

<b>SmartPlant Instrumentation Technical User Forum P2C2 (Houston SPI TUF) Meeting</b>	<b>August 21, 2007 8:00 am Dow Chemical Company</b>
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<b>Attendees</b>	51 Members in attendance 4 Online Webex meetings	<b>Copied To</b>	
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<b>Called By</b> John Dressel	<b>Prepared By</b> John Dressel
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Item	Topic	Notes	Action/Due
1	Welcome to Dow	<ul style="list-style-type: none"> <li>- Joe Jones of Dow - extended a thank you to all visitors and informed everyone about safety procedures in the building</li> </ul>	
2	Chairman's Notes	<ul style="list-style-type: none"> <li>- Thanks to Kevin Saul and Dow for hosting the meeting and the presentations.</li> <li>- Thanks to members and guests for attending this meeting of the Houston SPI LTUF.</li> <li>- John Dressel spoke on using SPI to assist companies during the current business upturn. He pointed out that it is difficult to find qualified people and the demand for control systems Engineers and Designers is still growing. It is important to utilize tools like SmartPlant Instrumentation to offset the knowledge gap. The automation features of SPI can speed the handling of data and allow companies to be more productive with less people.</li> <li>- Upcoming conferences:               <ul style="list-style-type: none"> <li>- Emerson Exchange – September 10 – 13 -- Grapevine, Texas</li> <li>- ISA Expo 2007 – October 2 – 4 -- Reliant Center, Houston, Texas</li> <li>- Instrumentation Symposium – January 29 – 31, 2008 -- Texas A&amp;M University</li> <li>- Intergraph 2008 – June 2 – 5 -- Las Vegas, Nevada</li> </ul> </li> </ul>	
3	Minutes	<ul style="list-style-type: none"> <li>- Minutes of last meeting approved</li> </ul>	
4	Introductions	<ul style="list-style-type: none"> <li>- Each member stood and introduced themselves and spoke of what their utilization of SPI is.</li> <li>- Welcomed several members who connected into meeting with Webex (Aramco, Saudi Arabia and Burns and McDonnell, Kansas City)</li> </ul>	

5	Intergraph Presentation	<ul style="list-style-type: none"> <li>- Houston Technical User Forum <ul style="list-style-type: none"> <li>• Alex Koifman, SmartPlant Instrumentation (INtools) product manager</li> <li>• August 21, 2007</li> </ul> </li> <li>- Today's presentation <ul style="list-style-type: none"> <li>• SmartPlant Instrumentation v.2007 (v.8)</li> <li>• Release summary</li> <li>• 2007.1</li> <li>• 2007.2 planning</li> <li>• Beyond SPI v.2007 – plans for v.2008</li> <li>• INtools v.6 and SPI v.7 Status</li> </ul> </li> <li>- v.2007 Release objectives <ul style="list-style-type: none"> <li>• To continue business driven enhancements development in all SPI modules</li> <li>• To improve and further enhance integration</li> <li>• Continued investment in integration with the DCS vendors</li> <li>• Continued “SmartPlantization”</li> <li>• Improving the quality</li> <li>• Discontinue obsolete functionality</li> <li>• ...Same objectives remain for v.2008</li> </ul> </li> <li>- v.2007 Release summary <ul style="list-style-type: none"> <li>• Released for customer shipments on Friday, February 9<sup>th</sup> 2007</li> <li>• Part of SmartPlant Enterprise</li> <li>• Major release - include 251 minor and major features and improvements in the product and documentation (CR's).</li> <li>• Certification effort was focused on making sure the new functionality works and regression testing; new Automated Test Procedures (ATP)'s added to improved certification capabilities.</li> <li>• Short term progress</li> <li>• Rolled out at RTM at major operating site with As Build working on MSS 2005.</li> <li>• Have a customer preparing for integrated project (with SPPID, SPEL and SPF).</li> <li>• Several customers go through evaluation and upgrade planning</li> </ul> </li> <li>- Beyond 2007 – new release structure <ul style="list-style-type: none"> <li>• Introducing quarterly 200x.x releases – Service packs but with planned schedules every quarter; mostly fixing bugs (TR's) and streamlining existing functionality; also an opportunity to implement items that are not TR's but have critical customer demand</li> </ul> </li> </ul>	
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5	Intergraph Presentation (Continued)	<ul style="list-style-type: none"> <li>• Are released beginning of every quarter, e.g. April, July, October, January 2008</li> <li>• Fixed dates will be strictly adhered to.</li> </ul> <p>- 2007.1</p> <ul style="list-style-type: none"> <li>• Released in April, 2007.</li> <li>• Includes 2 noticeable RI/CR's:</li> <li>• Support AutoCAD 2007 (RI-74061)</li> <li>• Import into multiple engineering projects simultaneously (CR-78164)</li> <li>• Delivered updated Tutorial and Installation and upgrade documentation.</li> <li>• Also includes 150 TR's, predominantly v.2007 specific.</li> </ul> <p>- 2007.2</p> <ul style="list-style-type: none"> <li>• Released in July, 2007.</li> <li>• Several new items:</li> <li>• Resolve some outstanding internationalization and localization issues;</li> <li>• Re-implementation of the user list in the Administration module for connection administration (not for license management);</li> <li>• Maintain default view in Index when working in domain with Multiple plants;</li> <li>• Improve invalid domain deletion mechanism;</li> </ul> <p>- 2007.2 - continued</p> <ul style="list-style-type: none"> <li>• Add distinction between Process Control and Safety Process Control controllers</li> <li>• Solution to enhanced security issues on MSS2005</li> <li>• Make Signal-Strip enhanced wiring report capable of displaying multiple strips on the same sheet</li> <li>• Multiple TR's</li> </ul> <p>- 2007.3</p> <ul style="list-style-type: none"> <li>• Planned for October, 2007.</li> <li>• Several new items:</li> <li>• New interface with Emerson DeltaV;</li> <li>• Support of first phase of Namur NE-100 vendor data exchange mechanism;</li> <li>• Remove the limitation of 200 fields per Browser view;</li> <li>• Decrease the frequency of accessing INTOOLS.INI file improving performance on complex networks</li> <li>• Over 200 TR's already resolved</li> </ul> <p>- 2007.4</p> <ul style="list-style-type: none"> <li>• Planned for December 15, 2007.</li> <li>• Several new items:</li> <li>• Enhancements to the ToDoList – filtering, selection and ignoring of tasks;</li> </ul>	
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5	Intergraph Presentation (Continued)	<ul style="list-style-type: none"> <li>• Support for Vista business client;</li> <li>- Plans for 2008 <ul style="list-style-type: none"> <li>• Currently in release strategy definitions building preliminary scope. Release date – July 2008 (planned).</li> <li>• Noticeable items: <ul style="list-style-type: none"> <li>• Allow adding to the line piping data</li> <li>• Resolve some outstanding internationalization and localization issues</li> <li>• Allow selecting flow conditions (@flow, @standard, @normal) for instrument and DCS ranges</li> <li>• Enable merging entities from the project to As Build in non-exclusive mode</li> <li>• Improve access rights mechanism</li> <li>• Enhanced integration with SPF (SmartPlant Enterprise) including additional documents to be shared/published to SPF as well as ability to publish much more data from SPI</li> <li>• Develop engineering design reuse mechanism to complement Merger utility</li> <li>• Improvements to the interface with SPEL</li> <li>• Improve database security and control</li> <li>• Discontinue some obsolete functionality</li> </ul> </li> </ul> </li> <li>- INtools v.6 and SPI v.7 Status</li> <li>- Service packs release <ul style="list-style-type: none"> <li>• V.7 SP8 released in March 6</li> <li>• V.7 SP9 planned for late Q3/early Q4 (preliminary) but possibly deferred until next year</li> <li>• V.6 SP10 released on March 23. This is a compilation of the hot-fixed TR's and few additional items and is the last planned service pack for v.6</li> </ul> </li> <li>- SPI v.7 Service pack details</li> <li>- Included in the Service pack 8 are <ul style="list-style-type: none"> <li>• CR-69069 - SPI to prompt warning when user attempt to connect wrong cables</li> <li>• CR-82325 – Update unit number of the CS Tag during the Merge</li> <li>• CR-74576,76964,73288 –Improvements to the Calibration module</li> <li>• CR-81718 – Ability to select publishing PDF or native format files for SPF when working in the integrated environment</li> <li>• 171 TR's, mostly reported by customers.</li> </ul> </li> <li>- Thank you for being dedicated and supportive users of SmartPlant Instrumentation (INtools).</li> </ul>	
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6	Dow Presentation	<ul style="list-style-type: none"> <li>- Kevin Saul &amp; Roland Hancock</li> <li>- INtools Implementation at Dow</li> </ul> <p>SPI is part of the Total Integrated Suite</p> <ul style="list-style-type: none"> <li>• SP Enterprise</li> <li>• Aspen Zyqad</li> <li>• SP P&amp;ID</li> <li>• SP 3D</li> <li>• INtools - SPI</li> <li>• SP Electrical</li> </ul> <p>• Today the tools are Stand-Alone but with an Eye on the Planned</p> <p>Integrated Environment</p> <p>Dow's Implementation Strategy</p> <p>INtools</p> <ul style="list-style-type: none"> <li>• Is the Common, Global Tool for Instrument Design</li> <li>• Used by all Dow Engineering Groups</li> <li>• Coordinated with EPC Suppliers</li> <li>• Provides Plant Life Cycle Data Management</li> <li>• Provides Operations Access to Plant Data via SmartPlant Explorer</li> <li>• Utilizes data Migration of Existing Information to Eliminate all Other Legacy Instrument Design Tools</li> </ul> <p>INtools Production Infrastructure – V. 6.0.7.3</p> <ul style="list-style-type: none"> <li>• Four Oracle NT Servers</li> <li>• Contains 17 Oracle Instances Aligned Geographically</li> <li>• Average of 23 Domains per Instance</li> <li>• Maximum of 30 Domains allowed per Instance</li> <li>• Two Citrix Application NT Servers in the Dow Domain</li> <li>• Two Citrix Application NT Servers in the Extranet Domain</li> <li>• One Web NT Server for the Dow Launch Center application</li> <li>• Our NT Servers are currently located in Freeport Texas supporting all of the Global INtools users</li> <li>• We are currently implementing a Windows 2003 Virtual Machine environment at Dow. These servers will be located in Midland Michigan and will be upgraded to V. 7.0.8.2</li> </ul> <p>Dow's INtools Configuration</p> <ul style="list-style-type: none"> <li>• All Dow Plants are created from the Seed Plant</li> <li>• Default Panels</li> <li>• Default Cables</li> <li>• Complete with 149 normalized Spec Forms, Pages and Formats</li> <li>• Component, Cable and Panel UDFs are maintained in the seed Plants</li> </ul>	
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6	Dow Presentation (continued)	<ul style="list-style-type: none"> <li>• Any changes to the Seed Plant for Spec Forms, Panels, Cables, etc. are inserted into all Dow Plants</li> </ul> <p>INtools Implementation</p> <p>There are 384 Dow Plants in INtools</p> <ul style="list-style-type: none"> <li>• With more than 1,000,000 instrument tags</li> <li>• Approximately 50,000 Panels not including Field Device Panels</li> <li>• More than 780,000 Plant Cables</li> <li>• 560,000+ Instruments assigned to a Specification Sheet</li> </ul> <p>INtools Support</p> <p>Dow's Global Support Structure</p> <ul style="list-style-type: none"> <li>• Joe Jones (Houston) - INtools Product Manager</li> <li>• Roland Hancock (Houston) - INtools Lead SME</li> <li>• Robert Foshee (Houston) - INtools SME (User Support)</li> <li>• Michael Lynch (Houston) - INtools SME (User Support)</li> <li>• Kevin Saul (Houston) - INtools SME (User Support)</li> <li>• Rhonda Strimple (Houston) - INtools SME (User Support)</li> <li>• Hans Taalman (Terneuzen) - INtools SME (User Support)</li> <li>• Angela Morissette (Fort Saskatchewan) - INtools SME</li> <li>• Gary Russell (Plaquemine) - Legacy Data Migration</li> <li>• We support 390+ users in the Dow Domain</li> <li>• Additional users will be added as the India Design Center (IEC) ramps up</li> <li>• We also provide administrative support to 110+ EPC users in the Interface Domain</li> </ul> <p>Other INtools Teams</p> <p>The INtools Steering Team</p> <ul style="list-style-type: none"> <li>• Goal is to support the successful Global implementation and ongoing use of INtools</li> <li>• Directs the efforts of the INtools Product Support Team in how INtools is configured and used for the life cycle of a plant</li> <li>• Provides input as a single voice to Intergraph on future development</li> </ul> <p>INtools Site Focal Points</p> <ul style="list-style-type: none"> <li>• Each Major Site is represented</li> <li>• Provides Support for: <ul style="list-style-type: none"> <li>• Configurations, work process, deliverables, MOC's, feedback and request to Intergraph for product updates</li> <li>• Work with the Legacy Data Migration Team to</li> <li>• Identify Plants for LDM and work as part of the LDM Team for their site</li> <li>• Participate in Site User Training</li> <li>• Input to training plans and schedules</li> </ul> </li> </ul>	
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<p>6</p>	<p>Dow Presentation (continued)</p>	<p>INtools Legacy Data Migration Process</p> <p>The team was created to Develop Plans and Actions to:</p> <ul style="list-style-type: none"> <li>• Identify the Data Owners</li> <li>• Define What Data Exists that Can be Migrated</li> <li>• Determine the Value/Quality of the Data</li> <li>• Develop Implementation Plans for Migration</li> <li>• Identify Supporting Resources</li> </ul> <p>Migration Plans are in Concert With INtools Implementation Plans</p> <p>INtools Legacy Data Migration by Site</p> <table border="1" data-bbox="495 630 1304 913"> <thead> <tr> <th>Site</th> <th>Number of Plants</th> <th>% of Plants Migrated</th> </tr> </thead> <tbody> <tr> <td>Canada</td> <td>10</td> <td>76.9%</td> </tr> <tr> <td>North America</td> <td>102</td> <td>62.1%</td> </tr> <tr> <td>Europe</td> <td>115</td> <td>99.5%</td> </tr> <tr> <td>Asia</td> <td>8</td> <td>100%</td> </tr> <tr> <td>South America</td> <td>11</td> <td>83.35%</td> </tr> <tr> <td>Total Migrations</td> <td>246</td> <td>85.55%</td> </tr> </tbody> </table>	Site	Number of Plants	% of Plants Migrated	Canada	10	76.9%	North America	102	62.1%	Europe	115	99.5%	Asia	8	100%	South America	11	83.35%	Total Migrations	246	85.55%	
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<p>7</p>	<p>Presentation MAC roles in SPI</p>	<p>- John Dressel, Fluor</p> <p>MAC utilization of SPI - Lessons Learned</p> <ul style="list-style-type: none"> <li>▫ Mutual Expectations                     <p>Understanding and managing expectations between the MAV and other parties is very important. What each party brings to the table and what each party is expected to do should be clearly communicated and understood to avoid misunderstanding. The learning curve has to be shortened and meshing of the many cultures of client, contractor and MAC has to be achieved quickly.</p> </li> <li>▫ Objective                     <p>Objectives of MAC and Contractor could be different, and may not be shared objectives for the project. One party may be interested in selling more products or services while the other party may not need these services. Also MAC has to be objective and use the best solution possible, not just provide the solution favorable to them.</p> </li> <li>▫ Resources                     <p>Resources must not be allocated to other objects, which may impact or jeopardize project. MAC must have enough resources or backup to address normal manpower turnovers and unexpected work load management, It may be necessary for the Contractor to provide, support, add experience and other resources, which MAC may lack.</p> </li> <li>▫ Costs                     <p>Cost management is a key lesson as well. MAC and contractor must work together, mutually to keep costs under control and communicate very openly and honestly, and discuss work processes or deliverables, in order to minimize or avoid rework, or wasted effort. It may be necessary to review and manage work processes where costs are kept under control</p> </li> </ul>																						

7	Presentation MAC roles in SPI (Continued)	<p>           ◦Communication            Communication in a team relationship with MAC and Contractor is also extremely important. There should be no surprises. MAC and Contractor has to work as team, and each team member must know what other is doing, and what is expected, what needs to be done, and what is not needed. They must be flexible to each others needs relating to information, data, timing and wasted effort.         </p> <p>           ◦Use of SmartPlant Instrumentation            Control and access to the SPI database needs to reside with the entity with the most expertise.         </p> <p>           When sharing SPI resources the MAC and Contractor has to work as team, and each team member must have the SPI skills to support their portion of the work.         </p> <p>           A comprehensive SPI implementation plan must be defined so all players know what their work area and what deliverables they are expected to produce with SPI         </p> <p>           Remote Connection to SPI            ◦The following slides represent some data associated with operating SPI Remotely in an Owner/Operator Mode.         </p> <ul style="list-style-type: none"> <li>◦What are Owner Operators doing now?</li> <li>◦Project costs related to Remote access</li> <li>◦Remote access to SPI database via Citrix or MS Terminal Services</li> <li>◦Citrix Vs MS Terminal Services Costs</li> <li>◦Remote SPI execution Pros &amp; Cons</li> <li>◦Remote access downtime costs</li> </ul> <p>           WHAT ARE OWNER/OPERATORS DOING?            Of ten Owner/Operators considered...         </p> <ul style="list-style-type: none"> <li>-Two of them are operating in Engineering Mode             <ul style="list-style-type: none"> <li>•Executing projects via dial-in connection</li> <li>•Using Citrix Metaframe servers</li> </ul> </li> <li>-Two of them are operating in Engineering Mode             <ul style="list-style-type: none"> <li>•Executing projects on backup seed files</li> <li>•Using Citrix Metaframe servers</li> </ul> </li> <li>-Two of them are operating in Operating Owner Mode             <ul style="list-style-type: none"> <li>•Executing major projects via dial-in connection</li> <li>•Using Citrix Metaframe servers</li> </ul> </li> <li>-Two of them are operating in Operating Owner Mode             <ul style="list-style-type: none"> <li>•Executing major projects via dial-in connection</li> <li>•Using MS Terminal Services</li> </ul> </li> </ul> <p>           -One of them is currently operating in Operating Owner Mode expects 3<sup>rd</sup> party access via Citrix soon            -One of them Executing projects on backup seed files and migrating data into Plant As-Built         </p>	
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7	Presentation MAC roles in SPI (Continued)	<p>TERMINAL SERVER vs. CITRIX</p> <p><u>Terminal Server</u></p> <p>–Access to the user’s server “desktop”</p> <ul style="list-style-type: none"> <li>•Network printers may not be available (depending on the Windows Server version)</li> <li>•Additional licensing may be needed per user (depending on the Windows Server version)</li> </ul> <p><u>Citrix Connection</u></p> <p>–Citrix is software that is installed on top of and adds additional functionality to Terminal Servers including</p> <ul style="list-style-type: none"> <li>•Improved printing</li> <li>•Added security</li> <li>•Server management tools</li> <li>•Application publishing</li> </ul>	
8	Presentation SPI meets SIS	<p>- John Dressel, Fluor</p> <p>Safety Instrumented Systems benefit from SmartPlant Instrumentation</p> <ul style="list-style-type: none"> <li>- Data centric information management <ul style="list-style-type: none"> <li>o Data is input once and resides only one place and is referenced by other systems with integration.</li> </ul> </li> <li>- Reference System data management <ul style="list-style-type: none"> <li>o Reference System Data for procedures and practices are maintained in the system and readily available to the users</li> </ul> </li> <li>- Applying rule bases and data profiles <ul style="list-style-type: none"> <li>o Rule bases and Data profiles validate data as it is loaded into the databases and govern user input to reduce errors</li> </ul> </li> <li>- Automated Document Generation &amp; Management <ul style="list-style-type: none"> <li>o Documents are controlled for management of Change and automatic report generation from the database</li> </ul> </li> </ul> <p>SmartPlant Instrumentation Maintains Safety Instrumented Systems Data</p> <ul style="list-style-type: none"> <li>- SAFETY INSTRUMENTED SYSTEMS INDEX DATA <ul style="list-style-type: none"> <li>o All Safety Device Tag Numbers with Related Data</li> <li>o Additional Fields of data specific to Safety Devices</li> </ul> </li> <li>- SAFETY INSTRUMENTED SYSTEMS SPEC DATA <ul style="list-style-type: none"> <li>o Specify Safety Devices for Sizing, Selection &amp; Purchase</li> <li>o Additional Spec Sheets for Unique Safety Devices</li> </ul> </li> <li>- SAFETY INSTRUMENTED SYSTEMS WIRING DATA <ul style="list-style-type: none"> <li>o All Wiring From Safety Devices to Logic Solver I/O</li> <li>o Additional Wiring Requirements for Safety Power System</li> </ul> </li> </ul>	

8	Presentation SPI meets SIS (continued)	<ul style="list-style-type: none"> <li>- SAFETY INSTRUMENTED SYSTEMS DOCUMENTS <ul style="list-style-type: none"> <li>o Reference Document Management System PCS</li> <li>o Additional Information Management for Safety Systems</li> <li>o Operator Document Retrieval of Safety Information</li> </ul> </li> <li>Safety Instrumented Systems Integration To SmartPlant Instrumentation</li> <li>- Documenting and Integrating Safety Instrumented Systems with SmartPlant Instrumentation Results: <ul style="list-style-type: none"> <li>o Integrity of the Data Centric Environment Provides for Maintaining and Accessing the Safety Instrumented Systems Information</li> <li>o Automatic Change Management Updates Reports and Display Screens as Configuration Changes, Helps Meet Regulatory Requirements</li> <li>o Controlled Access, and Electronic Records Keeping Needed for the Operation and Maintenance of the Safety Systems</li> <li>o Real Time Access to Process Control System and Safety Instrumented Systems Data Provides Facilities for Quick Disaster Recovery</li> </ul> </li> </ul>	
9	Forum Topics	<ul style="list-style-type: none"> <li>- Using SmartPlant Instrumentation over Terminal Server</li> <li>- SmartPlant Instrumentation Workarounds</li> <li>- EPC use of Owner Operator Domain Setup</li> </ul>	
10	Close	<ul style="list-style-type: none"> <li>- Review of meeting</li> <li>- Review of action items</li> <li>- Next meeting to be August 21 at DOW</li> <li>- John Dressel closed meeting</li> </ul>	