1		
	5	Line Size	Line I.D.			14	Work Breakdown Structure	1234		
	6	Line Schedule				15	Amb. Temp. Min. to Max.		to	
	7	Line Material	MATERIAL NOT LISTED			16	Control Num	1234		
	8	Equipment Number				17	Project Num	4321		
	9					18	Module	1		
PROCESS	19	Fluid	State				Liquid			
	20	Flow Min.	Normal	Max.	UOM	100	200	300	US gal/min @flow	
	21	Pressure Max.	Oper.			300	psi-g	200	psi-g	
	22	Temperature Max.	Oper.			300	°F	200	°F	
	23	Spec. Gravity at Base	Oper.							
	24	Super Compressibility Factor	Viscosity Oper.						cP	
	25	Max. Delta P	Compressibility Factor				bar			
	26	Molecular Weight	Molecular Mass							
	27	Quality	Superheat							
28	Base Pressure	Base Temperature	14.7			psi	60	°F		

Revisions

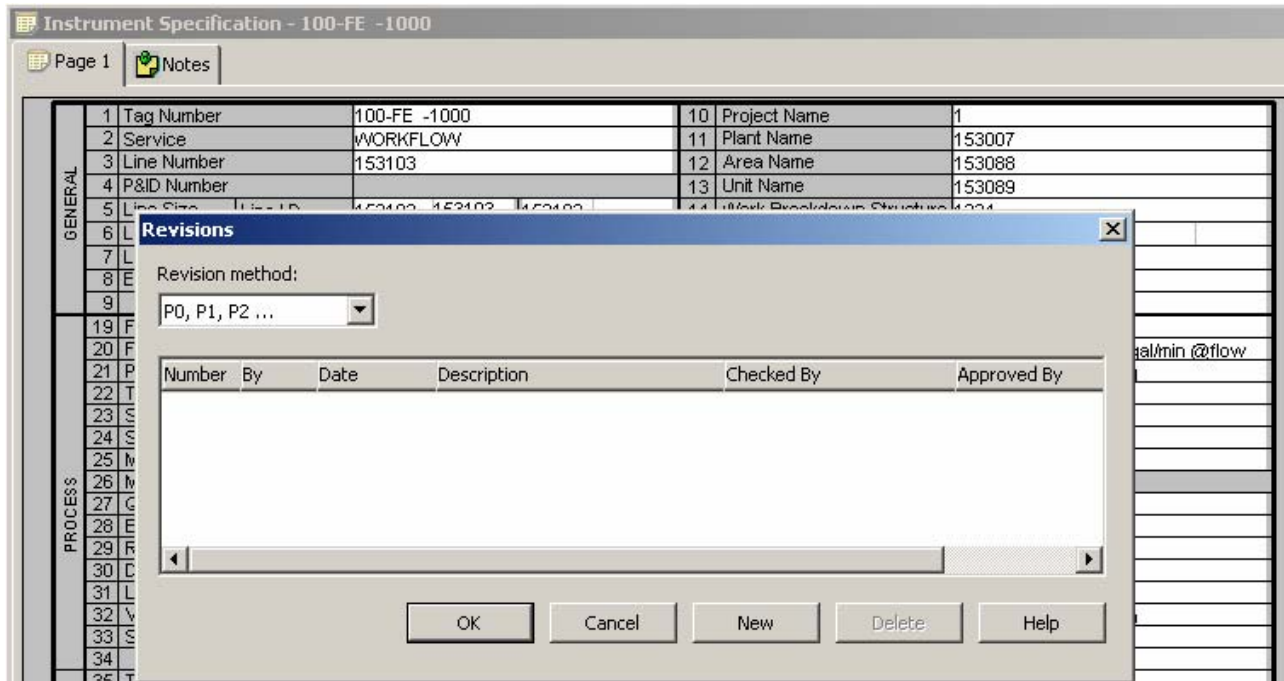
Revision method:

Number	By	Date	Description	Checked By	Approved By

OK Cancel New Delete Help

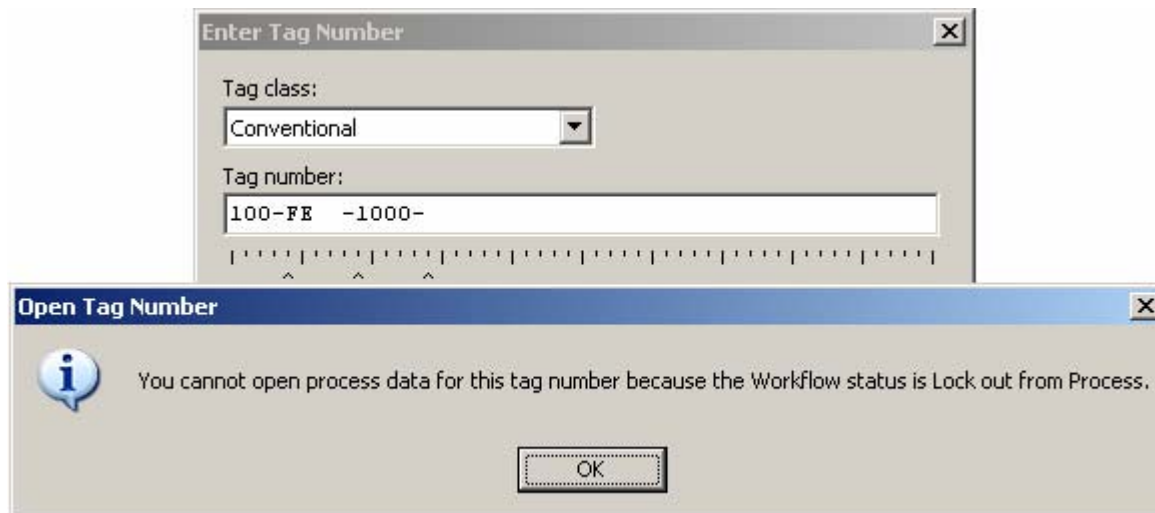
Instrument is set to Release to Instrument

1. Instrument spec can be modified with the exception of process information.
2. Instrument spec can be issued.
3. To protect the instrument from process data modifications by the Process group, the Engineering group must change the flag to Lock Out from Process

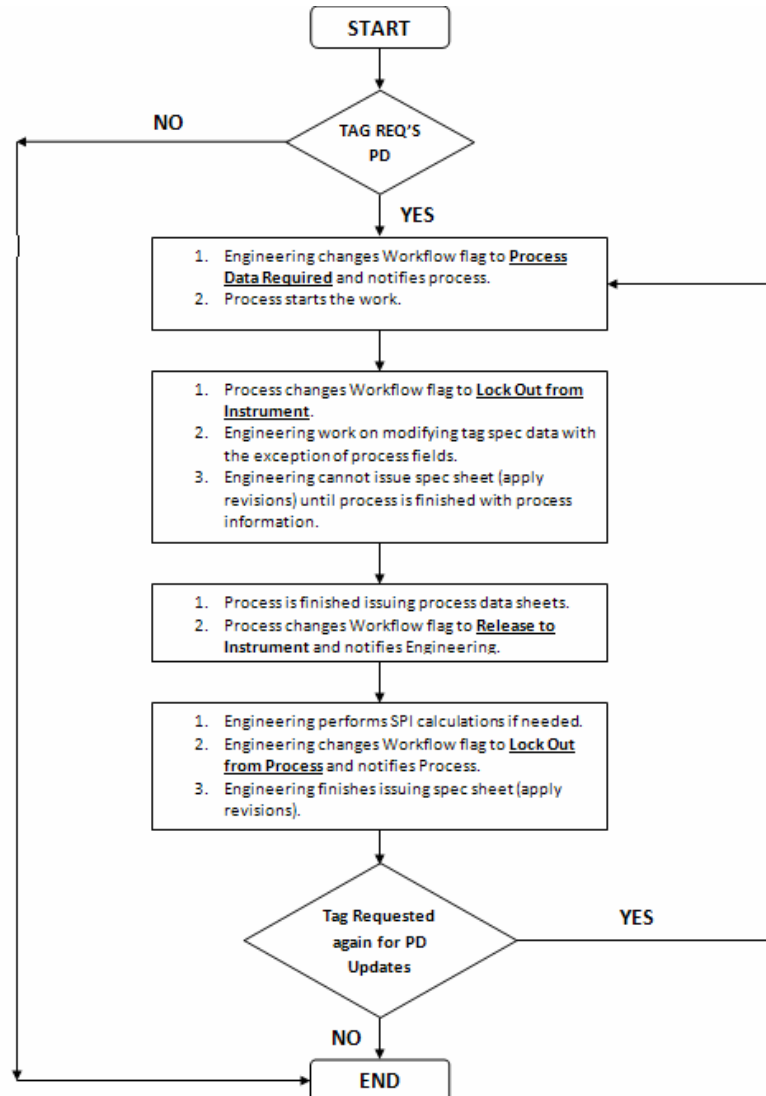


Instrument is set to Lock Out from Process

- 1.Process data can not be modified by the Process Group.
- 2.Instrument spec can be modified with the exception of process information.
- 3.Instrument spec can be issued.

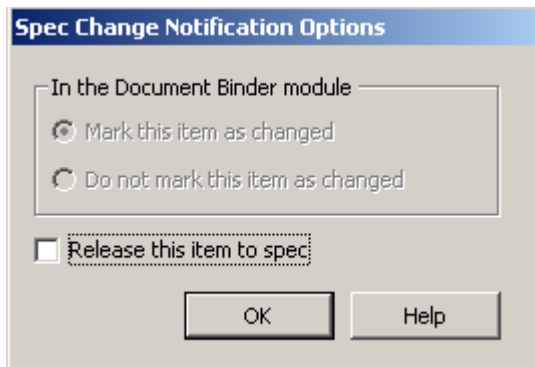


SPI Workflow



## Workflow and Document Binder

1. If an instrument spec is assigned to a spec document binder, SPI enables the “Release this item to Spec” check box when saving instrument spec.
2. If checked, it allows a formal revision issue to be applied to the document binder.
3. If unchecked, it does not allow a formal revision issue to be applied to the document binder until the check box is checked again or the flag is changed in the document binder



Spec Change Notification Options

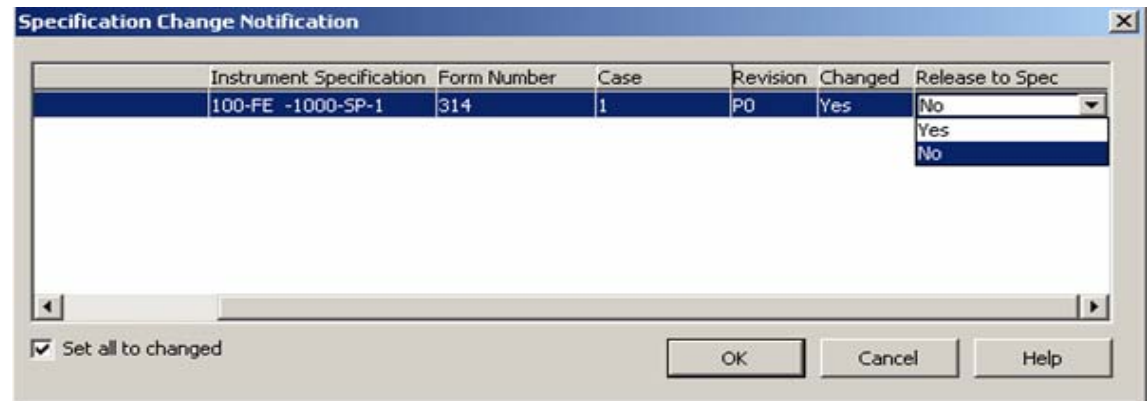
In the Document Binder module

Mark this item as changed

Do not mark this item as changed

Release this item to spec

OK Help



Specification Change Notification

Instrument Specification	Form Number	Case	Revision	Changed	Release to Spec
100-FE -1000-SP-1	314	1	P0	Yes	No

Set all to changed

OK Cancel Help

## **Notes:**

1. Workflow feature works with process data cases function.
2. Instrument tag calculation can be performed only if the Workflow flag is set to Process Data Required or Release to Instrument or Lock Out from Instrument.
3. If an instrument tag is set to Lock Out from Process, a process data report can not be generated from the process data module, it can be generated either from the domain explorer (tag – right click – reports – process data) or from the instrument index browser view (documents function).
4. Unfortunately, there is a BUG with the SPI regarding process data modification by the Engineering group (TR-PB52159). The Engineering group can not modify process data from instrument specs, process data module, calculation module, specification browser, and the general process data browser; however, the Engineering group can modify process data from the remaining process data browsers (Flow, Control Valve, etc).



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# Discussions and Questions