

Numerical Simulation of a Sour Gas Flare

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Hydrogen sulphide (H₂S) is a common component of gas streams flared in western Canada. The impact of H₂S on flare combustion efficiency and overall flare emissions is not well characterized due to the difficulty of performing wind tunnel tests with this hazardous gas.

This project sought to develop a numerical simulation model of a sour gas flare of the type typically used in Alberta. The model will include detailed hydrocarbon and sulphur chemistry so as to predict concentrations of pollutants, combustion products and unburned reactants in the flare. The project will apply the tool that is developed to a range of flare operating conditions to give insight into the impact of H₂S concentration and operating conditions on sour flare performance and emissions.

Progress Report

Report

2006 Presentation

2007 Presentation