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Low-Cost, Durable and Retrofittable Methane Oxidation Catalysts (Abstract)

CRADA 572 (PNNL 80036)

November 2022

Kenneth G Rappe

ChampionX LLC

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Abstract

There is significant concern over the contributions of GHG emissions to global warming which has sparked intense focus on reducing GHG emissions in industrial processes. In response, this project aims to develop and demonstrate a methane oxidation catalyst that can be deployed on NG engines used in US O&G industry and will serve to significantly reduce the carbon footprint associated with those midstream operations. The catalyst will achieve 90% oxidation efficiency while operating at 450°C or less and at 50% less Pd versus existing catalyst technology. This technology would enable the realization of nearly 30% reduced GHG emissions from NG engines (versus diesel) that methane slip from these engines otherwise negates.

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