

# Meeting Executive Order 88 Goals

Presenters:

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Jefferson Community College

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# SUNY Jefferson Community College



SUNY Jefferson CC  
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# SUNY JCC Energy Performance Contract



- \$1,340,000 contract
- Guaranteed, self-funding program (annual savings offset costs)
- Replacement of boilers
- Lighting upgrades and retrofit
- New energy management system
- Net Savings: \$99,134/annually (Yr 1)
- Incentive (National Grid): \$200,000

# SUNY Jefferson – Ice Storage Project



Skid mounted chiller plant - 200-ton peak cooling capacity with 90-ton, air-cooled, scroll chiller, pumps, controls and four ice thermal storage tanks

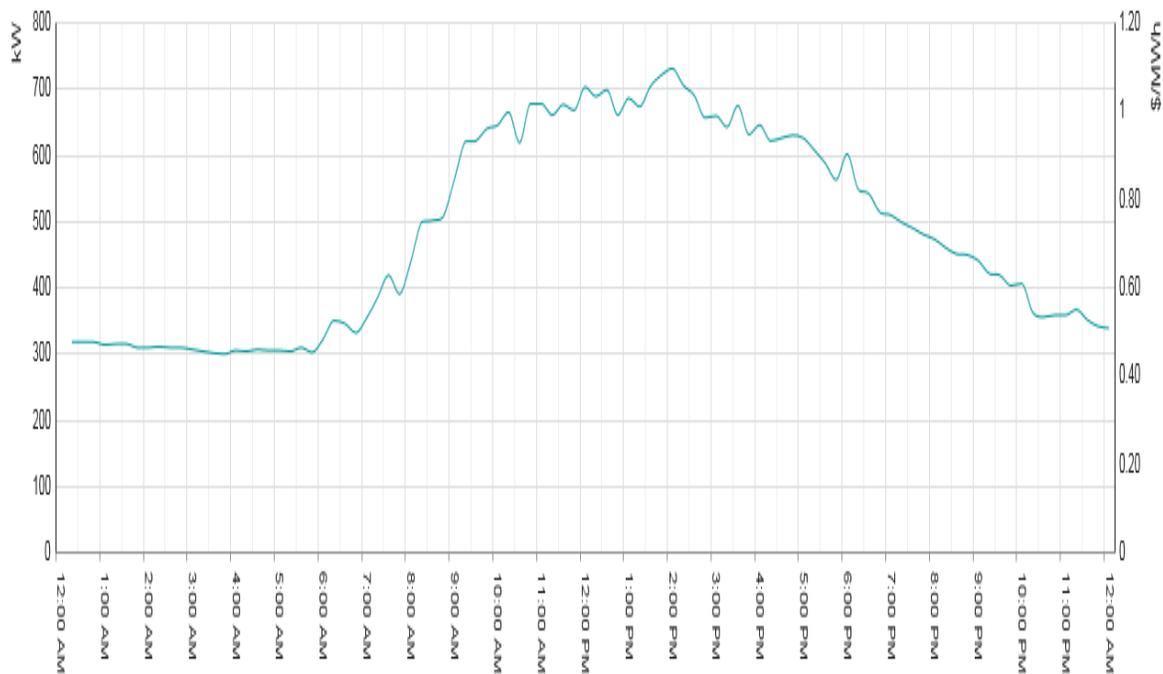
# SUNY Jefferson – Project Goals

- Goal 1: 1966 vintage McVean Student Center was in need of major renovations.
- Goal 2: Replace multiple DX chillers and window air-conditioning units
- Goal 3: Add A/C to the gym for sports, concerts and commencement.
- Goal 4: Centralize cooling to improve efficiency and increase comfort
- Goal 5: Existing electrical system Inadequate for 50 additional tons of cooling
- Goal 6: Budget plan - no increase in overall electrical operating costs
- Goal 7: Utilize NYSERDA rebate programs to maximize return on investment
- Goal 8: Simplify HVAC plant to reduce long-term maintenance costs
- Goal 9: Provide capacity for future expansion to remove R-22 split units
- Goal 10: Achieve all goals in a sustainable manner to reduce carbon footprint

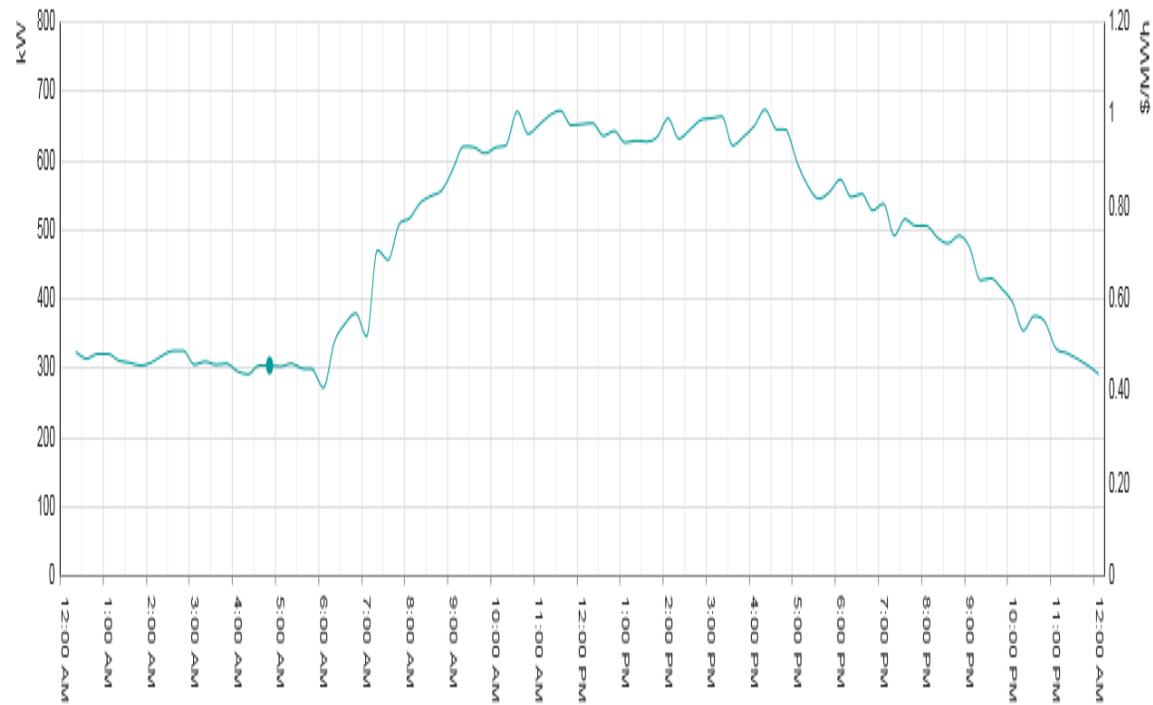
# SUNY Jefferson – Project Solution

- Trane EarthWise® Ice-Enhanced Air-Cooled Chiller - 200-ton peak cooling capacity
- 90-ton air-cooled scroll chiller with Four CALMAC Ice Bank® thermal storage tanks
- Trane Tracer SC® Energy Management System control management. Facility staff can monitor equipment, make set-point changes, manage alarms and decide whether to melt, make or preserve ice from the central campus work station.
- Plant makes ice at night during off-peak hours when the building cooling and power load is low to take advantage of lower-cost, off-peak electricity and milder outdoor conditions for improved system efficiency.
- The highly efficient and simple system design allows ease in maintenance and repair
- The project provides design and operating basis for similar, future projects
- Installed cost is less than traditional package cooling units

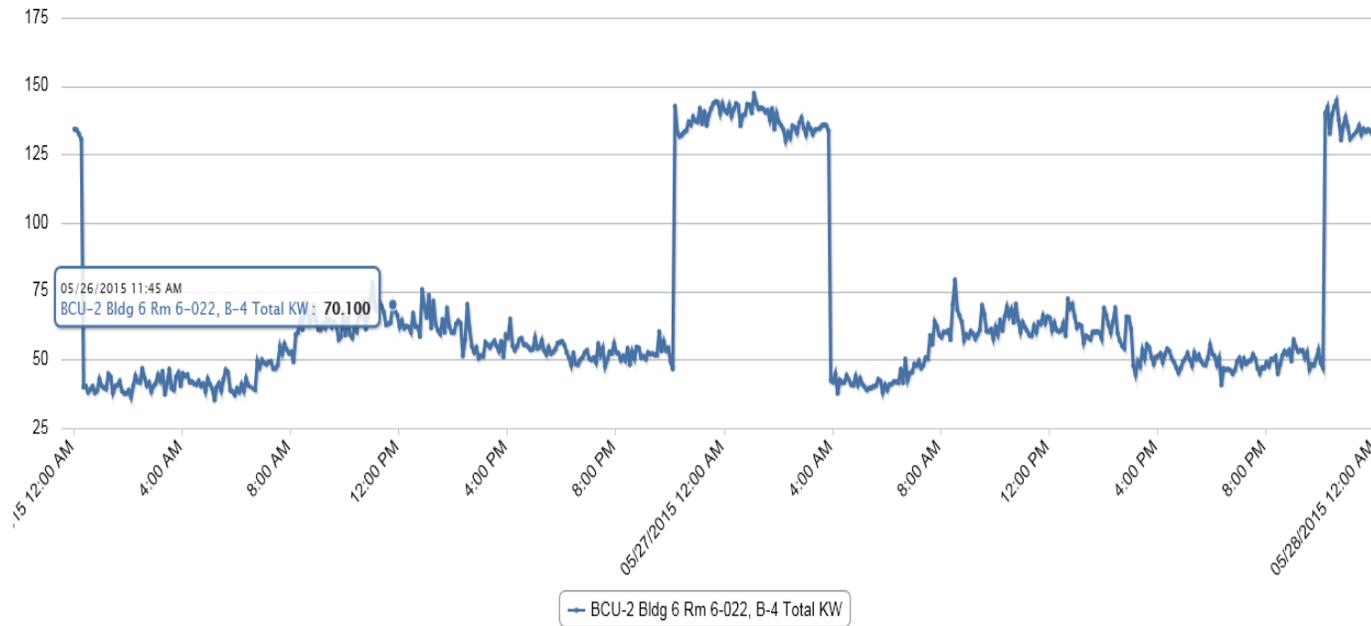
# Campus Load Profile August 2013



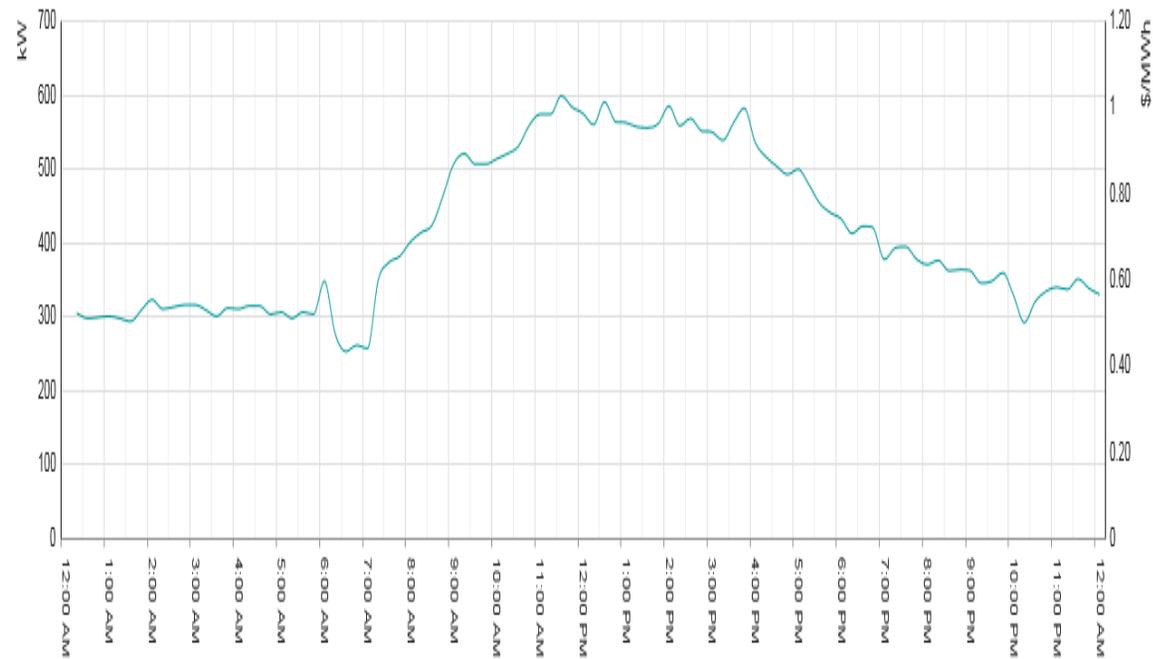
# Campus Load Profile August 2014



# Load Profile – Ice Plant



# Campus Load Profile August 2015

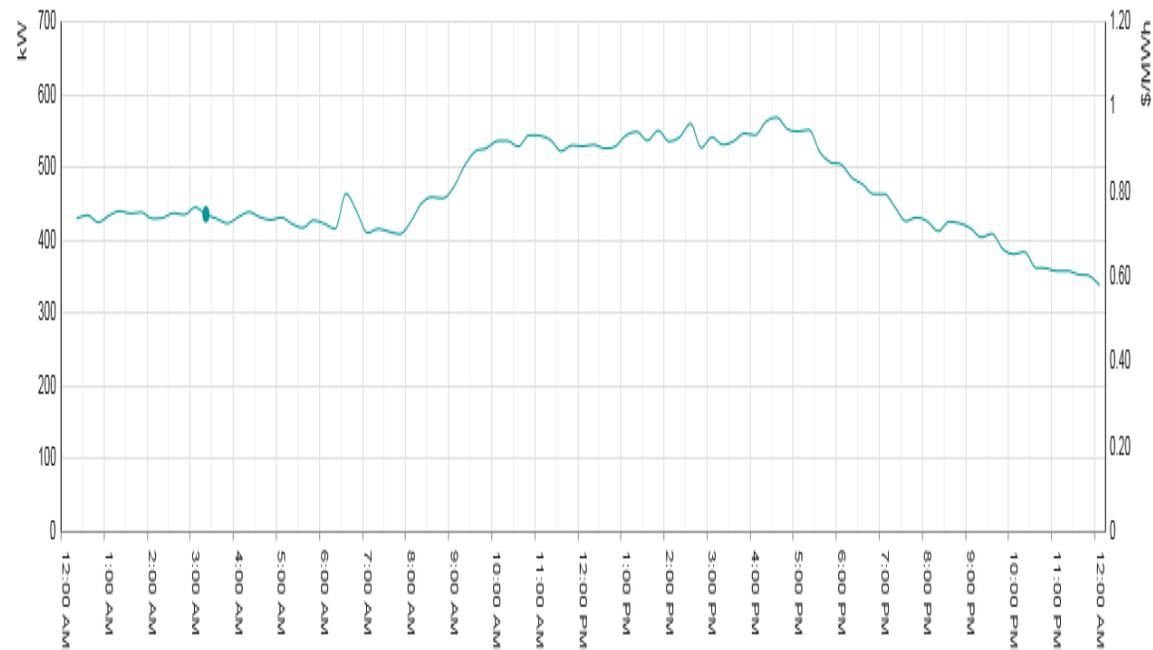


# SUNY Jefferson – CLC Project

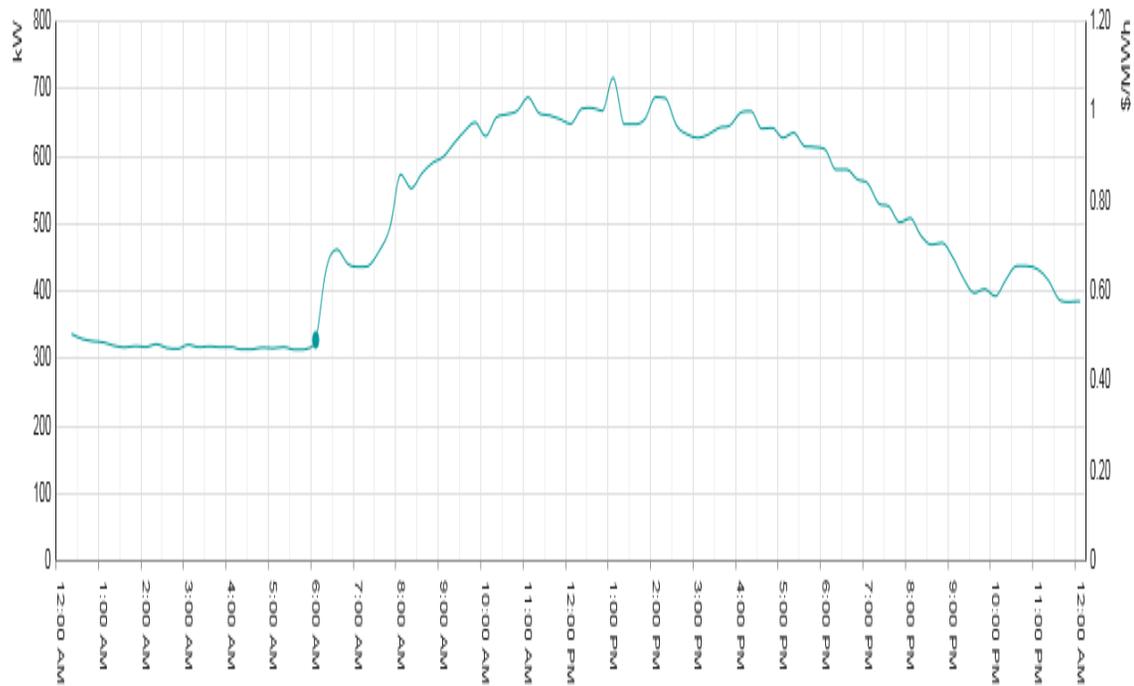


2015-2016  
New Campus  
Learning Center  
and Building #5  
Renovation with  
a new ice bank  
storage plant for  
cooling to serve  
both buildings

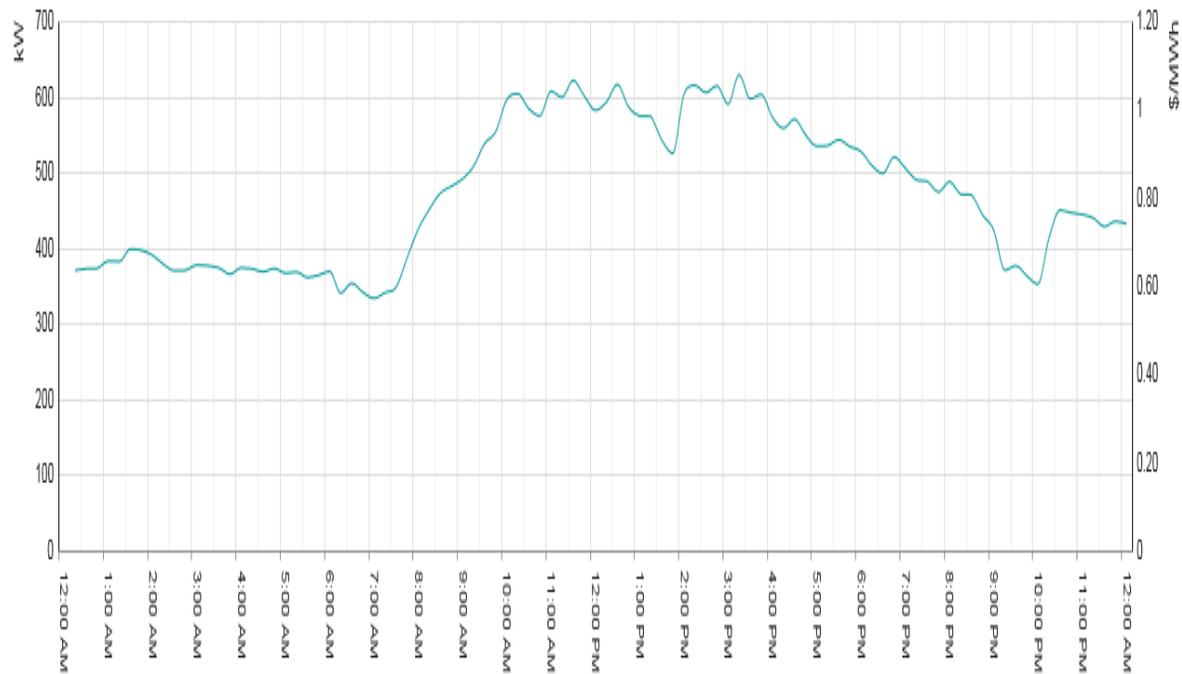
# Campus Load Profile August 2016



# Ice Plant Flow Switch Failure 8-29-2016



# Campus Load Profile 8-30-2016



## Summary – EO 88

- Heating, lighting and control retro-fits paid by EPC
- Additional savings paid for new facilities staff positions
- Ice plants provide new or greatly improved cooling
- 150 – 200 KW of peak demand charges deferred
- Campus demand reduced despite adding 34,000 GSF
- Project partners – TRANE / National Grid / NYSERDA