

CLIENT CASE STUDY

“ELIMINATION OF A REMOTE FLARE SYSTEM”

- ∴ **Facility Type:** FPU / FPSO
- ∴ **Services Provided:** Engineering Flare Assessment

The Opportunity:

- ∴ An offshore floating production facility was originally designed with two flares: one on a boom riser and the other remotely located. Due to the design, the remotely located flare required large amounts of gas to operate. The site was interested in reducing operational costs and emissions by consolidating the two flares into the flare on the boom riser, eliminating the remotely located flare. However, there were concerns with the feasibility of such a flare consolidation, the effects of thermal radiation, and the possibility that system changes would increase the backpressures on the relief devices. Smith & Burgess was hired to review this system.

Our Solution:

- ∴ Smith & Burgess generated data on the individual relief systems design to use as the basis for a flare system analysis. These loads, along with the system depressuring loads, were then consolidated and included in the site-wide failure contingencies for the flare system analysis. Once the peak flare system loads and pressure design criteria were known, our engineers worked with flare vendors to identify a potential flare tip that would meet the requirements. Together, we developed a solution that integrated a high-pressure and low-pressure flare tip onto the single existing boom riser, eliminating the remote flare.

The Results:

- ∴ The Smith & Burgess engineers developed an alternative design that consolidated the high-pressure and low-pressure flare tips on the single boom riser. The design cost was less than \$500,000, which was less than a tenth of the original estimate from the site's conceptual design to eliminate the remote flare system. The Smith & Burgess engineers not only reduced the facility's capital expenditures, but also mitigated ongoing operations costs and improved the facility's overall safety. Additionally, due to the reduced scope of the facility upgrades, the operational impact was dramatically reduced from weeks to days.

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