

VII.7 Developing PEM Fuel Cell Educational Modules (New Project)*

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** Congressionally directed project*

Objectives

- Develop and implement educational modules
- Conduct teacher training
- Conduct public outreach and educational activities
- Assess effectiveness

Technical Barriers

This project addresses the following technical barriers from the Education section of the Hydrogen, Fuel Cells and Infrastructure Technologies Program Multi-Year Research, Development and Demonstration Plan:

- A. Lack of Awareness
- B. Lack of Demonstrations or Examples of Real World Use

Approach

The University of North Dakota (UND) is committed to the development and assessment of PEM fuel cell educational modules for use in middle school/junior high school, the implementation of energy-related courses in campus curricula, teacher education, and the support of the activities of the campus Chapter of the Society of Energy Alternatives (SEA).

This UND project proposes to utilize the resources and experience of their faculty, the student SEA chapter, energy engineering graduate students, and the Energy and Environmental Research Center to develop and deliver fuel cell technology and use programs to schools, colleges, and the communities in the Upper Great Plains Region. The 3M Corporation has committed to supporting the project through the provision of fuel cell components and technical advice. The programs developed will include educational modules aimed at students of all levels, and public demonstrations of a fuel cell powered racecar designed, constructed and operated by students from the SEA Chapter at UND. Although not part of the original proposal, John Deere's ePower Technologies has recently donated a turnkey, 10Kw PEM fuel cell unit for the racecar and Hydrogenics Corporation has donated an extended warranty and technical support for its use. To assess the effectiveness of the project, baseline and post project surveys will be undertaken to determine the level of student fuel cell awareness at several sites.

(Note: Subject to congressional appropriations, work on this project is anticipated to begin in FY 2005.)