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Functional Safety Management Planning

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Abstract

Successful implementation of the Functional Safety standards, IEC-61508 and IEC-61511 (or ANSI/ISA 84), begins with robust management planning. The Functional Safety Lifecycle includes activities at all stages of a process lifespan, including conception of a project, hazards identification, specification, design and implementation, verification and validation, operation and maintenance, and modification and decommissioning. Each phase of the lifecycle has specific requirements for the activities that must be completed, goals to be achieved by those activities and expectations of the documentation. The standards are performance based, so for a turnkey project, the path to compliance is defined by the project engineering management firm. A written Functional Safety Management Plan (FSMP) defines the desired path and success metrics to ensure functional safety objectives are met at all stages of the lifecycle. This paper will review the requirements for functional safety management planning, and share the experiences of one large capital project where the lifecycle planning and execution failed expectations.

Keywords

Project Management Procedures and Controls, Interlocks & Safety, Safety Instrumented Systems (SIS), Residual Risk Management, Alarm and Instrument Management, Automatic SIS System