

## **Energy Audit - Hospitality The DoubleTree Hotel at JFK Queens, New York**

### **Program**

NYSERDA FlexTech Feasibility Study

### **Scope of Services**

- Analyze Utility Data
- Review Facility Documentation
- Facility Surveys
- Deploy Temporary Metering
- Identify Energy Conservation Projects
- Prepare Final Report

### **Level of Involvement**

Prime Contractor

### **Facility Size**

200,000 sq. ft.

### **Facility Type**

Hotel and restaurant

### **Project Results**

- Install SCR drives on elevators
- Provide operator interface for BMS
- Install exhaust fan control and AHU-2 setback
- Reduce outside air flow to corridors
- Install variable frequency drives on pumps
- Implement demand based ventilation
- Insulate piping
- Install high efficiency motors

### **Project Costs**

Installation Cost: \$255,827

Simple Economic Payback: 2.5 years

EME Group performed a comprehensive energy audit at DoubleTree JFK Airport managed by French Quarter V, LLC. The hotel is a 386-unit full service facility located in Queens, New York. The hotel contains 281,000 sq.ft. of floor area in a 12-story steel and masonry structure with a penthouse and full basement.

The building guestrooms are heated and cooled through a water source heat pump system. Common areas such as ballrooms, corridors, public dining rooms and the health club are generally served with designated packaged air conditioning units typically equipped with steam heating coils. Supplemental



### **DoubleTree Hotel at JFK**

heating and domestic hot water (DHW) is provided by two gas-fired low-pressure steam boilers, each rated at 150-hp. Facility staff indicate that these boilers are over 20 years. They appear to be in fair condition and were cleaned in the last year. Additionally the burners were replaced in the last 3 years. The boilers provide steam to the steam coils in the air handling units. The service hot water is generated in an indirect fired storage tank with an immersion steam coil system from the boilers.

Project objectives included inspecting the facility, analyzing energy usage, developing a building computer model and recommending improvements. In order to evaluate a particular improvement's potential for reducing energy consumption; existing consumption is modeled or taken directly from billing data, and then compared with modeled consumption that would be expected following implementation of the improvement. This modeling is conducted using actual or estimated local weather data, assumptions regarding occupant behavior, known or estimated fuel costs, improvement installation costs, and estimated life of the improvement. EME Group installed energy loggers on the main electric service for the hotel and restaurant and collected data for the entire summer to analyze the electric consumption patterns and identify electrical peak reduction opportunities.

The study made recommendations that will save DoubleTree JFK hotel \$103,484 per year, a 11.7% reduction in their annual energy costs.