

# PES

PRACTICAL ENGINEERING SOLUTIONS LLC

Concept + Design + Construction

## 24-3313/3314/3585 LIB 198' Flare & 213' Incinerator Design & Engineering

### Project Overview

Practical Engineering Solutions supported the design and execution of a major flaring and thermal destruction system consisting of a 198-foot flare and a 213-foot incinerator stack at an operating industrial facility. PES delivered FEL 1, FEL 2, and FEL 4 services, supporting the project from initial concept through detailed engineering and construction support. The scope included rerouting multiple existing flare stacks to the new incinerator while maintaining integration with live plant systems and to develop new tailgas piping to the newly installed flare stack.

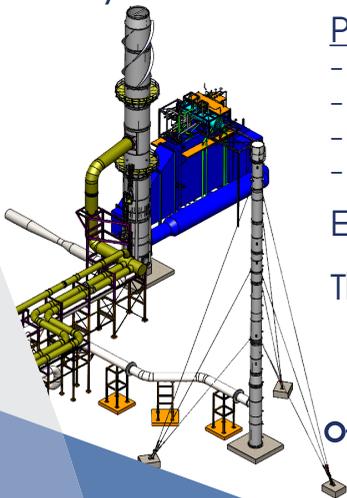
### Engineering Approach

PES executed front-end engineering at the FEL 1 and FEL 2 levels to establish system configuration, routing strategy, and overall feasibility, followed by FEL 4 detailed engineering to support fabrication and construction. Engineering scope included process calculations for the combined flare and incineration system, detailed pipe stress analysis for new and rerouted piping, and structural analysis of both new structures and existing assets impacted by the tie-ins.

Special attention was given to the existing underground utility systems, the interface between existing flare systems and the new incinerator (including load transfer, thermal expansion, and constructability constraints), and plant operation & maintenance for the new flare location. PES developed a coordinated design that balanced operational requirements with safe integration into the live facility.

### Execution & Delivery

PES provided engineering support throughout construction and delivered general arrangement and fabrication drawings for new piping and structural systems. By maintaining continuity from concept through execution, PES reduced handoffs and execution risk while supporting efficient fabrication and field installation using a lean, senior-led delivery model.



#### PES Deliverables:

- FEL 1 / 2 / 4
- GA Drawings; Piping & Structural Fabrication Drawings
- Process Calculations and Pipe Stress & Structural Analysis
- Construction Management

#### Project Timeline:

- 18 Months  
(Design to Commissioning)

Estimated Total Installation Cost (TIC): \$4,000,000

The project was delivered on schedule and within the approved budget.

# PES

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