# ENERGY INTELLIGENCE

**MN PUC Smart Grid Workshop on Demand Response**

**Sept. 19, 2014**

cee
Center for Energy and Environment

# CEE's Nonprofit Mission

The Center for Energy and Environment (CEE) is a nonprofit organization that promotes energy efficiency to strengthen the economy while improving the environment

- We conduct research and develop programs so that:
  - Businesses operate more efficiently and profitably;
  - Government agencies spend less on facilities and functions;
  - Utilities achieve their energy-efficiency goals at least-cost; and
  - Households save money and improve comfort.

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# Energy Intelligence Pilot Program

- A pilot Conservation Improvement Program being developed by Center for Energy and Environment for Xcel Energy.

- Provides small industrial customers with real-time electric feedback.

- Customers can determine <u>how much</u> and <u>when</u> they use energy to help them operate more efficiently.

- CEE assists the customer in identifying waste and lowering energy usage to save on their utility bills.

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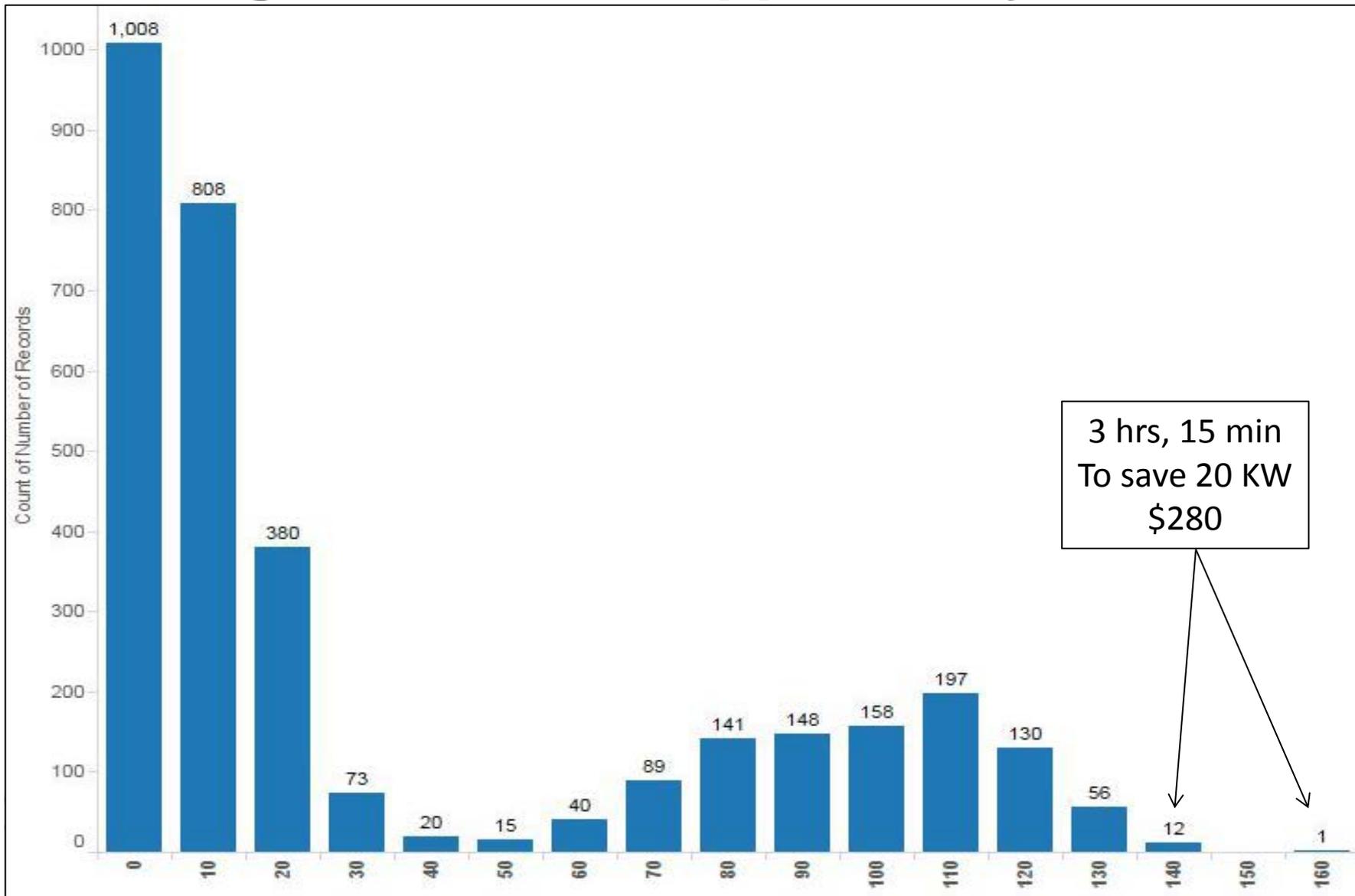
# How Much is My Peak Demand?



58 KW Spike
$569 impact on monthly bill
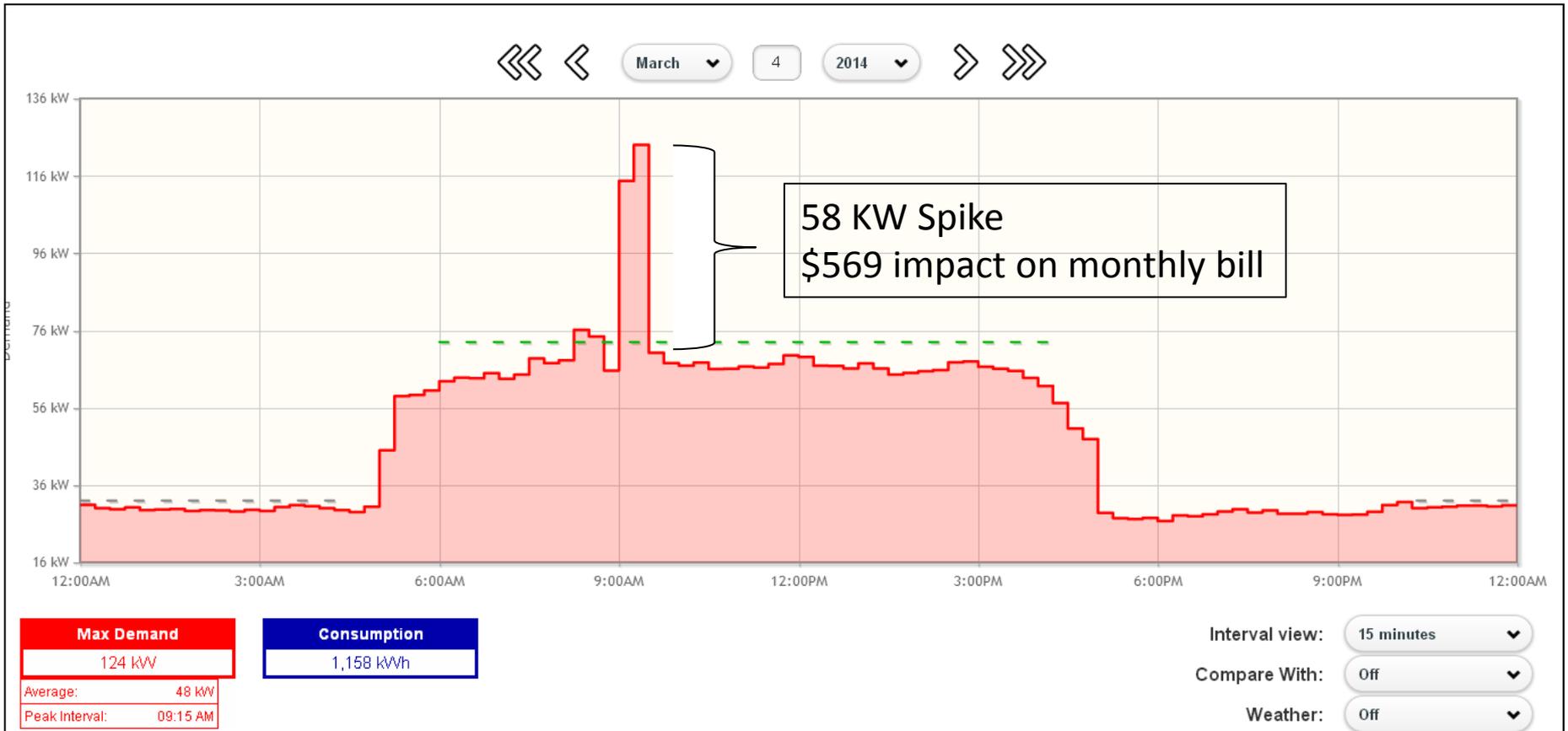
# When is High Demand Occurring?

# Determine Potential for Demand Limits

# **Histogram – Good Opportunity**



3 hrs, 15 min
To save 20 KW
$280

# Setting a Demand Alert for 265 KW
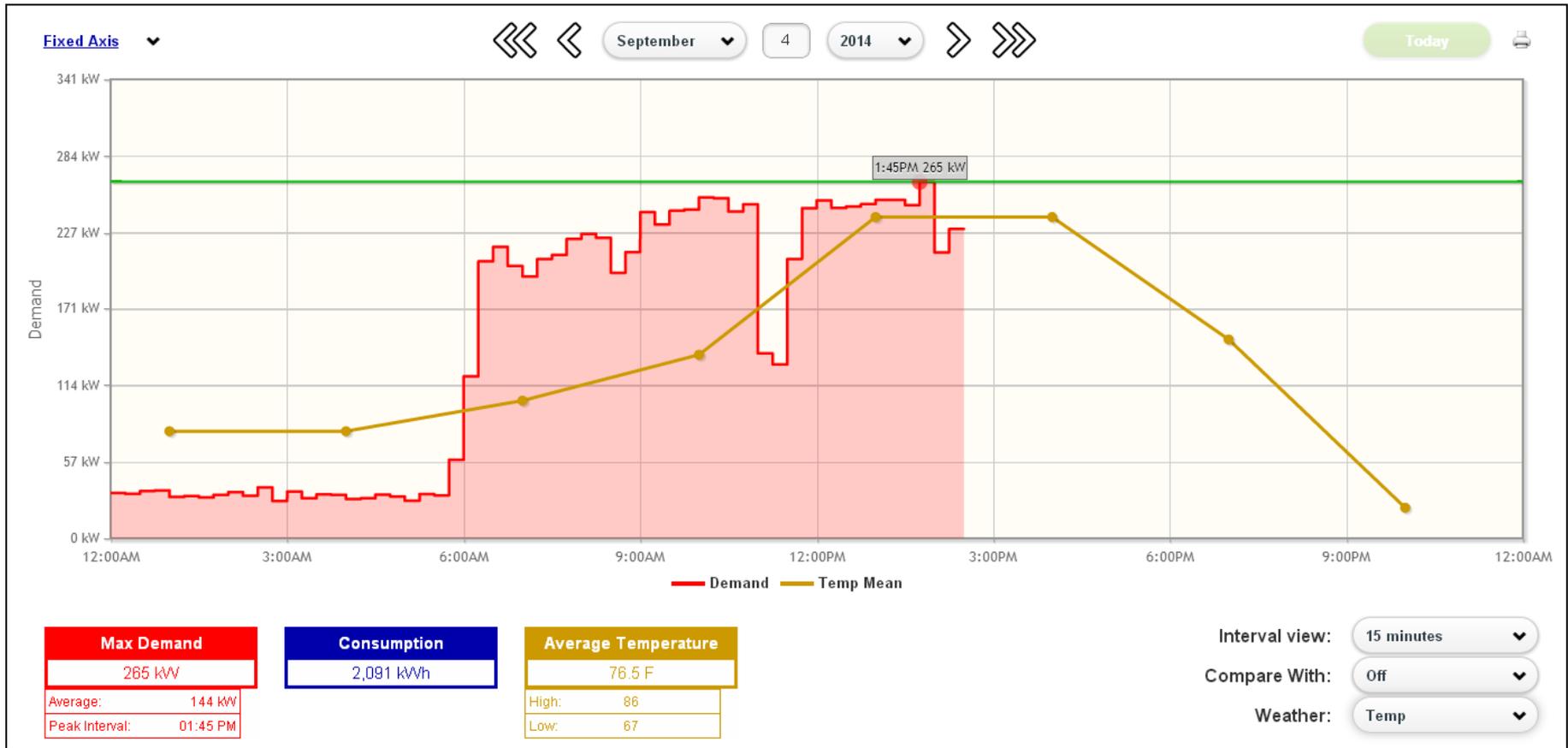
# Receiving Real-Time Notifications

**KW ALERT: Peak Demand Alert**
1 message

This is an automated alert for CUSTOMER.

At 1:49 PM, alert Peak Demand Alert was triggered. Main Service reached <u>275kW</u> for 5 minutes.

To view your real-time graph, login <u>here</u>. If you need to setup a user login, please contact your real-time website system administrator.

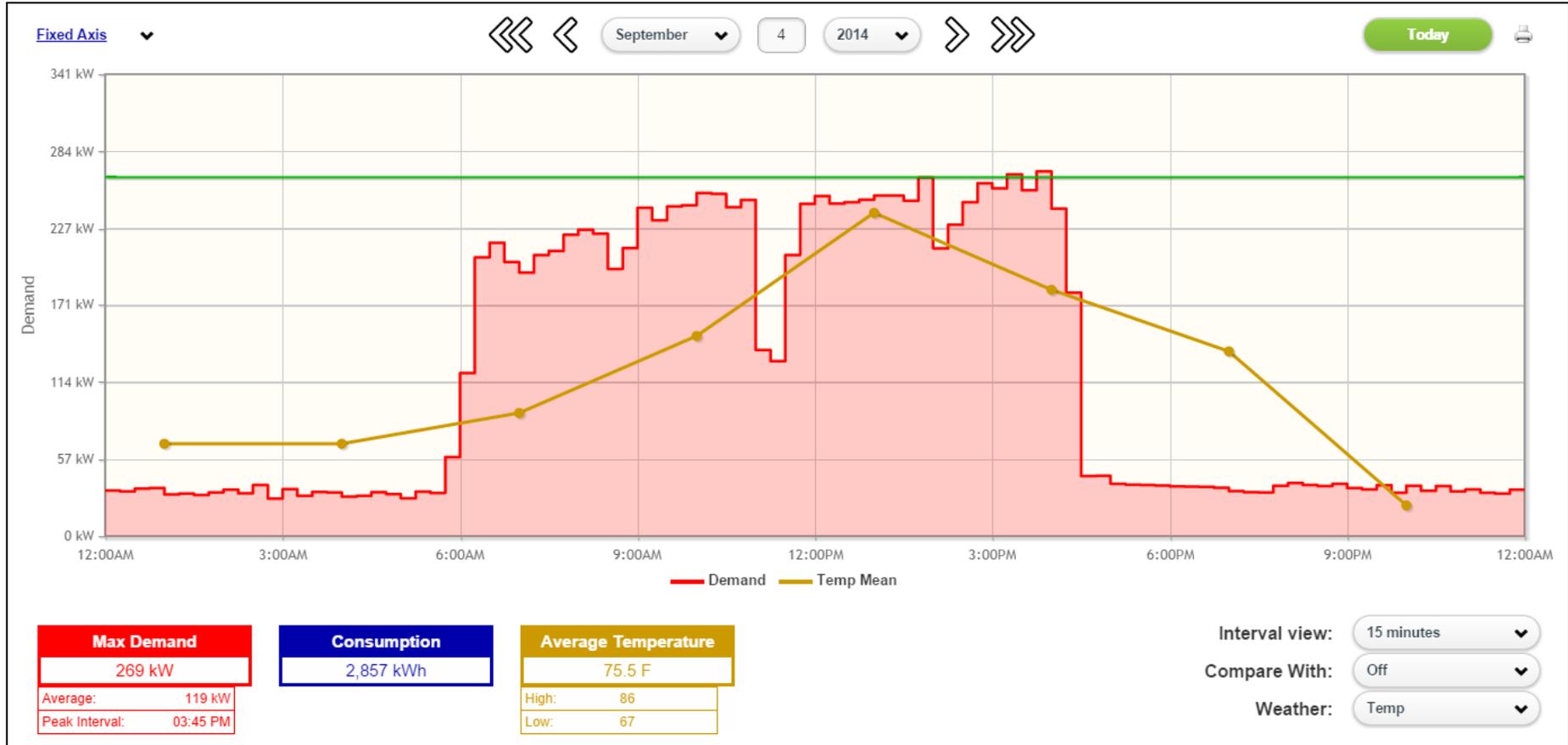# Coaching the Customer on Actions

**Hot and humid day**

1 message

Today will be hot and humid.  You may approach your demand limit.

What is the plan for today if we get above it?

Possible options:

- Are people in the upper offices and conference rooms? If not, shut them down.

- Increase the setpoint in the manufacturing area by two (2) degrees across the board.

- Shut off lighting in warehouse area and wherever possible.

# Results

# Summary

- Real-Time feedback engages the customer to further understand how and when they are using energy.

- Understanding the costs demand spikes on the bottom line can help drive the customer to action.

- Assistance with coaching the customer on possible actions and setting and appropriate alert can help achieve success.

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