

MECHANICAL AND ELECTRICAL RETROFIT AND SYSTEM UPGRADE PROJECTS

Completion Status

MECHANICAL AS THE MAJOR SCOPE OF WORK

PRUDENTIAL CENTER OFFICE TOWER

2003

Boston, MA

Replacement of four (4) steam turbine driven chillers with four (4) new 1,000 ton cooling capacity electric centrifugal chillers that included variable frequency drives to serve this 52-story commercial office tower.

PRUDENTIAL CENTER 101 HUNTINGTON AVENUE OFFICE TOWER CHILLER REPLACEMENT

2004

Boston, MA

Replacement of two (2) 1,100 ton cooling capacity steam turbine driven chillers with three (3) 700 ton cooling capacity electric centrifugal chillers. The system was also converted to a primary/variable speed pumping system to serve this 24-story commercial office tower.

CORRECTION TO INADEQUATE CONDENSER WATER FLOW IN PRUDENTIAL CENTER RETAIL CHILLER SYSTEM

2003

Boston, MA

TMP performed a study to determine the cause of an excessive pressure drop in the system and deigned revisions to the system to allow the existing pumps and two 750 ton cooling capacity chillers to provide their rated capacities. The chillers had at times been experiencing low water flow conditions which had been compromising the operation of the chillers.

PRUDENTIAL CENTER 111 HUNTINGTON AVENUE OFFICE TOWER

2001

Boston, MA

This project as designed was to utilize chilled water that was to be provided by a district chilled water supplier. As the project was in construction, the supplier notified the building Owner that they were going to lease operations and that chilled water would not be available. TMP therefore provided a chiller plant design with four 850 ton cooling capacity chillers and associated cooling towers, pumps, and piping as well as a supporting NSTAR transformer vault and Owner Switchgear Room. TMP had, with the Owner, planned for this potential future need of a chiller plant should there be issues with the district chilled water supplier, and under that plan the location of the spaces required for equipment had been identified. The design was completed and the installation occurred without any adverse affect to the overall construction schedule.

REPLACEMENT OF ROOFTOP UNITS AND INTERIOR AIR HANDLING UNITS

Various Cities/Towns in MA

TMP, under various public and private school projects as well as public and private sector projects, has designed the replacement of rooftop units and interior air handling units. Projects include:

- Replacement of air handling units and rooftop unit at Logan International Airport, Terminal C with construction on-going. **C**
2008
- Replacement of two 60,000 cfm 200 ton cooling capacity each custom built-in place air handling units at the same terminal with the design on-going. **D**
2009
- Replacement of 20 package gas-fired rooftop units at Salem High School with new gas-fired heating and DX cooling rooftop units, with the new units adapted to fit on the existing roof curbs. **2006**

D – Design in Progress

S – Study

DH – Design on Hold

C – Construction in Progress

Date – Occupancy Date

CH – Construction on Hold

MECHANICAL AND ELECTRICAL RETROFIT AND SYSTEM UPGRADE PROJECTS (Continued)

Completion Status

- Replacement of interior components in five custom built air handling units and replacement of four interior air handling units at Malden High School.

**D
2010**

REVISIONS TO ENTRY HEATING SYSTEM AT PRUDENTIAL CENTER

Boston, MA

Revisions to the Boylston Street Arcade and the Bridge Court East Ring Road Retail Mall Entry heating systems.

**2005
2008**

REVISIONS TO CAMBRIDGESIDE GALLERIA FOOD COURT / MALL TOILET ROOMS

Cambridge, MA

**D
2008**

TERMINAL B LOGAN INTERNATIONAL AIRPORT TOILET ROOM RENOVATION

East Boston, MA

**D
2008**

REVISIONS TO VARIOUS DATA CENTERS

Dates Vary

ADDITION OF SPRINKLER SYSTEMS AT VARIOUS BUILDINGS

Dates Vary

ELECTRICAL AS THE MAJOR SCOPE OF WORK

TERMINAL B, PIER A, FIRE ALARM UPGRADE

LOGAN INTERNATIONAL AIRPORT

East Boston, MA

Design of \$1.1M fire alarm upgrade to new analog addressable system and removal of old multiplex

**C
2008**

SHORT CIRCUIT AND COORDINATION STUDY

LOGAN INTERNATIONAL AIRPORT

East Boston, MA

Preparation of a comprehensive short circuit and coordination study of existing 15kV, 5kV, and 480/277V electrical distribution system at Logan which includes four main 15kV utility substations, five 15kV switching stations, over 35 double-ended and single ended 480V substations, and over sixty other outdoor pad mount locations. Documentation of existing one line diagrams and existing relay and protective equipment settings. Recommend changes for proper application and protection, and develop an implementation program to keep the study up to date.

**S
2006**

SWITCHGEAR C.T. REPLACEMENT

LOGAN INTERNATIONAL AIRPORT

East Boston, MA

Replacement of existing 15kV current and voltage transformers for revenue metering within primary switchgear at 12 tenant buildings around the airport site.

2007

LOGAN FIRE ALARM UPGRADE STUDY

LOGAN INTERNATIONAL AIRPORT

East Boston, MA

Preparation of an independent study which includes an evaluation of the existing fire alarm system at Logan International Airport. Report addresses such issues as emergency evacuation paging, speaker coverage, remote paging stations and fire command centers for firefighter personnel in the Terminals, central station issues and alarm reporting; the adequacy of current testing procedures; evaluating benefits of separate fire alarm maintenance division, and transmission of all Tenant alarms over fiber optic cable.

**S
2005**

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**MECHANICAL AND ELECTRICAL RETROFIT AND SYSTEM UPGRADE
PROJECTS (Continued)**

**Completion
Status**

RHODE ISLAND AIRPORT CORPORATION (RIAC)

2003

T.F. GREEN AIRPORT
Warwick, RI
MEP design for new IT Server Room.

TERMINAL A CARRIER RELOCATION

2002

LOGAN INTERNATIONAL AIRPORT
East. Boston, MA
MEP design to support emergency 120 day relocation of six airlines to Terminals B, C, and D in order to evacuate existing Terminal A building and demolish for new building. Intense design and construction related activities; \$9M project.

SECURITY IMPROVEMENTS

2002

T.F. GREEN AIRPORT
Warwick, RI
MEP design for CTX Baggage Screening Units at Main Terminal.

U.S. AIRWAYS TERMINAL B CONSOLIDATION

2000

LOGAN INTERNATIONAL AIRPORT
East. Boston, MA
Design of electrical systems for 70,000 SF addition and renovation for U.S. Airways at Terminal B including relocation of GSE facility, demolition of existing CFR facility, new 2,000kVA substation, and 300kW emergency generator. Design of new 15kV Switching Station to serve entire Terminal B facility of 1.4 MSF including U.S. Airways, American Airlines, Garage, and FIS facility. Design also included new high-mast ramp side lighting.

ELECTRICAL UPGRADES TO PASSENGER LOADING BRIDGES

2000

LOGAN INTERNATIONAL AIRPORT
Massport Project No. 1.766
East. Boston, MA
Design of electrical systems to provide capacity and distribution within Terminals A, B, C, and D for 400 hertz power and point of use pre-conditioned air at aircraft gates. Prime Consultant.

MISCELLANEOUS ELECTRICAL UPGRADES

1998

LOGAN INTERNATIONAL AIRPORT
Massport Project No. 1.724
East. Boston, MA
Design of 15kV vacuum circuit breakers and solid state protective relays at two major substations, 70 in all, including four incoming utility breakers, revenue metering, and bus protection schemes. Also included was removal of 5kV systems and replacement with new 15kV systems, and new 15kV dual selector switches and feeders at three hangers. Complete construction supervision. Approximately 40 service cut-overs during construction. Prime Consultant.

UTILITY DELIVERY SYSTEMS

1998

LOGAN INTERNATIONAL AIRPORT
Massport Project No. 1.654
East. Boston, MA
Design for relocation of all low tension systems from the existing to new steam tunnel at West Garage including security card access, communications fibre optic, energy management, fire alarm, parking-revenue control, and electrical monitoring (IMPACC) system.

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LAGUARDIA AIRPORT CENTRAL TERMINAL EAST AND WEST FOOD COURT AND RETAIL SPACES

1996

New York, NY

Renovations to 15,000 SF of existing terminal space to create food service tenant and retail tenant spaces along with seating areas. TMP provided the shell and core design and developed tenant criteria for use by tenant fit-out designers.

ELECTRICAL DISTRIBUTION IMPROVEMENTS

1992

LOGAN INTERNATIONAL AIRPORT

Massport Project No. 1.495A

East. Boston, MA

Design of major electrical renovation of Terminal C eliminating 5kV substation and distribution and providing new 15kV services, Switching Stations and double-ended substations with castcoil transformers. New penthouses had to be designed to accommodate switching stations and switchgear to permit minimum downtime during service cut-overs. Primary underground feeders were brought from four existing airport substations.

REPLACEMENT OF HIGH VOLTAGE INTERTIES

1990

LOGAN INTERNATIONAL AIRPORT

Massport Project No. 1.473

East. Boston, MA

Design of replacement cables for intertie 15kV feeders between Porter Street and Wood Island Substations and totalized metering cable, new 15kV feeders to Heating Plant and Pumping Station. Prime Consultant.

ELECTRICAL DISTRIBUTION IMPROVEMENTS

1987

LOGAN INTERNATIONAL AIRPORT

Massport Project No. 1.237

East. Boston, MA

Design of new utility company service to Bird Island Flats Substation including modifications to protective relaying and routing of 5,000 feet of feeder cable through underground ductbank system. Survey and documentation of existing manholes and ductbanks. Short circuit study. Prime Consultant.