

ESPC Experience with Work Scope Technologies

NASA Johnson Space Flight Center, Houston, Texas

NASA JSFC is the home of the International Space Station and the Space Shuttle program. The primary mission of the facility is to continue to improve life on Earth through the human enterprise of space exploration.

Technology Highlights

- ❑ Installation of Industrial Process Controls
- ❑ Installation of a facility-wide energy saving lighting technology including lamps and ballasts
- ❑ Water conservation measures including faucet aerators and toilet flush valves retrofits
- ❑ Increased performance of maintenance and process tools from improved industrial air compressor system
- ❑ Upgraded and extended existing facility-wide automation and monitoring system to DDC control to provide 24-hour monitoring of mechanical systems
- ❑ Installation of energy-efficient variable frequency drives on chilled water pumps and cooling towers
- ❑ Provide 24-hour maintenance support for all new equipment installed.
- ❑ Energy Cost Rate Reduction through negotiations of \$1.4M in natural gas rates & \$1.2M in electricity rates



Program Highlights

Total Contract Amount (\$)

\$ 18,400,000

Annual Energy Savings (\$/yr.)

\$ 1,700,000

Annual Ancillary Savings (\$/yr.)

\$ 300,000

Project Term (years)

18

Simple Payback (years)

10

Delivery Orders (#)

2 awarded, 1 in progress

Facility Size (sq. ft.)

4,000,000

Number of Buildings

More than 140

Contract Vehicle

DoE Central Super ESPC IDIQ

Award Date

2/99

Status

Project Completed, Ongoing Maintenance Phase

ESPC Technology Categories

Boiler Plant Improvements

- Chiller Plant Improvements
- Building Automation Systems
- HVAC
- Lighting Improvements
- Building Envelope Modifications
- CHW, HW, and Steam Distribution Systems
- Electric Motors and Drives
- Refrigeration
- Distributed Generation
- Renewable Energy Systems
- Energy/Utility Distribution Systems
- Water and Sewer Conservation Systems
- Electrical Peak Shaving/Load Shifting
- Energy Cost Reduction through Rate Adjust.
- Energy Related Process Improvements
- Energy Surveys