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

Los Alamos National Laboratory

- Funding

DOE Cost Share	Recipient Cost Share	TOTAL
$3,600,000	$0	$3,600,000
100%	0%	100%

- Project Description: Los Alamos National Laboratory will use experimental methodology to understanding the effects of impurities on fuel cell performance. Gas impurities that interact with the electrode surfaces include hydrogen sulfide, sulfur oxides and nitrogen oxides. Salt aerosols and particulates will also be investigated. The experimental methods that will be used to characterize the impurity effects include *in situ* fuel cell studies combined with analytical electrochemistry techniques and evolved gas analysis to probe the chemical species adsorbed onto electrode surfaces. These methods will provide data under real fuel cell operating conditions. *Ex situ* experiments such as temperature programmed adsorption and desorption investigations, membrane impurity cation exchange, and gas diffusion layer contact angle experiments will establish the interactions of fuel cell components.

- Timeframe: 4 year project, starting in FY07

Sub-Contractors

Institutions
N/A