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(54) **VEHICLE FUEL CELL PURGING SYSTEM**

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(57) **ABSTRACT**

A vehicle includes a fuel cell, an inlet valve, a purge valve, and a controller. The fuel cell has an anode side configured to receive hydrogen. The inlet valve is configured to open to deliver the hydrogen to the anode side. The purge valve is configured to open to purge water and nitrogen from the anode side. The controller is programmed to, operate the inlet valve to inject hydrogen into the anode side via opening the inlet valve followed by closing the inlet valve. The controller is further programmed to, in response to a concentration of the hydrogen in the anode side being less than threshold, open the purge valve to purge water and nitrogen from the anode side.