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**Production of Fuel-Cell Grade Hydrogen by Thermal Swing Sorption
Enhanced Reaction (TSSER) Concept**

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Abstract

Hydrogen production by steam reforming of natural gas is a well established technology that is commercially used in the large scale (1 – 120 MM SCFD) production of high purity (99.999+ %) hydrogen in a number of industrial operations. The possibility of using hydrogen, a non-polluting fuel, has brought new interest in developing small, efficient fuel-cell grade hydrogen production units for residential or industrial use. This project is designed to develop a novel, step-out, low temperature, reforming concept for fuel-cell grade hydrogen production, called the “Thermal Swing Sorption Enhanced Reaction (TSSER)” concept. Partner companies include Air Products and Chemicals, Inc. (Allentown, PA).