

# WESTOWN FOODS / CONVENIENCE STORE



## WESTOWN FOODS

- Westtown is a busy combination food and liquor store with 2 large walk in coolers and 4 free standing reach in coolers and freezers
- Energy bills were very high due to the poorly controlled anti-sweat and aging evaporator systems
- Tower Energy targeted their large refrigeration system and anti sweat controls while tuning the refrigeration system for optimization
- Store lighting was also upgraded to LED

## REFRIGERATION UPGRADE

Refrigeration accounts for about 60% of the electric bill in a convenience store. Evaporator fan replacement with two speed ECM motors were added to reduce fan energy by 92%. During this process it was discovered that 4 of the fans were spinning in the wrong direction. This was causing icing on the coils and constant compressor problems. The coils were also very dirty and were cleaned during the installation. In addition, a cold air economizer was added to utilize outside air in the winter. **This replaces refrigeration for approximately 138 days a year.**

## AUTO ANTI-SWEAT INSTALLED SEPARATED FROM LIGHTING

When the coolers were installed initially the contractor had wired the anti-sweat circuits to the lighting. They could not be turned off and were running 24/7. This unseen power usage was running over 22 amps.

In order to control this a contactor circuit was installed in 3 locations and a de-humidistat installed to turn the system on when humidity was raised above case dew point.

## LIGHTING CONVERTED TO LED

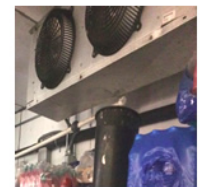
The existing lighting was still T12 and in poor condition. The store was converted to LED and fixtures were added and moved to improve merchandizing.

**This lowers HVAC and exhaust energy by 30%.**

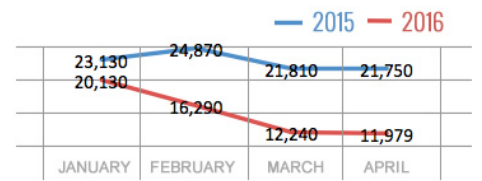
## TECHNICAL DATA IN KW/H MONTH

DATE	2014	2015-16	SAVINGS
2/16/16	24,870	16,290	\$ 1,072
3/16/16	21,810	12,240	\$ 1,196
4/16/16	21,750	11,979	\$ 1,328

UTILITY RATE: 0.125 PER KW / HR



## MONTHLY SAVINGS IN KW/H



## HVAC TUNING AND OPTIMIZATION

Having your system running properly will greatly affect your energy bill. During this installation the water cooling solenoid was discovered to be plugged which was working properly and ends up system is loading 30% less. A proper maintenance programs will save you money.

## FREE ENERGY ASSESSMENT

Tower Energy will conduct a free energy assesment to evaluate opportunities that may exist. Many times the bill itself will spot issues with excessive off peak charges when the facility is closed.

This service is free.

## HVAC AND ENVIRONMENTAL CONTROL

HVAC air conditioning and heating will also affect your bill. Single setting thermostats, dirty filters and worn belts can cost 50% or more on the cost of operation. Tower Energy offers a bi-yearly program to keep the systems optimized.