Trip Requirement and Availability Calculator (TRAC) software

Demonstrate compliance with IEC 61511.

Safety Instrumented Systems (SIS) can be found on the vast majority of process industry manufacturing facilities to protect against hazards to personnel, the environment and plant equipment.

The International functional safety standard IEC 61511 constitutes good practice for SIS operating within the process industries. Compliance to the standard requires the risk of hazardous events to be reduced to a tolerable level, and any required safety instrumented systems to be designed and maintained to provide the necessary level of risk reduction.

**What we offer**
The Trip Requirement and Availability Calculator (TRAC) provides a structured and robust approach to risk reduction and instrument design requirements. TRAC assists with Safety Integrity Level (SIL) assessment and the identification of the reliability and performance requirements of Safety Instrumented Systems (SIS).

In order to demonstrate compliance with IEC 61511 operators must be able to:
- Demonstrate adequate risk reduction to protect against hazardous events
- Demonstrate that Safety Instrumented Systems do provide the required risk reduction
- Provide design reliability data and supporting documentation

TRAC will efficiently record the risk assessments associated with the hazards present (utilising either a calibrated Risk Graph or set of LOPA tables). TRAC also records the loop design and the basis of the risk reduction from the required Safety Instrumented Functions (SIF’s). The details of the assessments are stored in a central location, providing a sustainable audit trail.

TRAC provides a repeatable methodology for SIS design. The software tool offers Risk Graph and LOPA techniques to assist in assessing process safety risk reduction requirements, expressed as Target SIL’s. A graphical interface enables the seamless design of the necessary SIS against the requirements of IEC 61511, using internal component reliability data.
In doing so, TRAC provides multiple solutions for testing of inputs and outputs within bands of the required maximum and minimum allowable probability of failure on demand (PFDavg). For each span of test intervals a cost of testing is calculated from known annual testing costs. Results are displayed graphically and a comprehensive report is issued with fully traceable and archived decision processes.

A number of license arrangements are available, along with full technical support and training.

**Benefits**

- Efficient and structured recording of hazardous event scenarios using an appropriate calibrated risk technique allows the user to harness the operational experiences of the study team into a comprehensive repository
- Provides traceable justification for the key assumptions derived in establishing the SIF risk reduction requirements
- Allows determination of the optimum design configuration and periodic test intervals for a required SIF's in one tool. This ensures that effective and appropriate functionality is designed to satisfy the required level of risk reduction
- The outcome of the comprehensive report for each hazard scenario reviewed is a detailed functional safety record which also optimises the reduction in the maintenance burden while remaining compliant with regulatory and organisational requirements
- It readily assists with the re-validation and revision control requirements under your management of change systems

**Why ABB?**

The TRAC software is only available from ABB, it was developed in conjunction with BP ensuring an end user operational bias in the structure and data within the tool to make it intuitive and comprehensive in its use.

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The tool gives a structured and calibrated approach towards important safety management and instrument design requirements.

ABB have an unrivalled capability in the field of safety-related systems encompassing many different sectors. We offer a unique safety-related systems portfolio to our customers, spanning the complete asset and safety life-cycle, providing consultancy, software and hardware technologies and service support.