



# NW Smart Grid Demonstration Project

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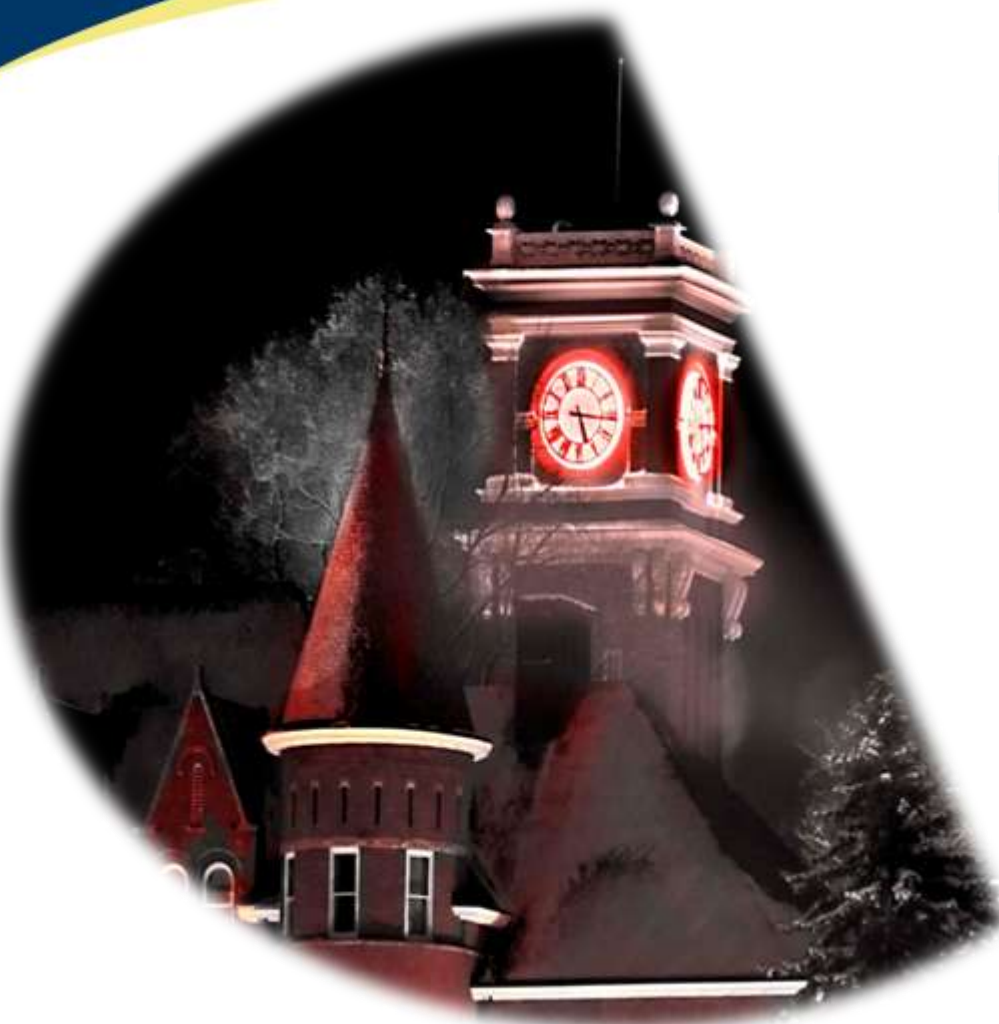
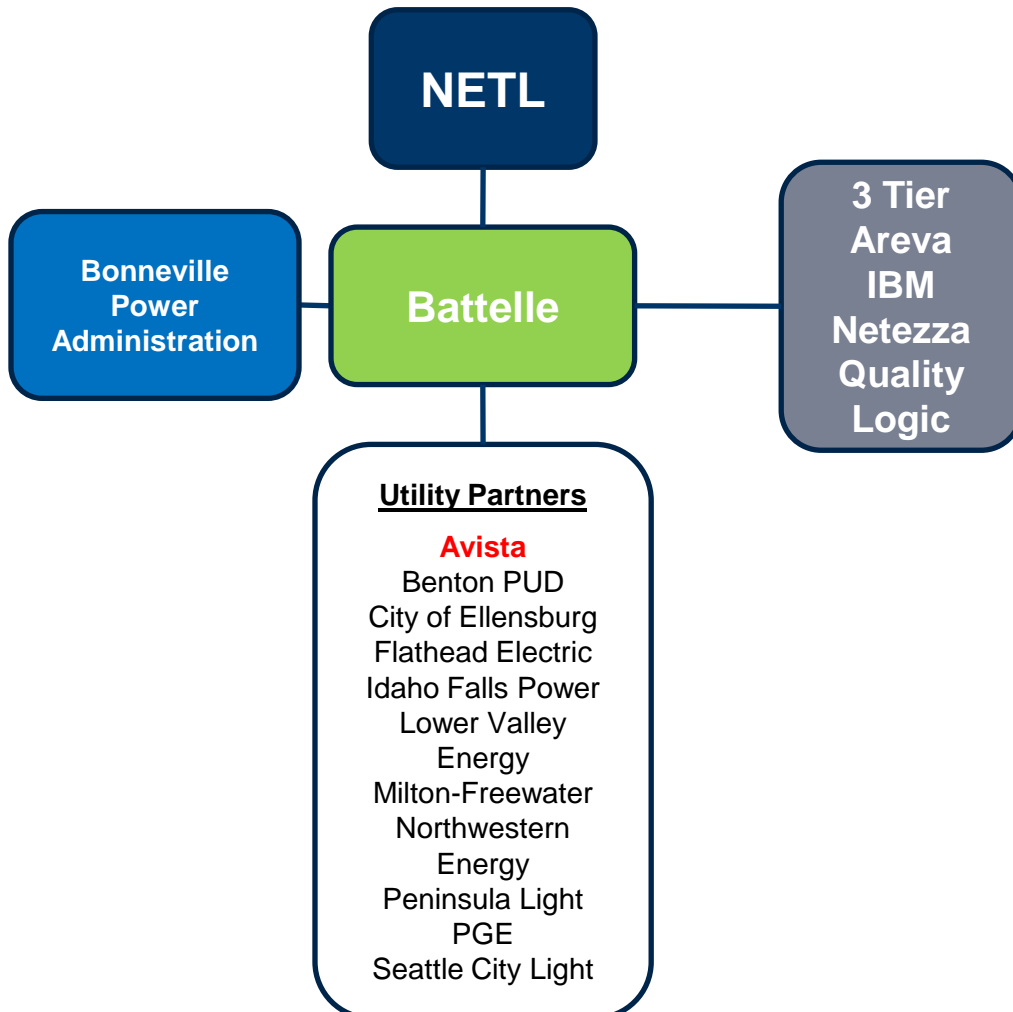


Photo courtesy of Bill Owens, City of Pullman

# NW Smart Grid Demonstration - Avista



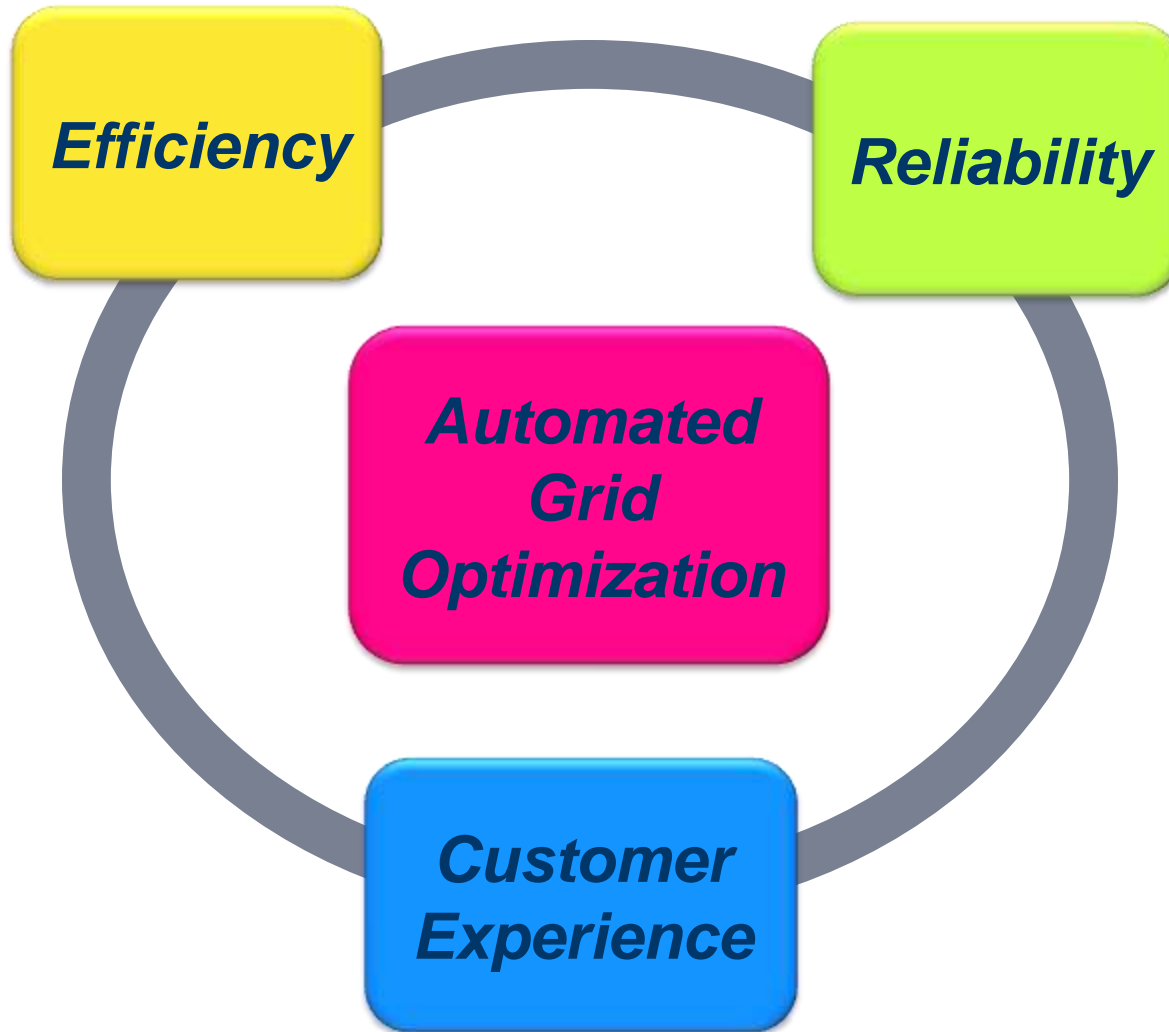
# Pullman Smart Grid Demonstration Project

- Upgrade facilities and automate distribution system
- Technologies and tools for customers to actively monitor and manage their energy usage

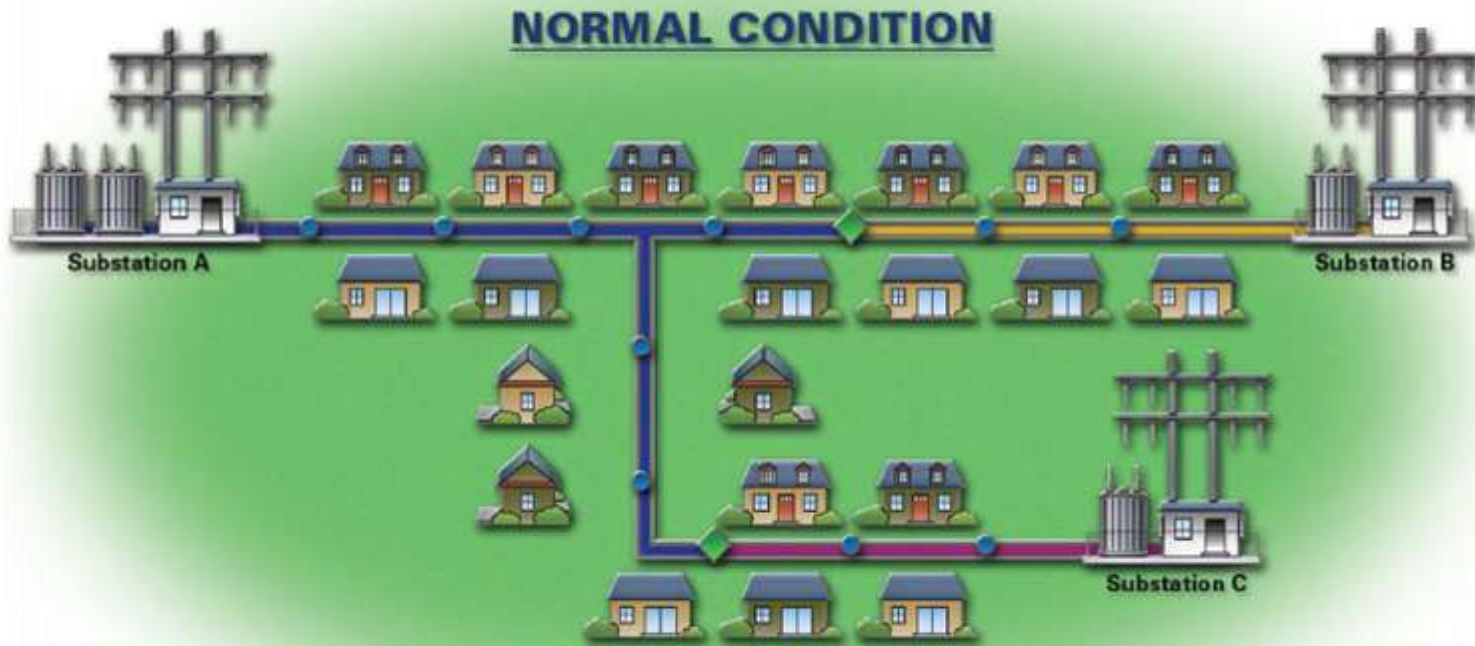


# Why Smart Grid?

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# Reliability



# Reliability



# Reliability

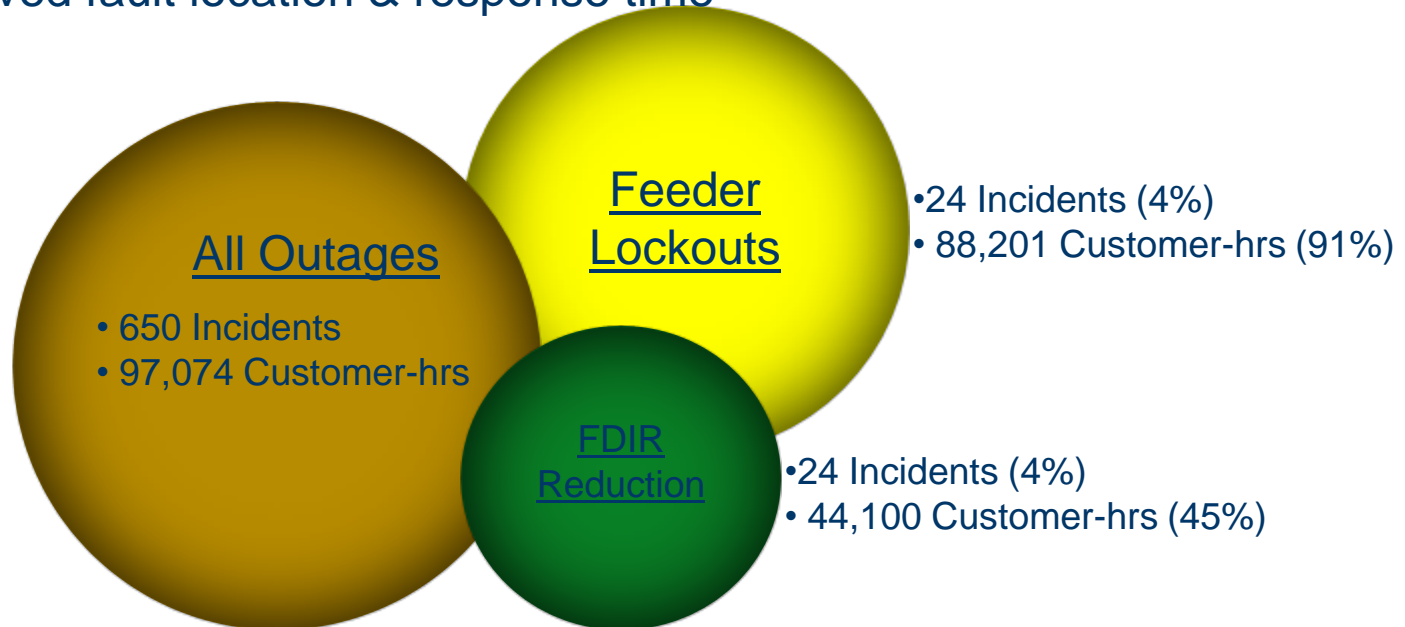


# Reliability



# Reliability

FDIR – Fault Detection Isolation & Recovery  
5-6 feeder trunk outages/yr  
Improved fault location & response time



1/04 to 5/08

# Efficiency

## Switched capacitors

- Reduce Conductor and Equipment Losses

## Voltage Optimization / CVR

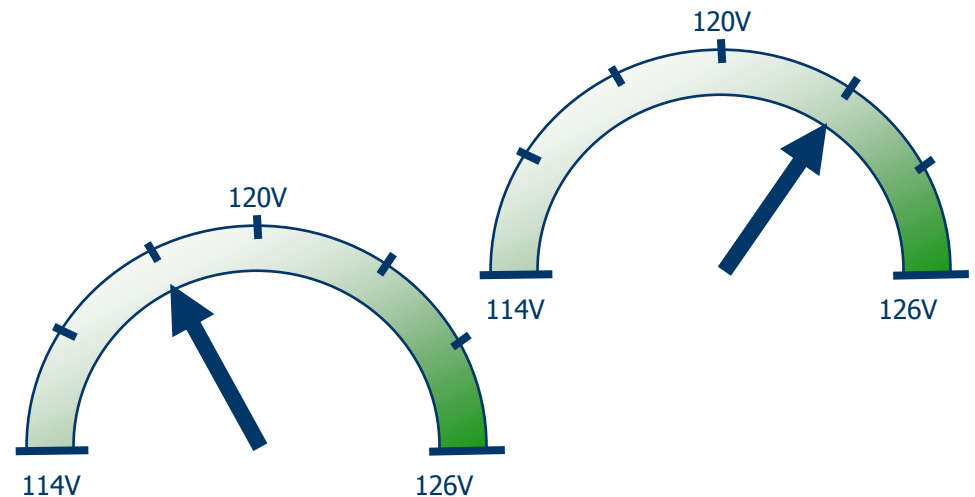
- Reduce Conductor and Equipment Losses

## Low Loss Transformers

## Savings

6760 MWhrs (400 homes)

2400 Tons CO<sub>2</sub>



# The Customer Experience

- Improve energy consumption data
- Establish and test regional signals
- Understand customer experience, satisfaction, and program participation
- Validate the need for and type of customer incentives
- 1,500 customers in Pullman



Testing, Understanding,  
Learning

# Information and Customer Control



MY ACCOUNT SERVICES & PRICING ENERGY SAVINGS YOUR SAFETY OUR ENVIRONMENT OUR COMMUNITY

Search

- My Account
- Bill Assistance
  - My Bill
  - My Payments
  - Moving?
  - Update My Account
  - Billing Options
  - Payment Options
  - Bill Inserts

SERVICES FOR YOUR BUSINESS

### My Energy Usage

Check out your metered data and load analysis your selection and click "View Graph" to see the

Meter: Electric - E78927 16 Laure

Graph: 

- Average Energy by Day-of-Week
- Actual Daily Energy & Average
- Average Energy by Day-of-Week
- Daily Energy with Temp.
- Hour-by-Hour Power (Compared)
- Hour-by-Hour Power
- Demand Usage
- Real Time Pricing

kWh

Meter: Electric - 05383307 105 PLUM ST

Graph: Hour-by-Hour Power (Compared) Date: Aug 2007 25

[View/Update graph](#)

### Hourly Energy (Compared)

— Metered Energy Use — Peak Day — Avg. Weekend ... Avg. Weekday

8 kWh

6

4

2

0

12 AM 4 AM 8 AM 12 PM 4 PM 8 PM Time

Missing data for 8/23

Choose a period:  Billing cycle  Month  Week [Export Data](#)

### My Preferences

Change your default display settings.

### Save

Things you can do to save more on your energy bill.

### Pay my Avista bill



# Washington State University

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- On-Campus  
Enhancements - HVAC
- Smart Home Research
- Analysis & Reporting
- Engineering Education





# Smart Grid Demonstration Project

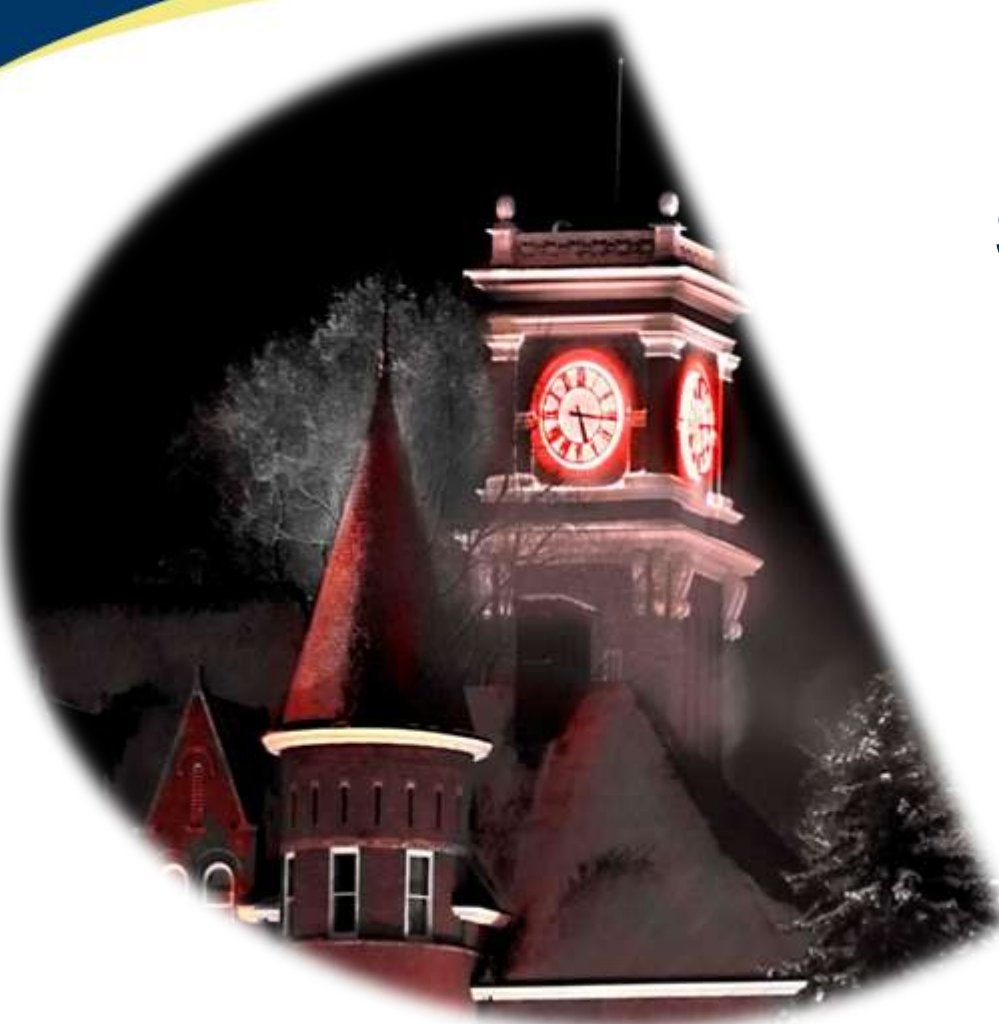


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