

SmartPlant Instrumentation Technical User Forum P2C2 (Houston SPI TUF) Meeting	May 10, 2016 8:00 am Jacobs
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Attendees	32 Members in attendance 24 Online Connections		Copied To	Houston SPI LTUF Website http://www.spi-ltuf.org
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Called By	John Dressel	Prepared By	John Bolmanski, Andrew Kunev & John Dressel
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Item	Topic	Notes	Action/Due
1	Welcome 8:00	Welcome & Safety Moment John Bolmanski, Jacobs <ul style="list-style-type: none"> • Welcome to Jacobs • Jacobs Safety Video 	
2	Chairman's Notes 8:10	Announcements and Introductions John Dressel, Fluor <p>Introductions in room and online:</p> <ul style="list-style-type: none"> • Intergraph, Fluor, Bechtel, Air Liquide, Chart Eng, KBR, CB&I, Marathon, Burrow Global, WP, ExxonMobil, OSI, Lubrizol, Emerson, ProLytX, IHI, BASF, Endress & Hauser, Socorro, Poyry, Chevron, CooleyCore, Dow Chem, Shell, Coastline Tech, CoSyn • Announced the release of SPI 2016 and indicated the meeting will focus on the new release 	
3	Live Demo 8:15	SPI 2016 LIVE DEMO! Dan Williams, Intergraph <ul style="list-style-type: none"> • Dan indicated he was relatively new to Intergraph and SPI • The Demo follows recent internal training in SPI2016 • Reference Explorer open at far right with new Hierarchy on bottom for Queries with subdirectories of Query Builder and SQL Editor views • QB & Engineering Data Editor (EDE) are new to SPI and replace the Browsers • Demo has Many new queries, but some old ones and most come as default from Intergraph • Action, open doc, similar feel to Access, also has Item-Types explorer • Linking Tables is now familiar, and SPI has simplified further • Relations pop-up shown • Sorting within Values of Attribute Explorer • In Query Preview can Search for items and do Filters by column • Demo was restricted by small screen resolution for projector – Dan suggested we need large screens and especially dual monitors for SPI 2016. • Search in Attribute Explorer is limited to selected item type in definition screen • When Query has been Converted to EDE as a personal View (made a QB – now Generate EDE) ... more Features: • Dialog boxes in View Properties of EDE Generation – remember View Type as important • EDE View shows data in requested order: Very 	

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		<p>Spreadsheet-Like ... 'comfortable' – example Freezing Ranges with multiple filters</p> <ul style="list-style-type: none"> • Pencil icon allows opening of table – Clear Filter individually • Showed Multi-column Filter at upper right corner • Grouping allowed within table – Dragging header to menu area of EDE view. Sorting also possible via multiple headers for multi-tier. • History of EDE configuration and all view changes saved on Left with View Actions while in EDE view • Opened Definition of View to EDIT & add new amount of fields to View – Users can create multiple EDEs with changes if access was allowed, to deviate but not damage the original Query (can easily Revert back to original view from history) • Quick Edits possible for view – thru Tree view can add fields • Then example given of placing new Data, cutting & Pasting ... Still No UnDo. • Room questions abounded, some disappointment that not all issues found in Beta test are corrected, but generally Alex Koifman suggested than many items found in beta testing HAVE been fixed for the delivered SPI2016 • Example of Dumping data OUT of EDE to Excel by scoping data and cutting and pasting into Excel will lose Headers and that was accepted as 'Normal' by Dan • The Report Save As function will retain headers • Reference Explorer reopened for process data example with upstream & downstream lines in one data stream from Scott Ambrose (which Dan used to highlight importance of 3+ day training) • EDE for Alarms made – Union of Level & temp Alarms: attempt failed • SQL editor works well – can catch code from old InfoMaker – but Select data only – NOT to be re-written into SPI data fields • SQL can be converted to QB or View only in EDE • SQL converted to QB mandated user rebuild the Relationships in the Definition window. • Queries can be converted to QBF files to carry to another domain, and SQL can be converted to text to also move to another domain. • Alex: for Administrators the SQL query can be exported easily from SPI. • Browser manager still has FFB, DDP views and a couple old views that will be migrated later. • UDFs and UDTs have a new Editor – old SPI had only 16 UDTs, restricting users. But in SPI2016 all UDFs can be setup & Used like Tables with Select Lists as Field Type ... but cannot be altered/adjusted if there is Data in the UDF. • Query for room – Later Edition capability to Lists of UDFs, List Items may be able to be changed after data entered, but maybe not added as new pick-list • Alex suggests that Upgrades to SPI2016 there may be a potential of Automatic UDF conversion to pick-lists, especially since UDFs are moved from unit level to Domain level – to resolve ambiguity • As Built upgrade complex: 	

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		<ul style="list-style-type: none"> • To-DO List has been overhauled completely • Access rights still limit As-built 'old- admin' work, but no longer restricted to locking out all users. • Now Users (with access) can Claim an object (like Loop) into claim buffer (or accidentally directly claim directly to project in demo as happened in Demo). • Buffer shows Project To-Do List: List of items with status by color/symbol with details on right. • Dan has printed material from the class he took that give more details on the rules for action hierarchy for As-Built • Notes: • Claiming an item shows all ancillary items based on a set of rules, and related objects are shown as active items in screen GUI interface. Dan's general recommendation to claim at Loop level unless contractor needs claim at panel/strip level. • Room query on changing Active/non-active state of items – proved some granular changes are applicable in the To-Do List. • Dummy Items are now labeled as INACTIVE in SPI2016, which will remain in sub-project, but after Merged back to parent they may be restricted from use. • Scoping for Claim/Merge documentation Rules read to meeting: <p><i>“Basic Rules</i> <i>There are two important rules that are applicable to any action when working with As-Built:</i></p> <p>Rule One <i>The scoping (either through claim or merge) of an item is always the same, regardless of how the items area selected.</i></p> <p>Rule Two <i>When an item is Claimed or Copied to the Project T0-D0 List:</i></p> <ul style="list-style-type: none"> • <i>Items in the wiring hierarchy levels below the claimed item (the children), will be Active.</i> • <i>Items in the wiring hierarchy levels above the claimed item (the parents), will be Inactive.”</i> 	
4	Demo Q&A 8:45	<p>SPI 2016 LTUF Q&A</p> <ul style="list-style-type: none"> • Component ID – will be demo'd AND YES- It can be brought in quickly & well via EDE/from SQL – view only acceptable • Importing Queries from InfoMaker – questioned ability to bring in Calculated fields, concatenations, etc • Expression builds, based on MS SQL or Oracle base of SPI. May cause problems for few people switching from SQL to Oracle • Complex loop to be modified by project – does new As-built need ALL of Loop, or just specific items – the room answered from beta testing that SPI2016 is flexible and wiring portions of loop can be claimed separately, or if Loop Revision is needed to be managed, the merge/return parameters might restrict inactive items from project, but based on Scope. Picking the Instrument Tag will give all wiring components for loop, but all other items would be inactive. 	All Attendees

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		<ul style="list-style-type: none"> • Publishing Cables from SPI ok, SPI3D thru foundation (SPI now works like SPEL) • Routing String is available, but not like the 2D routing of SPI – very primitive. (space) • Asked for Report from EDE/SQL with Component ID, failed in demo but might be possible ... Definitely COULD get the cut and pasted data from the EDE view into XLS (but loses the Headers as shown earlier) • EDE <> EXL bidirectional? Still needs to use the Import module. Single fields can be copied from xls, but due to drop down lists validation much data cannot be cut & pasted • Number Formatting etc from xls may not be converted, but SPI EDE will show validation error • Call stored procedures in EDE? Consensus suggests we might not be • Manufactures/Models that are not in lists will not validate from Cut & Paste, so Import module would Append into tables as previously • Scoping of Merging – Now moved out of Admin ... NO as-built functions in Admin (just creation of projects) • Claimed For functionality – unknown if new As Built 2016 has a quick SHOW aside from ToDo List History? • Merging function will still follow Last-One-Wins • EDE function to pull data from MANY Modules – will Access Rights restrict based on data as expected – HAS been tested. • Data like wiring seen by Specs-access-only was tested to be Grayed out if not accessible via rights Paste-example done into SPI EDE view with Validation error – showed Red-Box outline for field/list that would not accept a non-standard-list item. 	
5	Presentation 10:00	<p>SPI 2016 Upgrading Ron Jackson, Fluor</p> <p>Assumptions</p> <ul style="list-style-type: none"> • These instructions are intended for Project Data Integrators, Project Automation Specialists and Discipline Application Specialists • There were significant improvements in SPI 2009 SP2. Enough so that the upgrade routine in 2009 SP4 requires a database be at 2009 SP2 as a minimum to upgrade. It is assumed that SPI 2013 also requires at least 2009 SP2. • The Intergraph Documentation indicates the you should be able to upgrade directly from SPI 2009 SP2 to SPI 2016 <p>Prerequisites for SPI 2016</p> <ul style="list-style-type: none"> • Start with SPI 2009 SP2 or Higher <ol style="list-style-type: none"> 1. Rebuild stored procedures and triggers for all domains. 2. Rebuild projects in As-Built domains. • Perform a Database Check and Make Domain Backups • Free Disk Space <ul style="list-style-type: none"> ○ Oracle table spaces are set as autoextended ○ SQL Server file groups are set to automatically grow files ○ Sybase Adaptive Server Anywhere data file is 	

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		<p style="text-align: center;">permanently set as autoincremented</p> <p>Specific Prerequisites for SPI 2016</p> <ul style="list-style-type: none"> • Back up Symbols Used in Enhanced Reports before installing the latest version of the Enhanced Report Utility. • Upgrading the To Do List <ul style="list-style-type: none"> ○ To Do Lists from previous versions do not Upgrade: <ol style="list-style-type: none"> 1. Run all outstanding To Do List tasks. 2. Delete the To Do List. 3. Upgrade to SmartPlant Instrumentation 2016. 4. Retrieve your documents. ○ Open the To Do List. • Release all Claimed Items in As Built before Upgrading • Import Utility ODBC driver <ul style="list-style-type: none"> ○ The Import Utility is not supported by Microsoft Office 2016 • User Defined Fields <ul style="list-style-type: none"> ○ UDFs defined at Plant Level will be at Domain level in 2016 • Select List Values not Supplied with SmartPlant Instrumentation will not appear in EDE, Examples: <ul style="list-style-type: none"> ○ Units of Measure (UOM) ○ Control Valve Fail Position ○ Control Valve Seat Leak • Smart Support utility called "LutChk" will assist in cleaning up these Imported Select Lists • Missing Sequence Properties After Upgrade <ul style="list-style-type: none"> ○ You must check certain database tables by running an SQL query to make sure that every item has a value in the sequence property ○ The tables that require checking are: <ul style="list-style-type: none"> ▪ Wire ▪ Cable set ▪ Apparatus ▪ Panel_Strip ▪ Panel_Strip_Terminal ▪ Cabinet rack ▪ Position ▪ Channel <p>Oracle Upgrade of SPI 2016</p> <ul style="list-style-type: none"> • You must Upgrade to Oracle 12c for SPI 2016 • Prerequisites: <ul style="list-style-type: none"> ○ You must have an earlier version of Oracle 10 or 11c installed ○ SPI must be run in the Oracle "national environment" for Units of Measure to show properly • Workflow 1 - Upgrade of Oracle from previous version on one server and Oracle 12c on another server <ul style="list-style-type: none"> ○ Create a Oracle backup dump your previous Oracle version ○ Restore the Oracle backup on the new Oracle 12c server. ○ Connect using SmartPlant Instrumentation and use the Smart Upgrade (Admin) to update your database to SmartPlant Instrumentation 2016. 	

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		<ul style="list-style-type: none"> ○ If you upgraded from a non-Unicode database, create a new Oracle Unicode instance and initialize domains from the upgraded database to this new instance ● Workflow 2 - Upgrade of Oracle on an existing server without new instance creation or domain initialization <ul style="list-style-type: none"> ○ Select the instance in Oracle Database Upgrade Assistant ○ Select the sys account for the instance. ○ Accept the values on each page of the wizard, except: <ul style="list-style-type: none"> ○ Move Database Files during Upgrade. ○ For the storage mechanism, choose File System. ○ After installing SmartPlant Instrumentation 2016, use the Smart Upgrade (Admin) to update your database to SmartPlant Instrumentation 2016. ○ If you upgraded from a non-Unicode database, create a new Oracle Unicode instance and initialize domains from the upgraded database to this new instance. ● Large SPI Oracle Database Upgrade <ul style="list-style-type: none"> ○ Large SPI database exceeds 800,000 records or tables Panel_strip_term, Wire and Wire_terminal ○ Must use Oracle 12c 64-bit client to upgrade your database ○ Must use Oracle 12c 32-bit client to run SPI 2016 ○ Initialize from Oracle 10g/11g to Oracle 12c ● After you Upgrade to SPI 2016 <ul style="list-style-type: none"> ○ You must have installed Oracle 12c 64-bit server. ○ You must have installed Oracle 12c 32-bit client. <p>Watcom Upgrade of SPI 2016</p> <ul style="list-style-type: none"> ● NOTE: Intergraph does not recommend Upgrading large SPI databases to SPI 2016 with Watcom ● Any Version prior to SPI 2009 SP2 Requires a step through to upgrade to SPI 2013 ● Per Intergraph the upgrade to SPI 2016 can be made from any Version from 2019 SP2 up ● Be sure to make a backup and run CheckDB between each Upgrade ● Work Instructions – Step by Step <ul style="list-style-type: none"> ○ Step 1: Create backup of SPI O11g to Watcom ○ Step 2: Run Check and resolve any issues ○ Step 3: Create backup of cleaned SPI O12c to Watcom (To be used for upgrade) ○ Step 4: Install old SPI version on O12c machine. ○ Step 5: Run DB Setup Utility (Administrator on W7) ● Create backup of old SPI with a Watcom dump ● Run CheckDB and resolve issues ● Create second backup of old SPI with a Watcom dump ● Restore Watcom to new production system ● Regenerate Stored Procedures and Views, Re-index ● Upgrade instance to SPI 2016 ● Run CheckDB and resolve issues 	

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		<ul style="list-style-type: none"> • Apply Process Data fix • Test and Confirm Upgrade • Upgrade User local installations (Oracle, SPI, SPF comp) <p>Post SPI 2016 Upgrade Tasks</p> <ul style="list-style-type: none"> • Update Link Definitions for Importing Data into the PANEL Table • Perform a Database Check • Rebuild Default Views • Rebuild Projects in a Domain on Sybase Adaptive Server Anywhere • Optimize Indexes <p>LTUF Comments during Presentation:</p> <ul style="list-style-type: none"> • Presentation Doc should be loaded to SPILTUF.org, AND possibly attached to Minutes for distribution. • Reportedly still Rough to Upgrade. Series of steps to get from SPI 2009 to SPI 2016 (use 2009 SP2 as start) • Resolve & rebuild projects in As-build & note OLD To-Do lists will not carry into new, • Example done to upgrade via Watcom, crashing Watcom in failed upgrade is frequent, and Disk Space is extended almost exponentially larger. • Outstanding items from old To-Do list must be handled prior to upgrade - Merge All projects before Upgrade! • Perhaps wait for SPI2016 R1 before Upgrade • Newer ODBC driver may be needed for Import Utility (more than typ MSoffice 2016 delivered) • List of Values that are NOT in EDE – suggestion for Intergraph to update documentation with training to mention or account for individual items listed in Table (from presentation doc.) • Example – Upgrade documentation needs to be updated for Wire Table Sequence properties (set level) etc. • Alex confirms that these reported (Eight tables requiring checking after upgrade for Sequence Properties) • Oracle 12c needed for SPI2016 (untold MS SQL prerequisites) – workflows listed, • Problems of Conversions from Browsers to EDE might be related to Oracle version • Many POST-Upgrade Tasks including Validation & Rebuilding typical views etc. 	
6	Presentation 10:30	<p>SmartPlant Instrumentation Training John Dressel, Fluor</p> <p>SmartPlant Instrumentation Training</p> <ul style="list-style-type: none"> • The single most important factors in using SmartPlant Instrumentation effectively are Well Trained Users! • With the enhancements to SmartPlant Instrumentation 2016 the need to re-address our training requirements for users to use the new features and take advantage of some of the older functionality that will enhance the user experience • This presentation will introduce you to some of the elements and procedures to consider when setting up your SmartPlant Instrumentation 2016 training program 	

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		<p>Reasons for SPI 2016 Training</p> <ul style="list-style-type: none"> • Consider your reasons for having a SPI 2016 training program <ul style="list-style-type: none"> ○ Update training for new features and functionality in SPI 2016 ○ Consistency in the use of SPI for Projects or Operations ○ Optimizing existing functionality of SPI by the users ○ Expanding the work processes to better use SPI ○ Maintain the quality of your SPI Implementation <p>SPI Training Requirements</p> <ul style="list-style-type: none"> • Target Your SPI training audience <ul style="list-style-type: none"> ○ Introductory Training for New SPI users ○ Update Training for existing SPI users ○ Module Training for specific users ○ SPI Administration Training • Supplemental or Focused Training <ul style="list-style-type: none"> ○ Instrumentation Training ○ CS Engineers ○ CS Designers ○ Process Engineers ○ Process Tech ○ Maintenance ○ Operations ○ Management <p>SPI Training Formats</p> <ul style="list-style-type: none"> • Consider the most viable formats for your training program <ul style="list-style-type: none"> ○ Presentation type Instructor Led Classroom training ○ Hands on Instructor Led Classroom training ○ Self Paced Online Based user training ○ Lunch and Learn short sessions ○ Just in Time user training ○ One on One user training ○ On the Job user training ○ Guest instructors ○ Outside classes ○ Combination... <p>SPI Training Costs</p> <ul style="list-style-type: none"> • Establish and Maintain an SPI Training Budget <ul style="list-style-type: none"> ○ Based on Onsite or Offsite training ○ Is SPI Training Project Billable? ○ Included costs for SPI training <ul style="list-style-type: none"> ▪ Preparation of materials ▪ Software Licensing ▪ Accommodations ▪ Hardware costs ▪ Trainers Time ▪ Student Time ▪ Travel Time <p style="text-align: center;">Training is not a cost. It's an investment!</p>	

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		<p>SPI Training Instructors</p> <ul style="list-style-type: none"> • When Developing or Hiring SPI Training Instructors <ul style="list-style-type: none"> ○ Consider the Trainers knowledge Base ○ Look for Outside Training resources ○ Develop Super Users as Trainers ○ Develop Specialty Trainers ○ Train the Trainers • What Instructors Should Know <ul style="list-style-type: none"> ○ Instrumentation ○ The SPI Software ○ They are also Learning ○ Practice makes Perfect ○ Be passionate about SPI <p>Intergraph Training Programs</p> <ul style="list-style-type: none"> • Instructor Led Training <ul style="list-style-type: none"> ○ Huntsville, Alabama ○ Houston, Texas • Conference Workshops • Virtual Online Training • GetSmart! Webinars • TestDrive Center <ul style="list-style-type: none"> ○ SPI 2016 Pending on TestDrive <p>Intergraph Instructor-led Training</p> <ul style="list-style-type: none"> • SPI 2016 Update Class (TINT1005) (Pending) • SPI for Users (TINT1001) • SPI Installation and Administration (TINT1003) • SPI Customization & Management (TINT1004) • SPI Advanced Wiring & Reporting (TINT1006) • SPI As-Built/Operating Owner (TINT1007) • SPF Authoring and Administration (TSPE4500) • Smart 3D Virtual Training 2014 (SDVT073AE) • SPEL Basic User (TELE1001) • SPEL Advanced User (TELE1002) <p>Intergraph Conference & Workshops</p> <ul style="list-style-type: none"> • Intergraph can do custom training and hands on workshops for clients and at events such as HxGN and User Conferences • HxGN LIVE 2016 Hands-on Training <ul style="list-style-type: none"> ○ 2254 - Minimize Downtime When Upgrading to the New SmartPlant Instrumentation 2016 ○ 2253 - Reduce Risk and Cost with Vendor Interfaces in SmartPlant Instrumentation • SPI 2016 Beta Test Workshops <ul style="list-style-type: none"> ○ SmartPlant Instrumentation 2016 Query Builder ○ SmartPlant Instrumentation 2016 Engineering Data Editor (EDE) ○ SmartPlant Instrumentation 2016 Projects As-Built <p>Intergraph Online Training Programs</p> <ul style="list-style-type: none"> • Intergraph Virtual Training <ul style="list-style-type: none"> ○ Intergraph Smart™ 3D Virtual Training ○ SmartPlant® P&ID Virtual Training ○ SmartPlant Electrical Virtual Training (Coming 	

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		<p>Soon)</p> <ul style="list-style-type: none"> ○ SmartPlant Instrumentation Virtual Training (Pending) ● Intergraph Webinars <ul style="list-style-type: none"> ○ Efficiently Manage Projects with SmartPlant Instrumentation ○ Enhancing Your Loop Diagrams with SmartPlant Enhanced Smart Loops ○ SmartPlant Instrumentation Technical Update ○ Much More... <p>Using the SPI Internal Tutorial</p> <ul style="list-style-type: none"> ● The SPI 2016 Documentation comes with a complete and comprehensive tutorial ● The SPI Tutorial is based on the In_demo.db database installed as a stand alone Sybase or an Oracle or SQL Server ● Recommended supplemental material includes: <ul style="list-style-type: none"> ○ SmartPlant Instrumentation User's Guides ○ SmartPlant Instrumentation Online Help <p>SPI Internal Tutorial Content</p> <ol style="list-style-type: none"> 1. Administration Tasks 2. Getting Started with SmartPlant Instrumentation 3. Creating Instruments and Control Loops 4. Query Builder and the Engineering Data Editor (2016 Update) 5. Defining Process Data 6. Performing Calculations and Sizing 7. Working with Specifications 8. Managing Documents 9. Performing Wiring Operations 10. Generating Loop Drawings 11. Working with Hook-Ups <p>SPI 2016 Update Training</p> <ul style="list-style-type: none"> ● Query Builder and the Engineering Data Editor ● Query Builder <ul style="list-style-type: none"> ○ Create a basic query, save the query to the Reference Explorer, and preview the query ○ Generate an EDE View from a Query, save the EDE View to the EDE Explorer ● Engineering Data Editor <ul style="list-style-type: none"> ○ Manipulate the data in the EDE View <ul style="list-style-type: none"> ▪ Sorting Data ▪ Applying Filters ▪ Grouping Columns ▪ Copy and Paste Functions ▪ Search Functions ○ Working with the Complex Filter <p>Query Builder (QB) Tutorial</p> <ul style="list-style-type: none"> ● Query Builder (QB) <ul style="list-style-type: none"> ○ Using a query from the Reference Explorer ○ Item Types Explorer <ul style="list-style-type: none"> ▪ Selecting Item types ○ Definitions Window 	

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		<ul style="list-style-type: none"> ▪ Defining relationships ○ Using the Attribute Explorer <ul style="list-style-type: none"> ▪ Selecting Attributes ▪ Adding Attributes ○ Previewing the query <ul style="list-style-type: none"> ▪ Working with Filters ○ Saving the query to the Reference Explorer <p>Engineering Data Editor (EDE) Tutorial</p> <ul style="list-style-type: none"> • EDE Module Introduction <ul style="list-style-type: none"> ○ Using the EDE Explorer ○ Creating a New EDE ○ Edit the EDE Layout ○ Edit Data in the EDE ○ Using View Actions Tab ○ Using the Compare Option • Manipulating the Data in the EDE View <ul style="list-style-type: none"> ○ Sort data in their columns ○ Applying filters to columns ○ Grouping columns ○ Copy/Paste from column to column ○ Search functionality <p>Projects As-Built (PAB) Tutorial</p> <ul style="list-style-type: none"> • The other Major change in SPI 2016 is the Projects As-Built To-Do List • The Users Guide for PAB is in the “SmartPlant Instrumentation Detailed Engineering User’s Guide” <ul style="list-style-type: none"> ○ Working with As-Built and Projects ○ As-Built Workflow ○ Claiming from As-Built ○ Releasing Claimed Items ○ Deleting Items from As-Built or Project ○ Merging Items with As-Built ○ Comparing Project To Do List with Target Data ○ Correlating Items in the As-Built <p>Customizing Your Training Program</p> <ul style="list-style-type: none"> • The SPI Tutorial is limited and will probably need to be supplemented with additional modules Courses as required <ul style="list-style-type: none"> ○ Special classes based on upgrades: Update training, New feature training etc... ○ Special classes for specific users: Process, Design, Maintenance etc... ○ Special classes for specific tasks: Fieldbus, Spec Sheets, Process data etc... ○ Special classes scaled to purpose: Lunch & Learn, Manager training etc... ○ Special classes for consistency: Seed and Standard practices training etc... ○ Special classes for additional modules: External Editor, Import Module etc... • By customizing your training program with a combination of outside instructor led training and internally developed user training, you can make your SmartPlant Instrumentation implementation more effective 	

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		<p>Intergraph SPI 2016 Training</p> <ul style="list-style-type: none"> • Intergraph will hold SPI 2016 Update training classes in Houston starting late June 2016 • The courses will be more comprehensive than the SPI Tutorial in the Documentation • Major Topics Covered will be: <ul style="list-style-type: none"> ○ Updating to SPI 2016 ○ Query Builder ○ Engineering Data Editor ○ Projects As-Built ○ Integration To-Do-List ○ Additional Functionality <p><i>“To register for training on all Intergraph Process, Power & Marine products, call Training Registration at (800) 766-7701 in the U.S. Outside the U.S., call (256) 730-5400 or contact your local Intergraph office”</i></p> <p><i>“For current information on training, use a Web browser to connect to: http://www.intergraph.com/ppm/training/”</i></p> <p>LTUF Comments during Presentation:</p> <ul style="list-style-type: none"> • Untrained SPI-Users are VERY dangerous. • Many ways & value-added formats for training, • Million dollar software expense is useless without funded consideration for employee Training and time to learn • Training is not a Cost – it should be considered an Investment. • SPI users and trainers should understand Instrumentation First – Before training in SPI • OSI will no longer offer SPI training – off of their website (although Alex said business relationship with Intergraph/OSI is still good.) • SPI is temporarily OFF the Test Drive, just posted today and might be back up with SPI2016 • SPI2016 training in Houston Intergraph office in Late June – to be scheduled & available for sign-up perhaps at HxGN2016 (per online Intergraph’s Rick quote) • SPI Virtual Training is still in planning stages • Webinar topics listed from Intergraph site – Very comprehensive • On-Site training will still be offered by Intergraph, as budgeted need. • Fluor’s Watcom mode 2013 to 2016 has upgraded successfully per during-the-meeting updated info! 	
7	LTUF Forum 11:00	<p>Computer Aided Engineering Forum Alex Koifman</p> <ul style="list-style-type: none"> • Alex is from Intergraph looking for more ideas – retaining skilled users, grouped reviewable higher level Media/forum/book? Is this knowledge available as Lessons Learned to assist users who have not yet approached a topic to see better long-term solutions. • Example, SPI should not be used to store physical device serial numbers. (?) • LinkedIn is touted as being useful, but challenging as experienced folk cannot Afford to Work-For-Free for non- 	

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		<p>paid customer requests. LinkedIn also has poor search option.</p> <ul style="list-style-type: none"> • Fluor example Knowledge—On-Line ... system with google-type search engine, with queries not yet answered in stored topics to be sent out to leaders. • Intergraph is looking for a similar Industry-Wide option. Google suggested Teaching Instrumentation in the USA is Lower than in other countries. Few Centers of Knowledge are available. • Client Contracted needs are different & often determine information sharing 	
8	Forum Topics 11:15	<p>SmartPlant Instrumentation 2016 Cable management</p> <ul style="list-style-type: none"> • Cable Schedules FROM SP3D? Let the SPEL folk do it? Fiber optic, non-powered network cables, Nuclear project versus normal proj w/out more than Cable Tray routing. 3D models often don't model small bore pipe. SPconstruction uses the model, but NEEDS better cable scheduling to be broad & fully useable. Labor & cost issues restrict input/output. <p>SmartPlant Instrumentation 2016 Documentation</p> <ul style="list-style-type: none"> • Intergraph needs User Input to update tutorial and documentation. Standard TRs can be submitted. Intergraph is trying to make step upgrade to make screenshots for graphic display balanced with text steps. • Documentation Feedback needed – Another former Intergraph format to reduce Hyper-Link format & broken links jumping around referenced docs. <p>SmartPlant Instrumentation 2016 Integration</p> <ul style="list-style-type: none"> • SPI allows Much Integration; more users in room are now doing this. • Fluor example of Line Numbers – minimal data integrated, but broken at SP3D versus SPI & P&ID. Changes downstream can affect Purchased Items and cause problems (although it can have valuable data Integrity checks.) P&ID data Quality and Content is important and integral to Integration. • Data Validation & correlations important. • Question: is SPI 2016 compatible to ICC2, publishing to Project (Publish & Compare). Alex = YES. Retrieving the data is problematic, but Yes to Publish/Retrieve. To replace the .Net based API calls with the Cloud-Based Integration – Intergraph is Driving to that direction. Intergraph needs to know what LTUF user Needs/Requirements are. Former problem of As-Built for finding quality/change management data from Integration ~ has been improved as Support tickets are made and SPI2016 AsBuilt is better suited. <p>SmartPlant Instrumentation 2016 Upgrade</p> <ul style="list-style-type: none"> • Several members (6-7) are planning to Upgrade new projects, similar number of members plan to use SPI 2016 only on new projects (for now ~ until R1) • Several O/O clients don't want to move off the older versions of SPI ... but driving factors are Intergraph dropping support 	

Item	Topic	Notes	Action/Due
		<p>for SPI 2007 & before. Also another problem is the older operation systems and environments (like Oracle/SQL upgrades from IT pushing SPI upward.) Remember to Back-Up before Upgrade</p> <ul style="list-style-type: none"> • Alex suggests SPI Administrators check with IT for their upgrade plans before we upgrade our SPI DBMS. <p>SmartPlant Instrumentation 2016 Training</p> <ul style="list-style-type: none"> • Intergraph Training is VERY valuable, but not just 2016 upgrade but in general for most. Many users are applying for SPI jobs Have SPI listed on their resume ... but need to be retrained IMMEDIATELY upon Hiring, as the experience is too old or not comparable to new job/workflows. Dan gave example of operators not knowing As-Built due to no previous specific experience. • Alex suggests Companies push for Virtual Training Environment from Intergraph – Push via GTUF to alert Intergraph that More SPI training is needed. Threaten that we as customers will be minimizing the amount of our Licenses BECAUSE we have less people internally trained. Group going to GTUF should propel Intergraph Together (thru presentations and discussions in sessions) <p>SmartPlant Instrumentation 2016 Projects</p> <ul style="list-style-type: none"> • Many folk have used the As-Built project mode – and new SPI2016 should allow stand-alone execution and Merging Back into Parents • Many members need SPI to be able to separate & re-merge projects. • Bechtel mentions specific for wiring separation intelligently without compromising data upon Merge. • Alex shared historical improvements that have managed multiple projects, per-drawing based on P&ID versus new direction of work sharing via Citrix/MSRTC versus like SPP&ID • Cloud environment execution is VERY effective at work sharing <p>SmartPlant Instrumentation 2016 APIs</p> <ul style="list-style-type: none"> • Opening up the SPI database to the Supply Chain is critical ... pushing paper is poor, true Data Centric environment is needed, facilitated by APIs, specifically to move data back and forth. • Alex: Intergraph is going toward more Cloud communication/use. Cloud Capable API links needed for SPI (and other SP tools <or vendor/Amazon>) 1st phase from Intergraph will be SPI folk wanting to VIEW applications like old SPEXplorer ... Next phase will be for APIs to assist WRITING data into SPI.. .Net APIs are Odata compliant, but with unique protocols. 	
9	Close 11:55	<ul style="list-style-type: none"> • Next meeting will tentatively be August 9, 2016 at Fluor • John Dressel closed meeting and thanked everyone for attendance 	