



Industrial

NASA's Dryden Flight Research Center



Left, the Space Shuttle at Dryden Flight Research Center, Edwards, California, Right, Aerial view of the hangars

Background

The Dryden Flight Research Center is NASA's primary center for flight testing and research in the United States. As a leader in the fields of aeronautics and space, the center has also proved itself to be a leader in terms of energy efficiency and environmental awareness.

Through a partnership with the U.S. Department of Energy's National Renewable Energy Laboratory, a contract was negotiated that resulted in \$34 million in facility energy efficiency improvements.

Solution

Building 1623, an aircraft hangar, received a 4,000 ft² (372 m²) bronze SolarWall[®] system on its south facing wall. This innovative, highly sophisticated, and maintenance free solar air heating system is heating 18,000 cfm of fresh air, and was projected to save \$15,000 a year (using 2002 natural gases prices). The SolarWall system also saves NASA on environmental compliance costs and reduces greenhouse gas emissions.

Results

The SolarWall[®] heating system also solved two other problems. Firstly, because the technology heats ventilation air, it improved the indoor air quality in the hangar. Secondly, the SolarWall system remedied the problem of negative pressure; this ensured that the use of hydrazine in adjacent hangars did not endanger the health of workers. The computerized control system ensures an optimum level of comfort and ventilation during the heating season.

This project has received a tremendous amount of positive feedback; Dryden was the recipient of the Presidential Award for Federal Energy Management, and in 2001 was designated as a Federal Energy Saver Showcase Facility by the U.S. Department of Energy.



Bronze SolarWall[®] system on the hangar heats incoming ventilation air

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Some images courtesy of NASA