

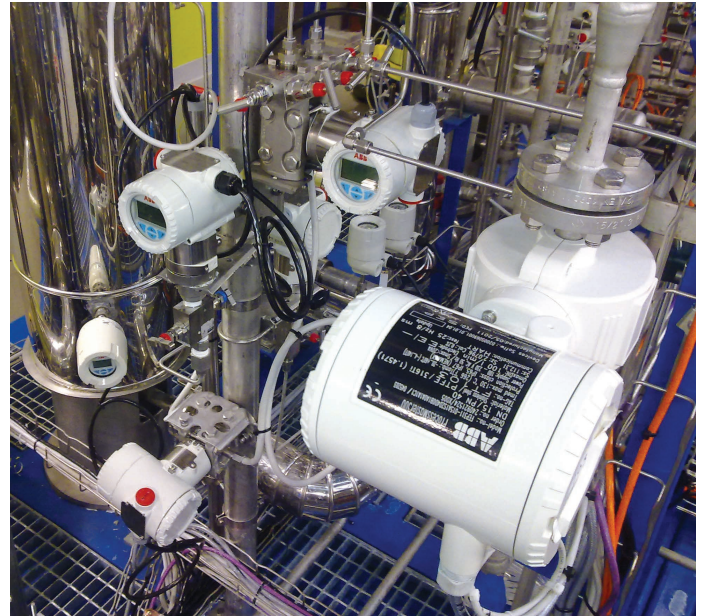
FMEDA and Prior Use Assessment Product Compliance to IEC 61511

ABB Safety Lead Competency Centre (SLCC) provided an FMEDA (Failure Modes Effects and Diagnostic Analysis) and 'Prior Use' Assessment service to support SIL 2 Safety Device IEC 61511 compliance.

A product manufacturer client with an existing safety device was prompted to carry out a 'Prior Use' Assessment in accordance with IEC 61511 Clause 11.5 for use of the device within a suitable safety related application. The study was to consider the requirements for both FMEDA and Prior Use compliance in accordance with the specific clauses for both Hardware and Systematic Capability claims for an existing product up to and including SIL 2 capability.

The client also required a third party certificate and report such that the device under consideration could easily be absorbed into the organisation, and could be used as the 'bedrock' for their future product safety lifecycle development strategy.

As SLCC has an international track record for delivering functional safety assignments including: functional safety assessment, safety requirements specification, SIL verification, competency development/training and proof testing studies we were approached by the client to help them manage the requirements.



Benefits

The key objective of the study was to conduct an FMEDA and 'Prior Use' assessment that allowed the client to:

- Identify the key concerns and issues from an IEC 61511 safety lifecycle perspective
- Identify the costs and spend map to enable informed business decisions to be made with respect to assessment and safety device certification
- Ensure that right actions could be planned and executed in a timely manner to enable the safety device to be used in the design and engineering of a SIF and to provide demonstrable evidence of such up to an including SIL 2 capability
- Produce a 'safety manual' for a compliant safety element in accordance with IEC 61508 Annex D requirements

The ABB Approach

Solution

In accordance with ABB's functional safety management methodology the project started with a scoping study of the safety device followed by a detailed FMEDA and 'Prior Use' assessment and reporting including the management of independent third party certification by our specialist certification associates.

SLCC consultants worked very closely with the client's personnel and independent certification body as 'one team'. This ensured that the client understood and bought into the process being used and appreciated the analysis and justification behind the decisions. In doing so the client's personnel were able to take the work to the implementation stage with full understanding and knowledge of how the assessment was performed and concluded for 'how we got there'.

Because SLCC's functional safety methodology is flexible and adaptable it was easily tailored to meet the client's requirements and the characteristics of the safety device being assessed.

The project followed the requirements of IEC 61511 to be able to demonstrate full compliance necessary for the Hardware failure measures, associated Software and Systematic capability claims of the device up to and including SIL 2 rigour, including traceability of a product safety manual in accordance with IEC 61508 Annex D.

The SLCC assessment approach is a consultancy implementation supported by tried, tested, consistent and coherent methodologies and capabilities.

For further information please contact:

ABB Safety Lead Competency Centre

Howard Road
St Neots
Cambridgeshire
PE19 8EU
United Kingdom
Tel: +44 (0)1480 475 321
E-Mail: oilandgas@gb.abb.com

www.campaignlandingpage.com/fs-main-landing-page

ABB SLCC provides technical and engineering services to improve performance in the areas of functional safety compliance, operations and engineering to customers in the chemical, petrochemical, oil & gas, power, pharmaceuticals, metals and consumer industries worldwide.