



Case Studies:
ESD System Replacement & PCS Upgrade – January 2022

EXPERTS IN INDUSTRIAL AUTOMATION

ESD System Replacement & PCS Upgrade

An oil terminal operator in the UK required the replacement of an ESD system to address equipment obsolescence and to enable modifications as part of a functional safety improvement programme. Extensive modifications were also required to the existing Process Control System.

We were engaged to provide engineering and commissioning expertise to deliver the system upgrades and the overall functional safety improvement programme. This included the requirement to complete independent design verification against IEC-61511.



Scope

Provide specialist ICSS engineering resources and act as the C&I discipline design authority.

Provide specialist commissioning engineering resources and act as the commissioning authority.

Management of the ESD system and PCS suppliers including the review and approval of all deliverables, witness testing, and managing delivery performance.

Manage the engineering support service contractor including the review and approval of all deliverables.

Independent review of all aspects of the design against IEC-61511 as part of an overall verification strategy. This included the execution of desktop HAZOP and LOPA studies, review of the safety requirement specifications, and verification of the integrity level for each Safety Instrumented Function (SIF).

Result

Effective management of the ESD system and PCS suppliers ensured a flawless delivery of the new system and modifications.

The detailed migration strategies and commissioning procedures ensured no disruption to operations during the pre-shutdown, shutdown and post-shutdown phases of the project.

The full ESD system migration and PCS upgrade were achieved ahead of schedule in readiness for production start-up.

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