



Renaissance Boston Waterfront Hotel

*Project: VFD Retrofit
Domestic Water Booster*

*Submitted By:
Richard A. Wallace DOE*

Syncro-Flo Water Booster



Basement level Water Main Service Room.

22nd Floor Mechanical Room



Penthouse hot water storage tanks.

Due Diligence



- Developed scope of work and equipment specification
- Solicited three competitive bids from pre-qualified Contractors
- Applied for incentives from utility
- Compared bids and confirmed all costs such as tax and freight are included
- Project vetted out by MI Energy Group

Equipment Solution: Mitsubishi FR – A700 VFD's



Before Variable Drives
VS.
After Variable Drives

Current

Total System KWh: 195,844

Proposed

Total System KWh: 117,227

KWh Savings

Total System KWh Annually: **78,617**

Up front costs	
Total System Upgrade	\$ 19,325.00
NSTAR Rebate	\$ 8,944.00

Total Out of pocket expense	\$ 10,381.00
------------------------------------	---------------------

kWh Consumption and Costs		
	Yearly	Monthly
Today's system kWh consumption*	195,844	16,320
Cost per kWh	\$ 0.13	\$ 0.13
Estimated cost to operate CURRENT system	\$ 25,459.72	\$ 2,121.64
	Yearly	Monthly
Proposed system kWh consumption*	117,227	9,769
Cost per kWh	\$ 0.13	\$ 0.13
Estimated cost to operate PROPOSED system	\$ 15,239.51	\$ 1,269.96

Calculated total Operational Savings		
	Yearly	Monthly
Proposed Operational Savings ((current kWh cost - proposed kWh cost) + (current maint. - proposed maint.))	\$10,220.21	\$851.68

Total Return on Investment in Months	12.19
---	--------------

Questions

