

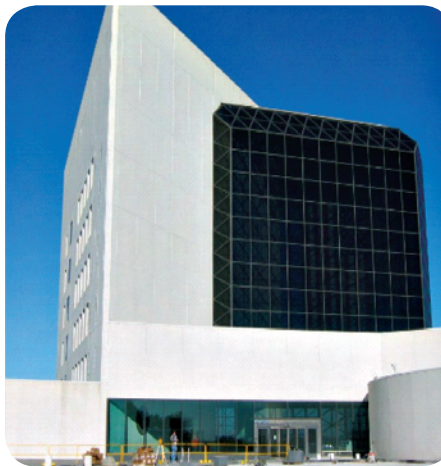


# Case Study

## National Archives and Records Administration

### John F. Kennedy Presidential Library and Museum

Boston, MA



#### PROJECT HIGHLIGHTS

##### Environmental Benefits

Over 3,018 metric tons of CO<sub>2</sub> per year eliminated\*

##### Capital Costs

\$8,859,684

##### Annual Savings

\$733,805

##### Utility Rebates

Received over \$1,000,000

##### Schedule Compliance

Completed on time

##### Budget Compliance

Completed within budget

\*Source: epa.gov/egrid; eGRID2007V. 1.0 Year 2005 GHG Annual Output Emission Rates

#### PROJECT DESCRIPTION: Federal Energy Savings Performance Contract

**Challenge:** The National Archives and Records Administration (NARA) is responsible for preserving all records of historical significance pertaining to the United States government and overseeing all presidential libraries. The John F. Kennedy Presidential Library and Museum, designed by I.M. Pei, is 135,000 square feet and includes a 110 foot glass-enclosed pavilion, a nationally known presidential museum, two 230-seat orientation theaters, a conference facility, extensive archival storage areas, and research/office areas. The facility was an all-electric building with air-cooled water chillers for cooling and electric resistance coils for heating. Most of the archival spaces did not meet NARA environmental standards for ensuring artifact preservation.

#### PROJECT SCOPE

**Solution:** Projects were developed that would not only conserve energy but also preserve the archives through climate control and be aesthetically compatible with the library. A Feasibility Study focusing on lighting improvements, cooling/heating requirements, dehumidification/humidification needs, and re-commissioning of equipment was conducted. Study projections were based on extensive metering of the building and many of its energy systems. ConEdison Solutions performed full commissioning, and developed a measurement and verification (M&V) plan and M&V reports to validate the accuracy of the projected savings. ConEdison Solutions also developed and implemented an operations and maintenance plan for the facility's staff and obtained over \$1 million in rebates from NStar and KeySpan for NARA.

#### ENERGY CONSERVATION MEASURES

##### Lighting upgrades

- Installed high efficiency lighting system in non-exhibit areas
- Converted incandescent exit signs to LED
- Installed long-life induction lighting fixtures in atrium

##### Energy management controls

- Converted HVAC energy management systems to direct digital controls

##### Archival environmental system

Installed innovative system designed to protect archival materials:

- High efficiency dehumidification/humidification system with heat recovery
- High efficiency filtration system

##### Heating system

- Converted building from electric heat to hydronic gas-fired condensing hot water system

##### Chiller replacement

- Installed two water-cooled, variable-speed centrifugal chiller systems

##### Water efficiency

- Replaced or retrofitted all fixtures (toilets, urinals, sinks and showers) with water-saving devices
- Upgraded water supply pump to a high-rise automatic water pressurization system





## Clients: Government & Non Profit Groups

### FEDERAL

**Federal Aviation Administration**  
New England Region,  
Burlington, MA

**General Services Administration,**  
New York, NY

**General Services Administration**  
Department of Justice,  
Dallas, TX

**General Services Administration**  
Federal Court House Building,  
Fort Lauderdale, FL

**General Services Administration**  
Internal Revenue Service,  
Farmers Branch, TX; Kansas City, MO

**General Services Administration**  
Northeast Region,  
Boston, MA

**General Services Administration**  
R.L. Timberlake, Jr. Federal Building,  
Tampa, FL

**National Archives and Records**  
Administration,  
Boston, MA

**Veterans Administration**  
VISN #3, New York City Medical Center  
New York, NY

### STATE AND MUNICIPAL

**Alexandria Sanitation Authority, VA**

**Arlington County, VA**

**Bergen County Utility Authority,**  
Little Ferry, NJ

**City of Baltimore, MD**

**City of Baltimore, Fire Department, MD**

**City of Boca Raton, FL**

**City of Charlottesville, VA**

**City of Ft. Myers, FL**

**City of Hialeah, FL**

**City of Parsons, KS**

**City of Pittsburg, KS**

**City of Tallahassee, FL**

**City of Temple Terrace, FL**

**City of Winter Haven, FL**

**City of Ybor, FL**

**Essex and Union Counties, NJ**

**Florida Department of Environmental**  
Protection,  
Tallahassee, FL

**Florida Department of Management**  
Services,  
Miami, FL

**Hernando County Government,**  
Brooksville, FL

**Kansas Insurance Department,**  
Topeka, KS

**Miami-Dade County,**  
Miami, FL

**Middlesex Water Company,**  
Middlesex, NJ

**Missouri State Fairgrounds,**  
Sedalia, MO

**New York Power Authority**  
(various locations),  
New York, NY

**Pittsburgh Housing Authority,**  
Pittsburgh, PA

**Plant City Public Works,**  
Plant City, PA

**Polk County Government,**  
Bartow, FL

**Southbridge Water Department,**  
Southbridge, MA

**St. Lucie County,**  
Fort Pierce, FL

**State FL-Division of Fruits & Vegetables,**  
Winter Haven, FL

**Suwannee County,**  
Live Oak, FL

**Trenton Water Works,**  
Trenton, NJ

### CORRECTIONAL FACILITIES

**El Dorado Correctional Facility, KS**

**Hutchinson Correctional Facility, KS**

**Lansing Correctional Facility, KS**

**Norton Correctional Facility, KS**

**Winfield Correctional Facility, KS**

### U.S. POSTAL SERVICE

**Atlanta Bulk Mail Center, GA**

**Atlanta Georgia Facilities, Group 1 and 2,**  
Crown Road Facility,  
Hapeville, GA

**Kilmer Processing and Distribution,**  
Edison, NJ

**Morgan Processing and Distribution**  
Center,  
New York, NY

**USPS-Central Florida District, FL**

**USPS-Suncoast District, FL**

**Whippany Processing and Distribution**  
Center,  
Kearney, NJ

**SES Contracts awarded for: CA, AZ, NV, HI, Guam, CO, WY, UT, ID, OR, WA and AK**

### U.S. MILITARY

**Florida Department of Military Affairs**

**Hanscom Air Force Base,**  
Bedford, MA

**MacDill Air Force Base,**  
Tampa, FL

**National Naval Medical Center,**  
Bethesda, MD

**Naval Air Station,**  
Jacksonville, FL

**Tyndall Air Force Base,**  
Panama City, FL

**U.S. Army Garrison at Fort Hamilton,**  
Brooklyn, NY

**U.S. Army Reserves,**  
New York, NY

**U.S. Coast Guard,**  
Boston, MA

**U.S. Navy, District of Washington**

**Anacostia Annex,**  
Washington, D.C.

**U.S. Navy, Washington Navy Yard,**  
Washington, D.C.

### MUSEUMS

**John F. Kennedy Presidential Library**  
and Museum,  
Boston, MA

**U.S. Naval Museum,**  
Washington, D.C.

**Museum of Science and Industry,**  
Tampa, FL

**USS Intrepid Sea, Air and Space Museum,**  
New York, NY