



Minimisation of Flaring Challenges & Best Practices

April 2022





Previous stack flare operational challenges

Concerns raised

- Most Pressure Relief Valves at the Refinery were linked to the one elevated flare (roughly 50m)
- Some Low-Pressure Relief Valves relieved straight to atmosphere when required
- Numerous community complaints were received wrt noise and smoke visibility from the flare stack (Noise from steam control with flaring volume fluctuations)

Assessment outcome

- Need for a new closed flare system was identified
- Flare Modernisation



Flare Modernisation

Recommendations implemented

- Multi-point ground flare replaced the previous 50m flare. Made of up numerous small burners constructed in rows. Surrounded by 10-15m high steel fence.
- New elevated flare stack(~100m) with a low noise flare top with more efficient combustion for low pressure relief system and acid gas flare
- Tie in additional Pressure Relief Valves to the new flare system

Benefits

- Improvement in occupational safety
- Less noise associated with flaring/ dramatic decrease in noise complaints
- The elevated flare only burns when required during upset conditions
- The flame on the elevated flare is less visible
- Multipoint flare manages fuel gas system pressure relief events with minimal noise and smoke

Flare Modernisation



Flare Management Plan – Best Practice

- In order to maximise the benefits of the modernized flare system at the refinery, a Flare Management Plan was developed.
- This included Flare Operation (operator training), Monitoring (flow & composition) and Flare Reduction (quickly identifying source of flaring episodes & steps to be taken).