1 Foreword

As a technical report, ISA-TR84.00.05 is provided for information purposes only and is not part of ANSI/ISA-84.00.01-2004 (ref. 4.1)

ISA-TR84.00.05 is intended for reference in applications where it has been determined that ANSI/ISA-84.00.01-2004 applies.

NOTE Throughout this technical report, the term “ANSI/ISA-84.00.01-2004” is used to refer to ANSI/ISA-84.00.01-2004 Parts 1-3 (IEC 61511 Modified).

ANSI/ISA-84.00.01-2004 provides minimum requirements for designing and managing safety instrumented systems (SISs) based on functional and integrity requirements established during a hazard and risk analysis. The specific methods used to conduct the hazard and risk analysis are outside the scope of this technical report. Additional guidance is provided in ANSI/ISA-84.00.01-2004 Part 3 (ref. 4.1) and in *Guidelines for Hazard Evaluation Procedures* (ref. 4.2).

The ISA84 committee determined that it was appropriate to provide supplemental information on the application of hazard and risk analysis to Burner Management Systems (BMS). The purpose of ISA-TR84.00.05 is to provide users of ANSI/ISA-84.00.01-2004 with guidance on how to identify safety functions within the BMS. Safety functions classified as Safety Instrumented Functions (SIFs) should be designed and managed according to ANSI/ISA-84.00.01-2004, as well as other applicable practices. The presented work processes and illustrations are not intended to replace, but instead to supplement, the requirements of good engineering practices applicable to BMS, such as NFPA 85, NFPA 86, API 556, ASME CSD-1, and API RP 14C (see Clause 4).

In jurisdictions where the governing authorities (e.g., national, federal, state, province, county, city) have established process safety design, process safety management, or other requirements, these take precedence over the guidance provided in this technical report.

NOTE The example BMS architectures represent <u>possible</u> system configurations and should not be interpreted as recommendations. The configurations used in actual applications are specific to the operating environment and process conditions where they are used. As such, no general recommendations can be provided that are applicable in all situations. The user of this technical report is cautioned to clearly understand the assumptions and data associated with the methodologies in this document before attempting to utilize the methods presented herein.

The users of ISA-TR84.00.05 will include:

- Manufacturers of BMSs who are applying the requirements of ANSI/ISA-84.00.01-2004, in addition to other applicable good engineering practices.
- Hazard and Risk Analysis teams identifying and classifying the SIFs within a BMS.
- SIS designers who want an understanding of the safety requirements of BMS.

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