Research Project Summary

Natural Gas Pressure Boosters for the Fuel Cell Market (20548)

Background
Gas Technology Energy Concepts, LLC (G-TEC), in Buffalo, NY, manufactures natural gas pressure boosters. Their products connect to standard low-pressure utility natural gas pipes and raise pressure to levels that make natural gas suitable for industrial applications such as manufacturing jewelry, cutting plate steel, and a variety of other torch applications.

Project Description
G-TEC has introduced a new line of natural gas pressure boosters to help original equipment manufacturers of fuel cells expand their current business. The goals were to:
1. Sell the existing line of G-TEC natural gas pressure boosters to researchers in industry and academia to provide a high pressure natural gas infrastructure supporting basic research and phase 1 product development.
2. Create opportunities for G-TEC to contract with fuel cell manufacturers to build custom natural gas pressure boosters to be incorporated in a specific commercial fuel cell product that will be sold in volume.
Objectives included:
1) perform market research;
2) perform outreach and sales activities;
3) determine product customization needs; and,
4) develop a high-volume manufacturing plan for at least one customer.

Benefits
If successful, G-TEC hoped to create five to eight jobs within two years and up to 40 manufacturing jobs if key partnerships could be formed with fuel cell manufacturers.

Reduction in the cost of hydrogen for fuel cells could occur. Utility natural gas is 99% less expensive than hydrogen supplied in a high-pressure setting. Reduced cost for hydrogen will help develop fuel cell technology. If successful, G-TEC hoped to create five to eight jobs within two years and up to 40 manufacturing jobs if key partnerships could be formed with fuel cell manufacturers.

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Project Results

To date, G-TEC has developed five projects where fuel cell developers are using G-TEC Natural Gas Pressure Boosters to conduct basic research and development. Progress from here is dependent on the results of each developer’s efforts. Future work is needed to customize the product for these customers, as well as to lower the cost of components for the balance of plant.

Funding

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