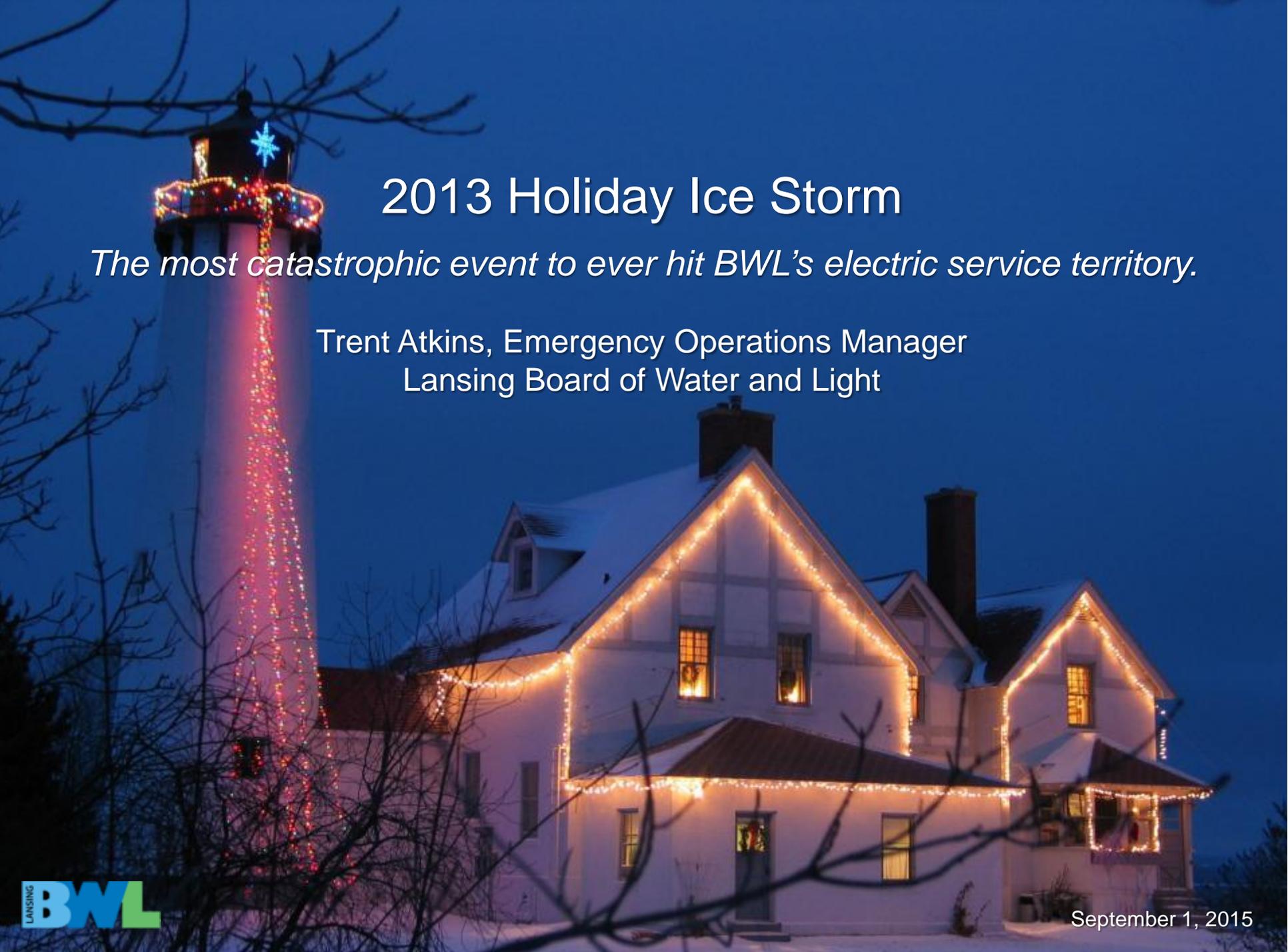




Michigan / FirstNet Consultation Meeting

Use Case No. 3
2013 Ice Storm





2013 Holiday Ice Storm

The most catastrophic event to ever hit BWL's electric service territory.

Trent Atkins, Emergency Operations Manager
Lansing Board of Water and Light

About Lansing Board of Water & Light (BWL)



A Storm is coming

Tuesday, December 17, 2013

National weather service issues first weather bulletin:
POTENTIAL for hazardous weather up coming weekend

By Friday, December 20, 2013

We knew we were facing an Ice/Snow event,
but exact area impact and severity was still uncertain.
Many variables in the weather track.

The Storm arrives

Saturday, December 21, 2013

9:00AM	Accumulation of Glare Ice on Surfaces
1:00PM	Freezing Rain
6:00PM	Temperatures begin to drop
10:00PM	First real signs of problems

First responders and utilities were dealing with extreme call volume increases

From Bad to Worse

Temperatures continued to drop

WIND, WIND, WIND, and yet more WIND

And if that wasn't enough ...add about 3-5 inches of snow

No Power

By Sunday night, December 22nd

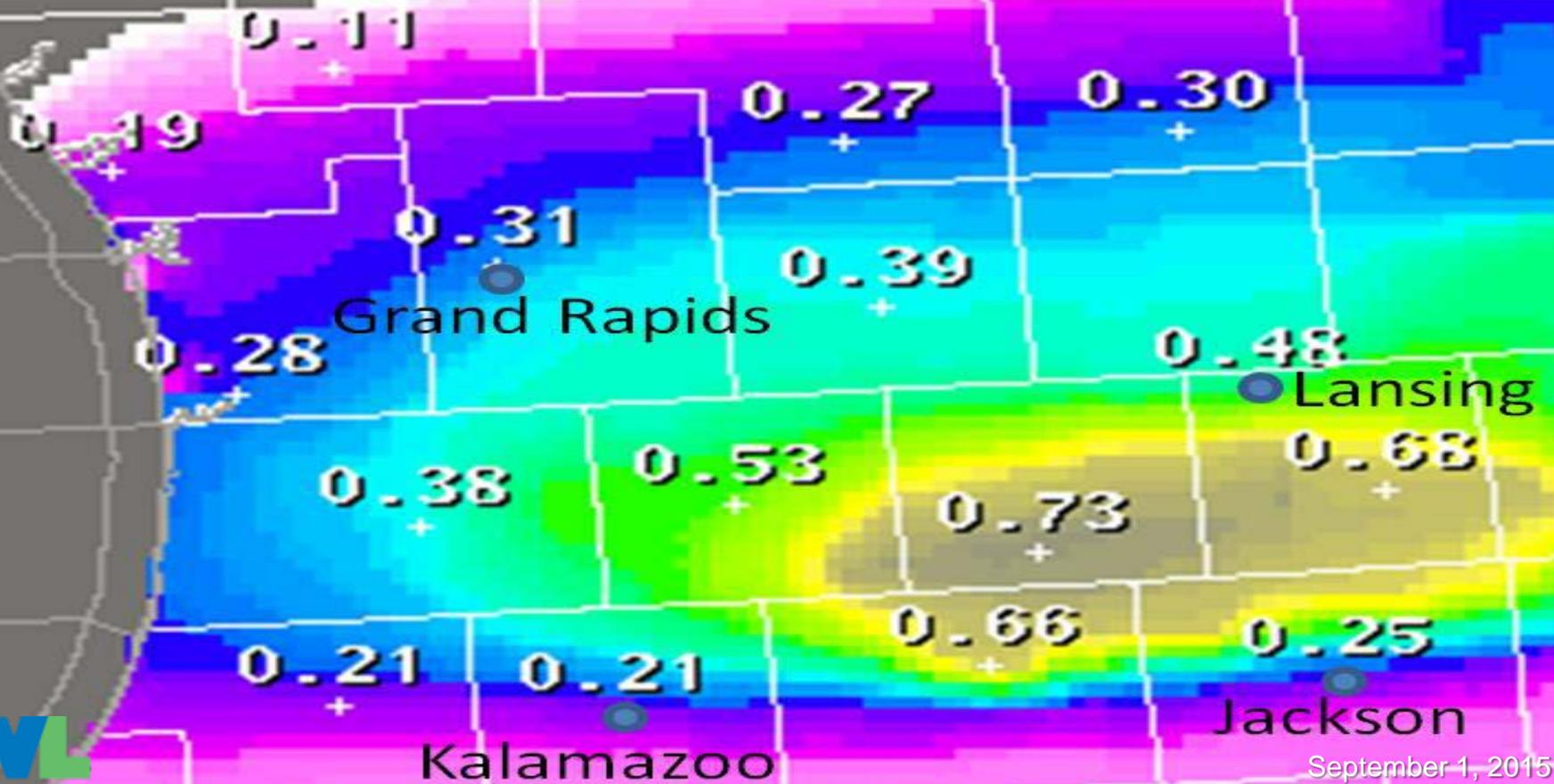
Customers without Power

Lansing BWL	50,000
Consumers Energy	390,000
State Wide (all utilities)	700,000

Then it got REALLY COLD!!!



Ice Accumulation by Sunday, December 22nd



December 23rd - 28th

- Temperatures remained below freezing so ice did not melt.
- Snow continued to fall adding to the weight on branches and trees
- Ice accumulation adds 100 to 200 pounds of weight to distribution lines.
- Trees and limbs covered with ice fell on distribution conductors –
This added weight causing even more lines to break

2,400 Broken Utility Lines causing extended customer outages

Who was Involved?

Response and Recovery

- Mid-Michigan Chapter American Red Cross
- Central Michigan 2-1-1
- Ingham County 9-1-1 Center
- Ingham County Animal Shelter
- Community Emergency Response Teams (CERT)
- Radio Amateur Civil Emergency Services (R.A.C.E.S.)
- Michigan State Police Emergency Management and Homeland Security Division
- Michigan Department of Transportation (MDOT)
- Michigan National Guard
- Numerous Church and Community Groups

Community

- CITIZENS
- Businesses
- Capitol Regional Airport
- State Government
- Hospitals
- Transportation (CATA)
- Counties
- University

Information Sharing is Critical

Restoration Plan Priorities

Public Safety Priority No.1

- Clear and make safe all downed power lines
- Energize communications centers
- Hospitals and urgent care facilities Police and Fire
- Water pumping facilities
- Wastewater treatment plants and pumping stations

Then, restore service to the largest number of customers as quickly as possible:

- First
- Restore and trim primary circuits and customers
 - Restore and replace blown fuses and transformers

- Second
- Restore and replace secondary lines

- Third
- Restore and trim services

- Fourth
- Trim threatened wires
 - Respond to partial power or power quality calls
 - Non-critical trimming and cleaning

What did we learn?

- Seamless communications is essential for Incident Command.
- Facebook and Twitter are not Enough. Smart phone applications are needed.
- Line truck Laptops need GIS information to improve efficiency.
- Infrastructure needs to withstand the environment
- Deployables are key for quick response
- Training, resource sharing and interoperability can make the difference in life or death or loss of property
- Santa Clause cannot navigate without landing lights

The First Priority of BWL is Public Safety, then restore service to the largest number of customers ASAP.



User Requirements for a Broadband Network

- A cost-effective Solution
- Information Sharing to increase Efficiency
- Coverage to Save Live (First Responders, Citizens, and Victims)
- Hardened Sites to improve Reliability
- Interoperability - Response and recovery requires hundreds of specialized organizations that vary with every incident