ABQ firm makes first cut in solar competition

- *By: Kevin Robinson-Avila / Journal Staff Writer*
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ALBUQUERQUE, N.M. — Albuquerque Engineering firm Management Sciences Inc. is one of 20 semi-finalists in the U.S. Department of Energy's $3 million American-Made Solar Prize competition.

The company, which developed a novel monitoring system to detect fire hazards in solar panels and automatically shut them down, was selected from about 150 participants to progress to the competition's next phase in June, where the DOE will award $200,000 apiece to five different companies. Up to 10 of those second-phase participants will then face off in a final pitch event in September with two $500,000 prizes up for grabs.

All the semi-finalists won $50,000 each, plus free technical services from firms and institutions that the DOE's National Renewable Energy Laboratory is sponsoring for the winners, said MSI Project Manager Kenny Blemel. The money and assistance is providing a critical boost for MSI's "Solar Guardian" technology.

"We were short on money to continue design and prototyping," Blemel said. "It's a great help for a small company like ours."

The homegrown engineering firm, which launched in 1976, has developed smart monitoring systems for real-time assessment of electronics and other equipment on military aircraft and vehicles, receiving more than $20 million in small business research grants for that work.

The Solar Guardian, however, marks MSI's first foray into commercial markets. The technology, developed over five years, uses tiny detectors imbedded in connectors on solar panels to monitor for dangerous temperature levels that can cause fires. It automatically shuts connectors down when a hazard occurs.

Unlike other systems, which disconnect the entire solar system, the Solar Guardian isolates the problem panels in a hazard, allowing the system overall to continue functioning.

MSI is working with manufacturers to incorporate the detectors into base production of solar connectors.

The company has received critical assistance from Sandia National Laboratories and from New Mexico Tech in Socorro, which helped design special materials for the detectors. NM Tech students are now experimenting with more designs and testing them in simulated environments, said materials science professor Bhaskar Majumdar.

“There’s a real market for this type of technology,” Majumdar said. “Current systems aren’t meeting needs.”

Three University of New Mexico engineering students are now also working as interns with MSI. And Central New Mexico Community College’s Deep Dive Coding program will help with promotional and educational materials as MSI progresses through the DOE competition, Blemel said.