Effects of Impurities on Fuel Cell Performance and Durability (Topic 6)

Clemson University

- Funding

DOE Cost Share	Recipient Cost Share	TOTAL
$1,980,404	$495,101	$2,475,505
80%	20%	100%

- Project Description: Clemson university research will investigate the effects of impurities in the hydrogen fuel and oxygen streams on the performance and durability of fuel cells. These impurities include carbon dioxide, carbon monoxide, sulfur-containing gases, hydrocarbons (including formaldehyde, formic acid), ammonia, halogenated compounds, particulates and inert gases (helium, nitrogen, argon). This work will elucidate the degradation mechanisms of each impurity on fuel cell components, specifically electrodes and membranes. Strategies to reduce the impact of the impurity on fuel cell performance will be recommended.

- Timeframe: 4 year project, starting in FY07

- Sub-Contractors

Institutions
Savannah River National Laboratory
John Deere