

## ME24\_01 – E&I System integration in petrochemical plants

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**Abstract** - In petrochemical plants, all systems are linked to each other's. Electrical and instrument control systems are very tight in design and also run along each other during maintenance entire process. There are many points of interface between these systems. There are input / output interface between both systems logics. There are common equipment and intersection as well as grey area of work.

Both Systems control and protect critical assets, so the integration shall be made so tight to avoid catastrophic failures during an event of human error, equipment spurious operation or real incident. That integration shall start at the design phase to links between electrical schemes and control system logics. In addition, design validation and function test to be performed completely during maintenance such as full loop end to end and final element function test. Each systems equipment design limitation to be cleared to the expert and the design engineer to avoid future surprises.

In this paper, the early integration between the electrical and instrument control systems will be discussed with different scenarios along with case studies to avoid safety and process impact.