

Catalytic Combustion for the Elimination of Methane, BTEX and Other VOC

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This project is part of an initiative to address methane and volatile organic chemical (VOC) vent emissions, in upstream oil and gas operations, that are currently considered uneconomic and technically difficult or impossible to reduce by other means. The objective is to develop proven concepts for reactor technologies so as to economically reduce these emissions from various sources, including small, isolated and fugitive sources.

This project concerns solutions of concentrated methane that typically contain higher hydrocarbons – both BTEX (benzene, toluene, ethylbenzene and xylene) and non-BTEX compounds. Typical sources include glycol dehydrators and tank vents. Such streams have a high variability between sites and over the course of a year, and their emissions create potential problems.

Methane, although not toxic, is a strong greenhouse gas, and the oil and gas industry is under pressure to

reduce such emissions. Of greater importance, compounds such as benzene are considered quite toxic, and strong controls on their emission are either in place or being considered. The purpose of this research project is to examine the effectiveness and feasibility of using catalytic combustion technology to solve this problem.

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