

Pipeline Performance Group Consultant Qualifications and Services

Pipeline Performance Group has worked or is working with over 20 companies in 19 control centers on control room assessments, development of Control Room Management (CRM) plans, implementation of CRM plans, new control room design, workload assessments, and training on several subjects.

They are working with ten companies on fatigue risk management plans and twenty-one companies providing fatigue management educational materials to twenty-four companies.

These companies are located in Georgia, Texas, Louisiana, Oklahoma, Arkansas, New Jersey, California, Kansas, and Pennsylvania, as well as Alberta Canada. In addition, , the company has provided controller training, procedures, and consulting for the Beijing Oil and Gas Control Center of PetroChina.

The company is the only human factors consulting company that applies practical pipeline shift work experience, control room management and consulting experience, and doctoral qualifications to the development of control room management plans, pipeline human factors consulting, and fatigue risk management programs.

In the past five years, we have:

- Developed operating procedures and/or evaluated procedure programs
- Developed training materials and conducted training for American, Canadian, and Chinese pipelines
- Developed job descriptions and job performance criteria
- Reviewed and advised on shift schedules, using fatigue modeling software
- Developed and delivered fatigue management training and educational materials
- Developed control center design criteria and layout assistance
- Performed assessments of control room ergonomic, environmental, and spatial factors
- Developed and implemented CRM plans
- Developed procedures for backup SCADA tests, evacuation plans, point to point tests, alarm management
- Assisted in development of display standards for SCADA displays in control rooms
- Served on the API committee that developed API Recommended Practice 1167 for alarm management
- Performed human factors and organizational assessments of control center organizations
- Performed workload analyses to determine if workload is acceptable or not
- Worked with pipeline operations on safety-related and organizational improvements

Charles Alday Charles has 45 years of experience in pipeline construction, operations, maintenance, management and consulting. For the last six years of his 30 year career with Colonial Pipeline Co. he worked with people and teams in all parts of the organization as leader of Colonial's Operational Excellence program – designed to eliminate pipeline leaks, spills, and errors. A human factors program was a critical component of Operational Excellence. Charles has provided human factors and organizational consulting with many pipeline companies, including comprehensive analyses of eight pipeline control centers. He led or participated in task analysis, time and task workload study, cognitive workload study, and alarm study at Colonial Pipeline. Charles is a regular presenter at Southern Gas Association, American Gas Association, API Pipeline Conferences and Control Room Forums and other industry meetings on topics related to fatigue, workload, and training and works closely and maintains

close relationships with control rooms and PHMSA regarding Control Room Management (CRM) compliance and best practices.

Michele Terranova Michele holds a Ph.D. in Industrial/Organizational Psychology with a major in Human Factors from Old Dominion University. Michele, with 20 years experience in Human Factors and User Interface Design, has worked in a vast array of environments, in nuclear, military, aviation, and process control. Michele has held previous positions as the Director of Human Factors Research at Concord Associates, Inc. and Senior Research Scientist at The Oak Ridge National Laboratory. Michele has been involved in analysis, design, and evaluation of web sites and interactive systems in transportation (public and commercial), nuclear, military, and government. She has done human factors consulting and training with eight pipeline companies. This includes the ergonomic design of a new control center, alarm management analysis and plan for reduction of alarms, SCADA display evaluations, human factors assessments, and workload studies.

Ali Gibson is a results-oriented executive experienced in strategy, business development, operations, project management, process improvement and team leadership. At Colonial Pipeline Co., she served as the Leader, Products Movement and Customer Relations & Member of Operations Leadership Team (2002-2004); Business Development Manager (2001-2002); Mergers & Acquisitions Coordinator (2000-2001); Associate Operations Manager (1999-2000); Chief of Staff to the Senior VP & COO (1998-1999); Customer Relations Coordinator (1996-1998). Her experience in petroleum, transportation, supply chain, manufacturing, emerging technology and international events management provides additional benefits to Pipeline Performance Group. She had a proven track record leading cross-functional teams to execute complex and transformational initiatives. Ali is a self-driven team player who thrives in dynamic environments requiring flexibility, creativity, problem solving and innovation.

Michele Terranova Michele holds a Ph.D. in Industrial/Organizational Psychology with a major in Human Factors from Old Dominion University. Michele, with 20 years experience in Human Factors and User Interface Design, has worked in a vast array of environments, in nuclear, military, aviation, and process control. Michele has held previous positions as the Director of Human Factors Research at Concord Associates, Inc. and Senior Research Scientist at The Oak Ridge National Laboratory. Michele has been involved in analysis, design, and evaluation of web sites and interactive systems in transportation (public and commercial), nuclear, military, and government. She has done human factors consulting and training with eight pipeline companies. This includes the ergonomic design of a new control center, alarm management analysis and plan for reduction of alarms, SCADA display evaluations, human factors assessments, and workload studies.

Sarah Acton holds a Masters degree in Experimental Psychology with a focus on Human Factors Engineering. She has 11 years of experience in Human Factors designing for situation awareness and transportation safety in both the Military and Transportation Industry. Sarah has completed several fatigue, alarm, and workload studies for the US Coast Guard, the Army and the Federal Railroad Administration. She has worked with six pipeline control centers in 2011.