

Title (en)
SYSTEMS AND PROCESSES FOR OPERATING FUEL CELL SYSTEMS

Title (de)
SYSTEME UND VERFAHREN ZUM BETREIBEN VON BRENNSTOFFZELLENSYSTEMEN

Title (fr)
SYSTÈMES ET PROCESSUS D'EXPLOITATION DE SYSTÈMES DE PILES À COMBUSTIBLE

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Abstract (en)
[origin: WO2010147886A1] The present invention is directed to systems and processes of operating molten carbonate fuel cell systems. A process for operating the molten carbonate fuel cell includes providing a hydrogen-containing stream comprising molecular hydrogen from a high temperature hydrogen-separation device to a molten carbonate fuel cell, wherein the high temperature hydrogen-separation device comprises one or more high temperature hydrogen-separating membranes; mixing at least a portion of hydrocarbons to be provided to, or provided to, a first reformer with anode exhaust from the molten carbonate fuel cell; at least partially reforming some of the hydrocarbons in the first reformer to produce a steam reforming feed; and providing the steam reforming feed to a second reformer, wherein the second reformer comprises the high temperature hydrogen-separation device or the second reformer is operatively coupled to the high temperature hydrogen-separation device, and the high temperature hydrogen-separation device is configured to produce at least a portion of the stream comprising molecular hydrogen provided to the molten carbonate fuel cell.

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