2015 Plant Automation & Decision Support Q&A Session*

1.	Alarm Management	What are the recommended best practices after completing alarm rationalization to make sure that alarm rates and alarm flood conditions are kept under control? Who is doing dynamic alarming and what are the critical factors for success?
2.	Alarm Management	Some companies connect critical alarms directly to the DCS display where it gets mixed in with all other unit alarms. These alarms can be overlooked during unit upsets when they get mingled with the rest of the alarms. Some companies bring these alarms back into a separate system which demands they be viewed and acknowledged separately. Which way is the industry heading concerning this issue?
3.	Alarm Management	What department stewards your alarm management system? What are the steward's skill sets (e.g. former operator, etc.)? Is this a part or full time position? Do you allow Operators to change alarm limits, then periodically enforce the Master Alarm Data Base, or require an MOC for all alarm changes? Do you handle alarm rationalization internally, or use contractors?
4.	Alarm Management	What, if any tasks, do you outsource for developing an Alarm Management program? What, in your opinion, are the best ways to sustain Alarm Management?
5.	DCS and APC Benefit to Overall Organization	Other than KPIs such as Service Factor or Technical, should be used to evaluate APC performance? Are there any economic indicators? Are these based on post-audit results or on other factors? And how is it reported?
6.	DCS and APC Benefit to Overall Organization	How could a site best involve stakeholders in promoting and maintaining APC? For example: Stakeholder training, lunch-and-learn, quarterly controller meetings (per application), console operator qualification (new and requalification), aligning Planning and APC target transfer.
7.	DCS Asset Lifecycle	When is the best time in a lifecycle to begin a DCS upgrade? When new features are available? To be completed before vendor ends parts supply? Continue as long as parts can be sourced from third-parties? Do you keep part of your system hardware/software current (e.g, the HMI) while continuing to use other elements that are mature/obsolete?
8.	DCS Asset Lifecycle	What drivers impact DCS lifecycle updates: DCS operating system release, MS Windows version, application release (blending, plant historian), hardware obsolescence, graphics software release, APC platform, other? What

		cycle do you use? What is the update length? How do you justify the upgrade with other competing capital projects?
9.	Designing Control Systems to Meet Industry Standards	What is the ratio of console stations to operators) How was this ratio determined? How is the screen configured (single, dual, quad)? What is the typical screen size being utilized?
10.	HMI/Human Factors	What are the best procedures to determine equitable console operator work load? Number of loops, process complexity, number of alarms, interruptions (phone calls, etc)? Do you compare your results to industry data?

*Answers to these questions will not appear in the Q&A Answer Book

Alarm Management:
Stephen Apple, Global Director Operator Performance Services, Schneider Electric

Missy Jones, Senior Alarm Management Specialist, Honeywell Process Solutions has 16 years of industry experience and has been with the Honeywell organization for the past 13 years. Missy has been an Alarm Management consultant for 10 years advising clients on all aspects of the Alarm Management Lifecycle. Her experience includes the development of Alarm Philosophy Documents, Alarm Analyses, Alarm System Assessments, Alarm Rationalization facilitation as well as Alarm Management product implementations on multiple control systems across varied industries. Missy is a member of ISA 18.2.

Robert Zapata, PC&A Staff Engineer, Tesoro Corporation is located in Tesoro's San Antonio office with responsibility for process automation, cyber security strategies, standards development, and strategic/tactical control systems planning. His experience includes alarm management, advanced process control, project management, controls systems migration, blender operation improvements, and applied human factors in control rooms. He has actively participated in the Abnormal Situation Management Consortium, ISA technical committees, and Controls Systems Advisory boards.

DCS:
Marcelo Carugo, Director, Global Refining Industry, Emerson Process Management leads the Refining Programs across Emerson. Marcelo has over 25 years of experience within the refining, and petrochemical in the Americas and Europe. His experience involves process plants, terminal facilities, and operations. His expertise covers automation systems, advanced control and optimization projects, consulting, and design. Specialties include economic justification, off-sites, blending, and logistics. He holds an Electronic Engineering degree from University of Buenos Aires, and a Master degree from NUFFIC, The Netherlands.

Randy Conley, DCS SIS APC Implementation Supervisor, Total Petrochemicals & Refining, USA, Inc. He is currently architect for PAR's multiyear refinery-wide DCS and SIS migration projects. He also supervises the advanced control group. Randy's previous employers include Profimatics and CITGO's Lake Charles Louisiana refinery. While at Profimatics, Randy led four refinery-wide pneumatic-to-DCS migration studies at locations in the US, Italy and Germany. While at CITGO, Randy was involved in one of the first commercial pneumatic-to-TDC2000 refinery conversions. Randy is a Registered Professional Engineer (PE) and Project Management Professional (PMP). He holds BS and MS degrees in Chemical Engineering from Lamar University.

Lonnie Faucheux is a Solutions Consultant in the Refining Marketing group of Honeywell Process Solutions. He is based in Baton Rouge, Louisiana and has over 30 years of experience in process control and information technology. He focuses primarily on automation solutions for refining and petrochemical customers. Prior to his Honeywell career, Lonnie performed various roles in process control and information technology for a major refining company.

Advanced Process Control (APC):

Charles Johnston, Lead Process Controls Engineer, Tesoro Corporation has been active in the Advanced Process Control area since 1979. Charles attended University of Texas at Austin from 1976 to 1979, majoring in Chemical Engineering and completing 86 semester hours. In 1979 he left UT Austin to attend dental school, graduating with a DDS degree in 1983 from University of Texas Dental Branch in Houston. While attending dental school, he worked part-time as a contractor at Shell Oil in their Information and Control Systems group, building operator graphics, writing FORTRAN applications programs, and assisting in optimization research. In 1984, he left dentistry and joined Dr. Charles Cutler at Dynamic Matrix Control Corporation where he participated in the development of the Dynamic Matrix Control technology.

Charles has held positions at Dynamic Matrix Control Corporation, Aspen Technology, Inc., Control Consulting Inc., Mustang Engineering, and most recently at Tesoro Refining and Marketing Company, LLC. He has held various technical and management positions. He has been involved in all areas of advanced process control, including research, product development, project implementation, business development, and project/program management. In the last thirty years, he has applied model based control to all major refinery units, olefins plants, and specialty chemicals plants. He received an MS degree from Rice University in 1992 in Mathematical Sciences.

Sriram Ramaganesan, Director, APC Technology, Valero Energy Corporation started his professional career with Aspen Technology, Inc. In the 12 years he spent with AspenTech, he implemented Advanced Process Control (APC) solutions on most of the key units in a typical refinery in addition to several petrochemical processes. He functioned as a trusted advisor to several companies in the refining and petrochemical industry. In the 7+ years with Valero Energy Corporation, he has been managing the APC and RTO initiative across the organization and has been responsible for significant value creation through APC/RTO adoption and functions as the subject matter expert in the field of APC. Sriram holds a Ph.D. in Chemical engineering from the University of Louisville.

Robert Stott, Advanced Controls Engineer, Phillips 66 has worked in the Energy industry for 34 years, first as a Process Design Engineer, then for the last 27 years in Advanced Process Controls, both as a consultant in a central Technology group, as well as a controls engineer in several plants. He has implemented or consulted on APC applications in 7 refineries and on a variety of refining process units, including cokers, FCC's, fractionators, blending applications and HDS units. Robert also has significant experience in alarm rationalization.