Integrating Fire and Explosion Risk Analysis, Fire zones, Fire and Gas Detection, Emergency Shutdown and Blow-down, and Fire Fighting capabilities in Natural Gas Liquid (NGL) Plant

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Abstract

Managing process safety risk in Natural Gas Liquid (NGL) plant is always a challenging task, especially when it comes to integrating the output of fire and explosion risk analysis into the detail design tasks. Some of which are

- optimizing plant layout,
- defining fire zones, emergency shutdown and blowdown scenarios for flare capacity,
- laying out fire and gas detectors, action on confirm gas or fire detections,
- locating emergency and blowdown valves,
- arranging active fire protection on overall plot plan and processing units,
- passive fire proofing on steel structures and vessels supports,
- 3D model review of safety systems.

This paper will provide systematic approach of integrating process safety deliverables during detail design stages of the project and thereby demonstrating ALARP for the key design decision made during the project phase to deliver an inherently safer facility.