

Innovative load transfer system to modify flares

A refinery came to the Brindley Engineering team to determine a solution for modifying five existing flare systems without having to remove the entire flare.

BE the Solution

First, the team analyzed the derrick structures, which are made of light gauge steel members. Two of the derricks could support the flare with the addition of some additional reinforcement. The other three either didn't have sufficient capacity due to design and deterioration. We devised an alternative support system comprised of pre-fabricated sections and temporary mat foundations instead of permanent concrete foundations. Brindley developed an innovative load-transfer method utilizing a unique synchronized jacking system to safely remove the sections of the flares. All five flares were executed without any issues.

Our Challenges

Existing flares were approximately 200 ft tall, derricked flares. The project needed to remove and replace a section of each flare approximately 5 ft long, about 30 ft from the ground. To do this is to remove a section of the primary load path of the flare. The work had to be done as quickly as possible to minimize operational impact.

BE the Result

Brindley's creative design allowed the modifications to take place in-situ and was centered around safety, constructability, and minimizing the outage, exceeding all expectations.

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