

Proposed Abstract for the 2008 Texas Instrumentation Symposium for the Industries

Focus Area: Safety Systems

Title: Performance Based Fire & Gas System Design:
SP84 Working Group 6 Sub-Committee Update

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Abstract

The ISA SP84 committee has formed Working Group #6 with a charter to develop a Technical Report (TR) to provide guidance for end users, engineering firms and / or OEM vendors of industrial fire and gas systems in the process industries through development of a performance based lifecycle approach specifically geared toward the design of mitigative systems (i.e. Fire & Gas Systems). This TR will be implemented following a lifecycle based approach patterned after ANSI/ISA 84.00.01-2004 (IEC61511 MOD). This white paper shall provide an update on current sub-committee efforts and progress.

Mitigative systems need to be analyzed differently from a traditional preventative system with regards to performance based design concepts and subsequent calculation of the desired and achieved levels of risk reduction. Towards this end, the sub-committee has developed a methodology and associated reliability model to support implementation of a risk based performance based approach to mitigative systems. This new methodology and reliability model as it pertains to mitigative systems shall be presented. In addition, the relationship between traditional preventative Safety Instrumented System concepts such as PFD_{avg} and Safety Integrity Levels and mitigative systems shall be clarified.

Author Bios: Mike Scott, PE, CSFE is Vice President of Process Safety at AE Solutions. He has a BSME from the University of Maryland and a Masters of Engineering from the University of South Carolina. Mr. Scott is the current co-chair of the S84 working group 6 fire & gas sub-committee. In addition, Mr. Scott is a senior member of ISA, past Safety Division BMS chairman current Safety Division FGS chairman, and ISA course instructor / developer on safety systems. He is a licensed Professional Engineer in Alaska, Georgia, South Carolina, Illinois and Alaska and is also a TUV Certified Functional Safety Expert.

Bud Adler is Director of Business Development at AE Solutions. He has a BSEE from the University of Delaware and has over 40 years of experience in instrumentation and controls. Mr. Adler is Director of the ISA Safety Division and is an active member of ISA 84 standard committee, its burner management system and fire & gas system sub-committees. In addition, he is an author of numerous articles on safety instrumented systems.