

**SELECTED REFERENCES**  
**THE ECONOMICS OF PROCESS CONTROL IMPROVEMENT**

Presented at  
VIII International Symposium on Automation  
Lima TECSUP Peru  
Harold L. Wade  
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**IMPROVED PROCESS CONTROL**

**TECHNOLOGY**

Wade, Harold L., *Basic and Advanced Regulatory Control: System Design and Application*. 2<sup>nd</sup> Ed. ISA, 2004.

Bevins, Terrence L., Gregory K. McMillan, Willy K. Wojsznis, and Michael W. Brown.. *Advanced Control Unleashed*. ISA, 2003.

Rossiter, J. A., *Model-Based Predictive Control. A Practical Approach*. CRC Press. 2003

**BENEFITS ESTIMATION**

Friedmann, Paul G. *Automation and Control System Economics*, 2<sup>nd</sup> Ed. ISA, 2006

**ABNORMAL SITUATION MANAGEMENT**

**OVERVIEW**

[www.mycontrolroom.com](http://www.mycontrolroom.com) (Especially see “White Papers”)

**ALARM MANAGEMENT**

ASM Consortium. *Effective Alarm Management Practices*. 2009.

<[www.creativespace.com/3584799](http://www.creativespace.com/3584799)>

ANSI/ISA Standard 18.2 – 2009. *Management of Alarm Systems for the Process Industries*.

EEMUA 191. *Alarm Systems: A Guide to Design, Management and Procurement*.

NA 102. *Alarm Management*. User Association of Process Control Technology in Chemical and Pharmaceutical Industries (NAMUR).

Rothenberg, Douglas H. *Alarm Management for Process Control*. Momentum Press. Aug 2009.

Hollifield, Bill. R and Eddie Habibi. *Alarm Management: Seven Effective methods for Optimum Performance*. ISA. 2007.

## **HUMAN CONTROL INTERFACE**

ASM Consortium. *Effective Operator Display Design Practices*. ASM Consortium. 2009.  
(Available from [www.createpace.com/3355979](http://www.createpace.com/3355979))

EEMUA 201. *Process Plant Control Desks Utilising Human-Computer Interfaces – A Guide to Design, Operational and Human Interface Issues*.

Hollifield, Bill, Dana Oliver, Ian Nimmo and Eddie Habibi. *The High Performance HMI Handbook*. ISA. 2008.

(See also ISO 11064 Part 4-2004 and ISO 1164 Part 5-2008 below.)

## **CONTROL ROOM DESIGN**

ISO 11064 *Ergonomic Design of Control Centres*.

Part 1-2004. Principles for the Design of Control Centres.

Part 2-2000. Principles for the Arrangement of Control Suites.

Part 3-1999. Control Room Layout

Part 4-2004. Layout and Dimensions of Workstations.

Part 5- 2008. Displays and Controls.

Part 6-2005. Environmental Requirements for Control Centres

Part 6-2006. Principles for the Evaluation of Control Centres.

## **SAFETY INSTRUMENTED SYSTEMS**

### **STANDARDS, GUIDELINES AND REGULATIONS**

OSHA 29 CFR1910.119. Process safety management of highly hazardous chemicals

IEC 60300-3-9. International standard containing guidelines for analysis techniques of technological systems.

ISO 14001. International standard for guide to environmental risk management.

ANSI/ISA-84.00.01-2004 (IEC 61511 Mod). *Functional Safety: Safety Instrumented Systems for the Process Industry Sector*. ISA.

Part 1. Framework, Definitions, System, Hardware and Software Requirements

Part 2 Guidelines for the Application of Part - Informative.

Part. Guidance for Determination of the Required Safety Integrity Levels – Informative.

ISA-TR84.00.02-2002. *Safety Instrumented Functions (SIF) Safety Integrity Level (SIL) Evaluation Techniques*

Part 1. Introduction

Part 2. Determining the SIL of a SIF via Simplified Equations.

Part 3. Determining the SIL of a SIF via Fault Tree Analysis.

Part 4. Determining the SIL of a SIF via Markov Analysis

Part 5. Determining the PFD of Logic Solvers via Markov Analysis.

ISA-TR84.00.03-2002. *Guidance for Testing of Process Sector Safety Instrumented Functions (SIF) as or Within Safety Instrumented Systems (SIS)*

ISA-TR84.00.04-2005.

Part 1. *Guideline on the Implementation of ANSI/ISA-84.00.01-2004 (IEC 61511 Mod)*

Part 2. *Example Implementation of ANSI/ISA-84.00.01-2004 (IEC 61511 Mod)*

EEUMA 222. *Guide to the application of IEC61511 to safety instrumented systems in the UK process industries.*

Center for Chemical Process Safety. *Guidelines for Safety Automation of Chemical Processes.* AIChE. 1993.

Goble, William M. and Harrie Cheddie, *Safety Instrumented Systems Verification: Practical Probabilistic Calculations.* ISA. 2005.

Gruhn, P and H.L.Cheddie, *Safety Instrumented Systems: Design, Analysis, and Justification*, 2<sup>nd</sup> Ed. ISA. 2006.

Marszal, Ed and Eric Scharpf, *Safety Integrity Level Selection.* ISA. 2002