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Flare System Capacity Review

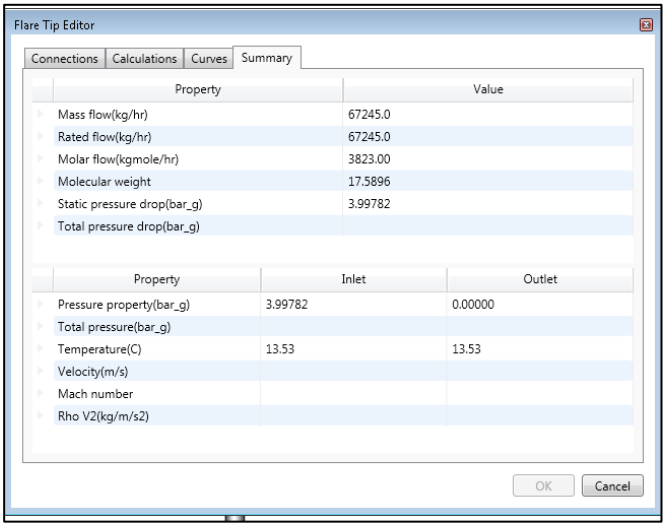
Challenge To determine if the existing high pressure flare system can accommodate an increased relief rate when the facility increases the total gas production rate.

Assessment The facility was designed to process oil and associated gas. The operator wishes to increase the production rate by 10%. Part of the review is to determine if the existing high pressure flare system can accommodate an increased relief and/or blowdown rate.

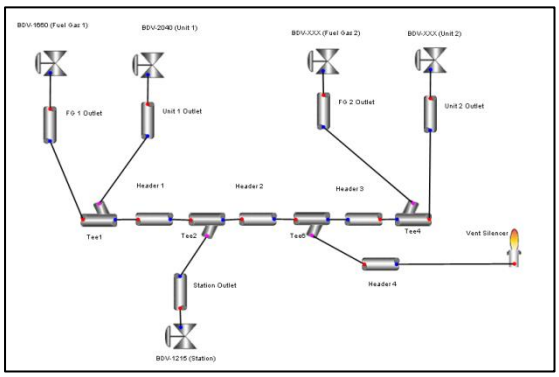
The existing high pressure flare system was modelled in Aspen Flare System Analyser™.

The facility will blowdown the high pressure gas system to the high pressure flare system during an emergency or as a result of a high pressure trip in the system. The performance of the high pressure flare system for each of these scenarios was assessed using the Aspen Flare System Analyser™ model against the flare system design criteria:

- Mach Number,
- gas velocity,
- ρv^2, and
- back pressure.



Results This study enabled the operator to assess the performance of their existing high pressure flare system at an increased blowdown rate.



The results from this assessment allowed production to increase and concluded that the increased blowdown rate was within the design limits of the high pressure flare system.

This type of assessment can be used on both flare and vent systems and can be used for debottlenecking an existing system or designing new systems.

For more information on this type of assessment please contact us.