

This abstract will be presented during LNG2023 conference on 10-13 July in Vancouver, Canada among many other innovative projects, ideas and outlooks. LNG2023 will provide a unique platform for the global LNG industry and key stakeholders to discuss, debate, and showcase the latest industry developments and opportunities.



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INNOVATIONS IN STARTUP AND DE-PRESSURING PROCEDURES ENABLING SIGNIFICANT REDUCTIONS IN FLARING

Flare emissions during plant turnaround operations, such as start-up and shutdown, emit large amounts of carbon dioxide and carbon monoxide.

With the increasing focus on minimizing carbon emissions AKG (Al-Khaleej Gas) Operations in Qatar Gas and RL (Ras Laffan) Company implemented various strategic innovations to reduce flaring during turnarounds in 2021 / 2022

The innovative procedures included:

- Controlled pre-shutdown transfer of all dead-leg volumes in NGL circuits to the plant condensate header
- De-frosting of piping and equipment during pre-commissioning using nitrogen gas instead of the usual methane rich defrost gas.
- In AKG, staged automatic depressurization of the gas processing units (AGRU and Dehydration) first to the sales gas header and subsequently to fuel gas
- in RL, utilization of the MR loop to cool down the MCHE instead of an external cold liquid enabled flaring to be avoided and the cooldown period to be shortened from 28 hours to 7 hours

The paper will describe the individual procedures listed above, and the familiarization plans put in place to cover shift handovers during long start-ups.

The programme resulted

- in AKG, in a 70 -78 % reduction in flaring, additional revenues from the value of the gas not sent to flare, and shorter start up schedules through considerably reduced defrosting times
- in RL, the new MCHE cool down method that was adopted as the standard start-up procedure after the annual turnaround, successfully brought a 13.5% reduction in overall flaring and a 24.3% drop in startup flaring.

To view the full conference agenda, visit <https://www.lng2023.org/lng-programme-overview>