SmartPlant Instrumentation Technical User Forum P2C2 (Houston SPI TUF) Meeting

February 17, 2011 Jacobs Engineering Houston, TX

Attendees	38 Members in attendance 5 Online via Net Meeting	Copie	Copied To		F nbers	
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Called By John Dressel					John Dressel with notes by Betty Alexander	

Ite m	Topic	Notes	Action/ Due
1	Welcome	John Bolmanski of Jacobs Welcomed members of the Houston SmartPlant Instrumentation Local Technical Users Forum and gave a short Safety Moment	
2	Chairman's Notes	 John Dressel noted that the Owner Operator committee has done an excellent job and congratulated Jim Federlein on a great job of heading that committee. He pointed out that projects are becoming more integrated and work shared and many Owner Operators are now using SPI for maintenance and operations thus the primary topic for today's meeting. Upcoming Conferences: 2011 SPI LTUF Meetings tentative dates: May 12, 2011 – August 11, 2011 – November 10, 2011 SPI SPEL GTUF - June 5, 2011 World Center Marriott Resort, Orlando, Florida Intergraph 2011 - Jun. 6 – Jun. 9, 2011 World Center Marriott Resort, Orlando, Florida Emerson Global Users Exchange - Oct.24 - Oct. 28, 2011 Gaylord Opryland Resort & Convention Center, Nashville, TN 	
3	Minutes	Minutes of last meeting were approved approved	
4	Introduction	 Each member stood and introduced themselves and their job functions with SPI Welcomed several members who connected into meeting with NetMeeting. 	
5	Election of Officers	 John Dressel remained President Gene Haney remained Vice-President Betty Alexander was named Secretary 	
6	Presentation	 Status of SmartPlant Instrumentation - Alex Koifman, Intergraph Alex mentioned that the Houston LTUF was the biggest in all of Intergraph's meetings SPI 2009, SP2 was released and currently working on SP3 SPI 2009 - HF will be part of the setup – changing the mechanism of updates Upgrades available from vs. 7 to 2009 	

SP3 will be released in the summer SP4 (end of the year) functionality **Question and Answers for Status of Status of SmartPlant Instrumentation** What kind of functionality will be in SP4? Logic Diagram (documentation) Browser Wizard o Eliminate version dependency of Infomaker on various Modified process data Who are the current interface partners? Currently, Yokogawa, Emerson, Tyco Rockwell for Control System Integration SP2 – Can build Charms o Emerson Charm has bi-directional interface What is the status of the Integration of Smartplant Foundation? Challenging, re-vamp our interface Multiple lines in signal expansion P&ID make electrical signals o Macro expansion in symbols When doing an upgrade from 2007 to 2009, SPI asked for licenses on Dimensional data. Dimensional Data always needs a separate license What is the path forward on the character sets – AL32 for SPI? Issues with UOM; Single quote - Print comes out as double quote; bug in spec module; Hot fix will resolve Can offline instruments transfer data such as equipment number? SP3 will have custom navigation to populate SPI. Will have it as setting up independent tasks - External navigation Can SPI support Oracle Version 11.0? Infrastructure changes will support with next major release (end of 2012/2013) Retro-fitting earlier SPI for Windows 2007? No retro-fitting What versions of AutoCAD can SPI support for 2009? SP3 - Vs. 10 and 11 with 32 and 64 bit HF available if earlier HF of 2007 in AutoCAD 2010 - No plans Presentation 7 Owner / Operator Committee Report - Jim Federlein, ISA Now have: 30 members Representing 20 companies And continuing to grow Meetings held every 2 months via teleconference.

Meeting topics are suggested by Owner/Operator committee members. Members volunteer to make presentations to share their knowledge and experience on selected subjects. November 16, 2010 Management of alarm & trip point information in SPI -Frank Bielen of Bayer MaterialScience Storage of additional information in SPI beyond the instrument specification - Rick Graham of ExxonMobil January 18, 2011 Intergraph Tool (SPI, SPP&ID, SPE, etc.) Usage - Frank Bielen of Bayer MaterialScience SmartPlant Foundation - Eldar Semo of Intergraph Experiences with SmartPlant Foundation - Ron Jackson of Flour Data Dictionary - Greg Brueckner of Bayer Technology Services and Rick Graham of ExxonMobil Tuesday, March 15, 2011 from 9 – 11 AM CST via teleconference using Intergraph's facilities. Agenda: Interfacing SPI with a DCS – Experiences and Lessons Learned – Sally Fuidge of Chevron Cape Town Refinery. Development and use of custom drawing symbols - Greg Brueckner of Bayer Technology Services Committee discussions on proposed enhancements 8 Presentation Claming and Merging Wiring in the O/O Mode - Michele Boucher, CoSyn The advantages of using the method that I present is that it; 1- Removes the Designers from the claim buffer 2- It allows a Designer to specify what they think that they need.. then..for it to be checked by a wiring specialist and off to the administrator seamlessly. This has more value in the older versions of SPI since Merge and Claim can only be done offline. (For example, having to wait another business day for one missed terminal in the request). Although, provides value in quality checking for the data move request despite the version of SPI. 3- It gives the administrator a picture (which is worth a thousand words) of what data is to be moved without having to understand the technical decision making process of the request and without having to insinuate things. Each piece right down to the terminal and wire must be specified to the SPI Administrator Add the items into the 'My List' list i. Note that you can select multiple entities (children of one parent) at one time using the 'List Feature' to add the items to 'My List' ii. Note if you need every single entity (child) under a parent, you don't have to select each item one by one, you can expand the parent and it will display all children automatically.

- iii. Populate the My List in an orderly fashion or you will hear the 'wrath' from the administrator
- Cut and Paste the list to Excel
 - Pasting this request into excel allows you to have a file to send to the administrator and for record keeping purposes.
 - ii. Also, when using excel, you can point out to the administrator the sequence number of the item you request if there are duplicate names in the system. This is why it is not a good idea to allow users to name wiring entities under a parent with the same name. Eg. GND, GND,GND...
- Preparing A Claim Request For An Existing Wired Loop With General Signals and Jumpers In It
 - i. When modifying an existing loop (claiming a wired loop), the 'my list' is populated somewhat differently. Add the loop, and the tags to My List. Sometimes, you do not need all of the tags in a loop, therefore this must be specified. In addition, the general signals and all of the terminals jumpered together on the loop are to be specified separately. This is where excel comes in handy for comments. For example;
 - ii. For the claim request on the previous slide (pg 7) and using the example on the first slide (pg 3), if the power on TS3 was jumpered (e.g. shared by other IO to that card, each terminal that the power was jumpered to would also have to be selected in this claim request to show the whole picture in the engineering project on that loop drawing.
 - iii. If there are other tags wired to the other side of those jumpered terminals, you need to specify to the administrator that you do not want that wiring on the other side of the terminals to be claimed (e.g. return it, or de-select upon claim).
 - iv. Goal: Add a new signal XS200 to terminals 3 & 4 and show on my loop in my engineering project terminals 1-5-11 (the complete power system).
 - v. The claim request shall include:
 - vi. General signal cable and connection information at each end.
 - vii. Return of the wire XS100 C1 on terminal 3 which will leave XS100 as a dummy in the project.
- As we all know, the less 'dummies' in the world the better, although, sometimes, this is unavoidable.

SmartPlant Foundation Issues - Ron Jackson, Fluor Presentation **Key Topics** SP3D Experiences o Integration Experiences o SPI Integration o SP3D Integration **SP3D Development** Object Ownership Transfer Pipe Runs (w/ nested objects) Transfer of ownership not always complete for all 'nested' objects Different behavior depending on method to access properties dialogue ('right-mouse-click' Menu versus Edit drop-down) Project recovery via consolidation of all piping object ownerships back to HOST and then re-transfer to site. **UN-DELETABLE** (corrupted) Objects Resolved – (for now)... still not sure what caused it. Clash Items showing up in To-do list "Error Deleteing...."Open SR# 1-120098044 **Drawing Update Process** o 5~30 min's per dwg to update depending on time of day Batch server not viable due to 'instability'

o Broken 'linkages' between dwgs and volumes

dimensions and annotation behavior

Instrument data sheet dependency on SPF for revisions

o Growing concerns by project leaders over automated

o Up to 2 hours to generate SPR session for CCA unit

o Client / project document revisions based on major / minor

Custom revision scheme created just for processing of SPI

Some data sheet forms did not work with SPF correctly.

To-do list management requires specific knowledge - not easy to

We DO NOT allow any instrument tags to be created via the To-do

Incorrect name rule applied (not registered to correct

"Create" tasks in SPI To-do list that would create duplicate

Naming properties applied to incorrect object class in SPPID

Method of making edits in SP P&ID impacted SPI To- do list

Object relationships based on OID resulting in "orphaned"

o Delete to stockpile versus database delete for instrument

Forms received from client / previous project data set required re-creation from scratch. This cause rework for the affected instruments to rebuild the

SPI does not recognize "minor" revision value in data sheet

○ NEED THIS OPTION!

method

title block

SPI Integration

list tasks.

Inconsistent tag naming

instrument tags in SPI

entries

objects

ItemTag.dll??)

data sheets.

Generally- Extreme slowness with SP3D

data sheets.

Legacy ItemTag.dll versus naming utility
 'plug & play' of designers from a core pool

- relationships with correlated item in other tools.
- Re-establishing 'same-as' relationship requires manual editing of SPI's database tables containing the affected object OIDs.
- "Create" tasks in SPI To-do list that would create duplicate instrument tags in SPI
 - Method of making edits in SP P&ID impacted SPI To- do list entries
 - Delete to stockpile versus database delete for instrument objects
 - Object relationships based on OID resulting in "orphaned" relationships with correlated item in other tools.
 - Re-establishing 'same-as' relationship requires manual editing of SPI's database tables containing the affected object OIDs.
- Incorrect temperature UOM on retrieved data in SPI
 - SP P&ID Format Manager impacted UOM conversion of temperatures on publish to SPF
 - 2 different formats configured for display of temperature in SPPID depending on label being used
 - Example of -150 Celsius
 - -150 (line number labels for insulated lines only)
 - -150.0 C (for equipment data blocks only)
 - The location of a "space" in one of the two custom format style names caused a conflict with SPF's ability to process the temperature at the baseline UOM of C (celsius) and converted it to K (kelvin)
 - SPI does not convert temperature on retrieval and sees all these incorrectly as K.
 - Not able to resolve without replacing all associated labels in SP P&ID.
 - Project proceeding by UNMAPPING process conditions into SPI.
- Construction Status
 - Removed from SPI retrieval mapping on JBOG
 - Not aligned between SPPID and SPI
 - SPPID = default (OOTB)
 - SPI = customized by project for detailed scope management of each instrument
 - Un-realistic to expect SP P&ID designers to know what value to apply to each instrument.
- Not acceptable for segment ID to show on deliverables
 - Instrument Index
 - Instrument Data Sheets
- Removing requires manual editing in SPI to re- assign instruments (i.e. FV-300) to primary line.
- Future retrievals of P&ID trigger 'Update' To-do list tasks that must be ignored.
- DDP Data Sheets with incorrect NPD UOM
 - Random / inconsistent occurrence
 - Open SR cause still unknown
 - Visible on Fluor custom instrument report and in SPI publish xml file
 - Requires re-toggle of end standard select list item in SPI and then re-publish and retrieve of affected DDP data sheets
- SP P&ID correlation
 - o Complicates pipeline/pipe run hierarchy
 - Correlation of pipe runs does not capture all objects (i.e. reducers, flanges, etc...)
 - Topology is not related to actual sequencing of objects on the P&ID
 - Struggling with identifying value to project

		Question and Answer for SmartPlant Foundation	
		How many people in Nextgen team?	
		 12 and 1 direct interface to Intergraph 	
		How long before development before implementation begin? 5 years	
9	Presentation	Owner Operator Concerns using SPI - John Dressel, Fluor	
		◆SPI Database Setup and Administration	
		♦Initializing SPI in an Existing Plant	
		◆Integration with other Plant Systems	
		◆Utilizing Owner Operator SPI Functions	
		◆SPI Access by Contractors	
		◆Upgrading and Technical Support	
		◆Tips and Tricks for Owner Operators	
		SPI Setup and Administration	
		◆Hosting Concerns	
		•Who will Host the SPI Database	
		•Owner Hosted	
		•Third Party	
		Main Engineering Contractor	
		•Location of the SPI Database	
		•Secure Server	
		•In Country	
		•Remote User Access to the SPI Database	
		•Citrix	
		•Terminal Services	
		•What Technology will be used	
		•Oracle	
		Microsoft SQL Server	
		◆SPI Administration and User base	
		•I.T. Administration	
		•Experience with Oracle or Microsoft SQL Server	
		•Experience with Citrix or Terminal Services	
		•Domain Administrator	
		•Full time – Part Time – Training	
		•System Administrator	
		•Full time – Part Time – Experience	
		•Technical Support •In House	
		•Intergraph	
		•Third Party	
		•SPI User base	
		•Training – Experience	
		•Initializing SPI in an Existing Plant	
		◆Operational Scope of SPI	
		Interfacing with Other Plant Systems	

- Maintaining Instrument Index
- Maintaining Spec Sheets
- Maintaining Wiring
- Maintaining Loops

◆Develop Initializing Standards

- •Implementation Standard
- •Standard Forms and Reports

♦Initial Loading of SPI Data

- •In-house Staff
- Contractor
- As part of a Project
- •Integrating SPI with Other Plant Systems

◆Integration with DCS and Vendor Systems

•Use of Manufacture Specific Interfaces

- •ABB, Inc. System 800xA
 - •Emerson Process Management Fisher FIRSTVUE®
 - Emerson Process Management DeltaV™
 - •Flowserve Direct Data Exchange
 - •Honeywell Experion™ Process Knowledge System
 - •Honeywell Safety Manager
 - •Yokogawa Electric Corporation CENTUM® CS 3000
 - •Fluke Fluke Calibration Tools

•System Integration using Custom Interfaces

- •SAP SAP R/3
- •Excel Export / Import
- Access Database Connection

Integrating SPI with Other Plant Systems

- **◆Process Control Systems**
 - -Basic Process Control Systems
 - -Safety Instrumented Systems
 - -Equipment Protection Systems
 - -Fire and Gas Monitoring Systems

◆Digital Data Management Systems

- -Plant Asset Management Systems
- -Process Data Historian Systems
- -Energy Management Systems
- -Preventative Maintenance Systems

◆Emerging Infrastructure Systems

- -Bus Instrument Networks
- -Wireless Instrument Networks
- -Self Configuring Networks

♦SmartPlant Foundation

- •Application integration between operations, maintenance, and EPC systems for overall data and change management
- •Operations, management and regulatory remote review portal
- •Document management and control, including lists and sheets

Utilizing Owner Operator SPI Functions

- **SPI Maintenance Module**
 - •Breakdown Maintenance
 - Work Requests
 - •Repair Forms
 - Preventive Maintenance
 - Schedule Periodic Maintenance Activities

SPI Calibration Module

- Customizable Calibration Forms
- •Multiple Instrument Type Profiles
- •Allows Tracking and Calibration of Test Equipment
- Calibration Certificate Snapshot
- •Recorded Errors for Each Calibration Point
- •Fluke Documenting Calibrators Integration

Utilizing Owner Operator SPI Functions

- **SPI As-Built Functionality**
- -As-Built is created automatically when initializing an Owner Operator Domain
 - •Set claim mode (exclusive or non-exclusive)
 - •Set delete merged items or keep view-only records

-The As-Built is the Master Project that contains all Formatting for all other Projects.

- •The As-Built cannot Be Deleted
- •As-Built data can be Claimed to each Engineering Project

-The Domain Administrator creates Project Schemas for each Engineering Project

- •New Engineering Project data is separate from the As-Built until Merged
- •Modified Clamed Data is only changed in the Engineering Project until Merged

-When an Engineering Project is complete it is Merged into the As-Built

- Merging Engineering Project data with As-Built cannot be reversed
- •Engineering Projects are usually deleted after Merge SPI Access by Contractors
- ♦How to police contractors from changing plant standards
 - •Best Method Use As-Built Functionality
 - •Restrict Access Rights (not secure)
- ◆Implementation Specification
 - Define Contractors Scope in SPI Specification
 - •Require any changes it Standard tables to be approved

SPI Access by Contractors

◆Typical Contractor SPI Access using Citrix Server

SPI Upgrading and Technical Support

- **◆Upgrading SPI**
 - Types of Upgrades
 - •**Version** A full version Upgrade is necessary when the current Version is no longer supported by Intergraph

- •Service Packs Need to be applied if they add missing Functions or Fix Issues that you need
- •Hot Fixes Need to be applied if they repair known issues in the database, they may also keep your current version up to date longer.
- Upgrade Procedure
- Backup current SPI Database
- Timing Considerations
 - ► All Users must be out of Database
 - ►Best to do between major Projects
 - -Wait until Current Versions or Service Packs have been updated by others.
- After Upgrade Check all functions (Index Specs Wiring)
- SPI Upgrading and Technical Support

◆Technical Support

- •Don't go it alone Sign a technical support contract with Intergraph or qualified Intergraph Support Provider.
- •In-house Technical Support needs to be Full Time dedicated to SmartPlant Instrumentation Administration
- •Keep Administrator and User Training current by taking advantage of Intergraph and OSI training programs.
- •Cross train IT and SPI specialists for best optimization of manpower
- •Take advantage of Technical Conferences, Intergraph Webinars and SPI-LTUF functions to keep up to date on SPI

Tips and Tricks for Owner Operators

- ◆Never Delete the "DEFAULT" Plant Area and Unit. You can hide the "DEFAULT" Plant by un-checking the "Default plant use" checkbox in the Domain Definition.
- •Keep the Administrator "DBA" Username and Password so different users may share administrator responsibilities. This will also assure user and administration connectivity when you deliver Sybase versions of the SmartPlant Instrumentation database later on a project.
- ◆If you are currently logged on as the System Administrator, you can switch to the Domain Administrator level without the need to log on again. You can do this only if the Domain Administrator user name and password are the same as the System Administrator's.

Tips and Tricks for Owner Operators

- ◆It is important that IT initializes the Oracle server properly. Provide IT with: "SmartPlant Instrumentation Installation Guide, Installing SmartPlant Instrumentation on Oracle, Running Oracle Database Setup, Oracle Database Server Table spaces" Documentation. You should also be specific about the proper character set to use in the Oracle instance.
- ◆If you are initializing an Oracle instance from a MS-SQL source, you must run special script files against the original file before initialization. When in doubt, run the scripts against the Sybase Watcom before initializing.

Tips and Tricks for Owner Operators

◆If two Units have the same number it is possible to maintain separation by numbering the units with an offset (Units 12 for example might be numbered 12 and 012) then use the substring "Start" and "Length" to reference the proper characters in the naming conventions.

- ◆For problems printing or viewing, Specs Sheets or Reports, or even speed problems with Citrix, check the User Preferences "General / Temporary Path" and reset the Temporary Path
- ♦When working with the Line data table; enter only the Size and Spec instead of the entire line number. This saves time, shortens line table selection and users still have all required line information to do sizing calculations

4"-11H instead of 4"-P-1501-11H

- ♦If the Instrument Type profiles are not set properly before you start adding tags to the database, De-activate the Profile options in the "Preferences / Instrument Index / Profile". Then launch each option as needed from the "Browse / Action" menu
- ◆Be concise and conservative with Instrument Types. Don't create an Instrument Type for every minor variation. Keeping Instrument Type profiles to a minimum will result in less chance for error.
- ◆Use Global Revisions dialog box for Specifications, Process Data, Calculations, Loops, Hook-Ups, or Wiring to make revisions more consistent and better use of time.
- ♦When moving tags from one unit to another, Use the Loop Move command or drag and drop the Loops in the Domain Explorer to move all the tags associated to a loop at one time. NEVER DELETE AND REBUILD TAGS!
- ◆Do not allow tag creation in the Spec, Process or Calculation Modules. Adding Tags from Modules other than the Instrument Index will allow tags to be created without complete data
- ◆The Instrument Tag Class is used as a wiring method identifier.
- ♦In P&ID Table, do not use the description callout unless P&ID reference is shown on Loop Diagrams.

Tips and Tricks for Owner Operators

Tips and Tricks for Owner Operators

- ♦When you set a browser view to be your default view, also set it to be personal so others cannot change it. Do not check "Set as default view". The profile will turn on the default view when you save.
- ◆Do not use single quotes in view names (JOHN'S INDEX) this will cause problems in the View list. Note: The View Name is also the Report Name in the Header of an Index Browse Report.
- ◆Number your browser view names by placing a number before the name. Reserve 01 to 09 for your most frequently used queries and ask users to put there initials in their browser View names
- ◆The Revision Description will not show in the header of the Standard Browse Index report.

-Work around: Use the "Approved" field, it will take up to 20 Characters

- ♦When using the "Find", click the "As Typed" radio button to assure that the find is working as you enter the search string.
- ♦When executing a series of commands Look for Hot Key combinations to assist you. A key sequence like "Ctrl-a, Alt-o, F, Enter" could be used to reset the location field without touching the mouse.
- ◆The Instrument Type column contains the instrument type name, the instrument type description and the Process Function. To isolate this data Create a custom view and use the columns CMPNT_FUNC_TYPE_NAME, CMPNT_FUNC_TYPE_DESC

and PROC_FUNC_ID fields to show the names and descriptions separately. •A modified title box will not show up on the second notes page. An overlaid title box will show on the second sheet. If you modify a title box, create an overlay title box and associate it to sheets that use a second notes page. ◆To a provide a margin at the top of datasheet reports, set a parameter "TOPMARGIN = 250" in the INTOOLS.INI file [PRINTER] section. ♦When adding a column to a spec page, Use the Page Editor in SPI to select an unused column. InfoMaker allows selection of columns that are already on the Spec. ◆Enter the Form Numbers in the Description field of the Page Editor so you know what forms a page is used on. •A modified title box will not show up on the second notes page. An overlaid title box will show on the second sheet. If you modify a title box, create an overlay title box and associate it to sheets that use a second notes page. **Best Tips and Tricks for Owner Operators TRAIN YOUR USERS!** •The investment you have made in SPI can only be realized with users who are trained to use the tools well and get the most out of it **◆KEEP IT SIMPLE!** •Use the minimum amount of data in SPI to support the deliverables you are creating. Remember that the data in SPI will need to be maintained for the life of the Project and/or Plant in an As-built configuration **◆PLAN AHEAD!** •SPI depends on Instrument Types, Profiles and Support Tables being configured correctly. Every minute you spend properly configuring SPI at the beginning of a Job or Project, will save hours in rework throughout the life cycle of the database **◆USE SPI!** •Use the tool as it is designed to be used. Don't try to make the software fit your work processes, change your work processes to fit the software. Don't take shortcuts. Work Through SmartPlant Instrumentation, not around it. 10 Forum The following topics were discussed or surveyed from the attendee: **Topics** •Inlet size larger than outlet on DDP and DDP can't handle it. •SP3 has addressed this issue •PAU with subsets – 2009 – Can SPI have multiple PAU? Yes. 3 levels and more •SP2009 will stop change to save at drawing layout on Owner Operator database •Install SP – Default is to keep database than overwrite database. Can we change that? •No, Intergraph has no way of knowing if any customization has taken place

		Maintenance Module – Does anyone use SAP/Cobalt No, maintenance module is general purpose; market doesn't lend itself this way.
11	Close	- Future topics to consider: