AVISTA CORP.
RESPONSE TO REQUEST FOR INFORMATION

JURISDICTION:	WASHINGTON	DATE PREPARED:	09/28/2015
CASE NO.:	UE-150204 & UG-150205	WITNESS:	Larry La Bolle
REQUESTER:	Public Counsel/Energy Project	RESPONDER:	Larry La Bolle
TYPE:	Data Request	DEPT:	State & Federal Regulation
REQUEST NO.:	PC/EP – 100	TELEPHONE:	(509) 495-4710
		EMAIL:	larry.labolle@avistacorp.com

REQUEST:

RE: Rebuttal Testimony of Larry D. La Bolle, Exhibit No. LDL-1T, p. 20.

a. Please provide the date of the cited Commission workshop, the docket number, and all materials and presentations provided by Avista.
b. Please provide all presentations and documents regarding the full-scale deployment of AMI given to the Commission and Commission staff in formal and informal presentations since 2010.

RESPONSE:

a. The workshop was held January 29, 2015 in connection with Docket UE-143218. The material presented by the Company is provided as PC/EP_DR_100 Attachment A.
b. In the Company's 2014 Smart Grid Technology Report to the Commission, Avista discussed (on pages 19-23) its interest in a full deployment of advanced metering in Washington. This report is provided as PC/EP_DR_100 Attachment B.

Avista's Plans for Advanced Metering Infrastructure (AMI)

January 29, 2015

(Presented in Docket Number UE-143218)

Introduction

Trends in Advanced Metering

Evolution of Metering Technologies

Advanced Metering Infrastructure

Current Plans for the Washington Advanced Metering Project

Advanced Metering Benefits

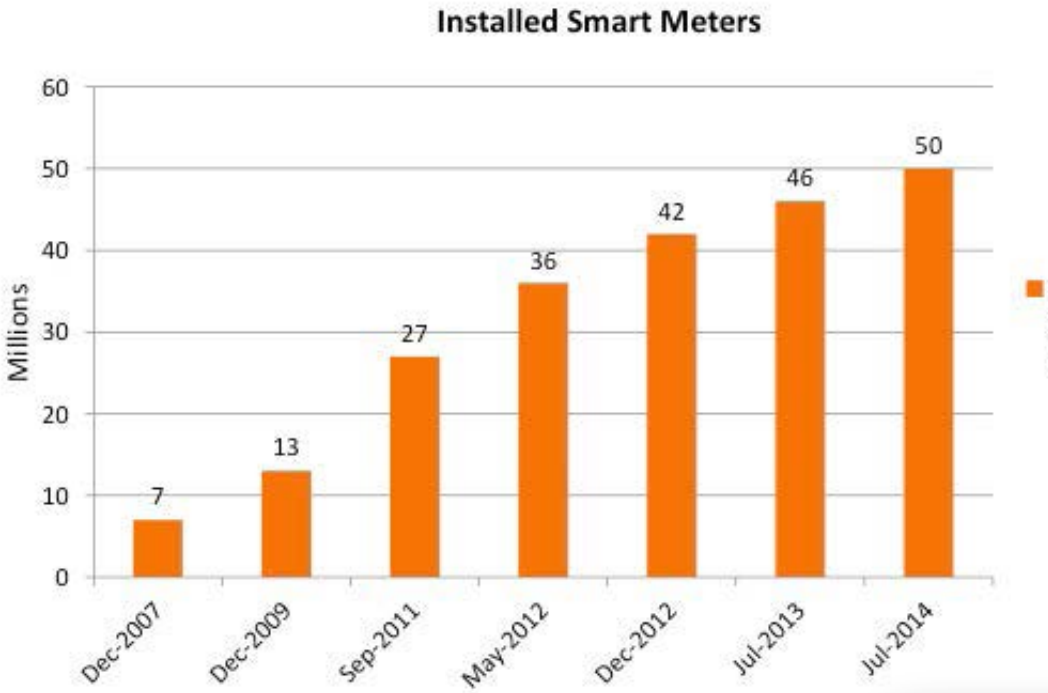
Project Cost & Benefits

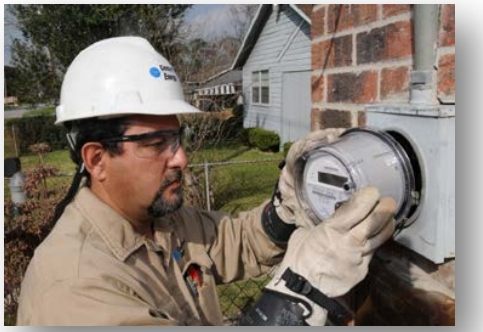
Implementation Timeline

Questions

National Trends in Advanced Metering

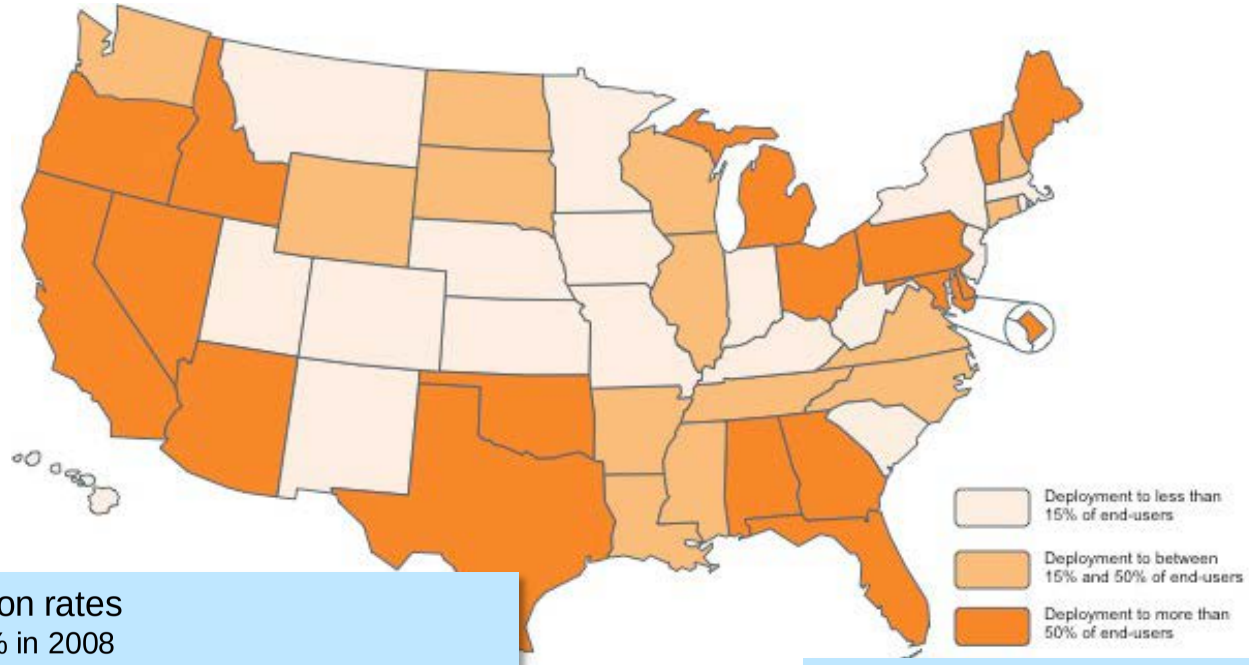
National Trends in Advanced Metering





Source: Utility-Scale Smart Meter Deployments: Building Block of the Evolving Power Grid. IEI Report, September 2014, page 1.

National Trends in Advanced Metering



Penetration rates
- 5% in 2008
- Over 30% in 2013
- Forecasts range from 50-70% by 2020

Promoted with Broad Support
- Regulatory Organizations
- State Mandates
- Range of Regulatory Policies

Inland Power and Light Company

Seattle City Light

Tacoma Power — Tacoma Public Utilities

PNGC Power — Smart. Local. Connected.

PGE

Kootenai Electric Cooperative — A Touchstone Energy® Cooperative

Map Source: Utility-Scale Smart Meter Deployments: Building Block of the Evolving Power Grid. IEI Report, September 2014, page 2.

Avista

Evolution of Metering Technology

Metering Benchmarks

1908

1950

1993

2014

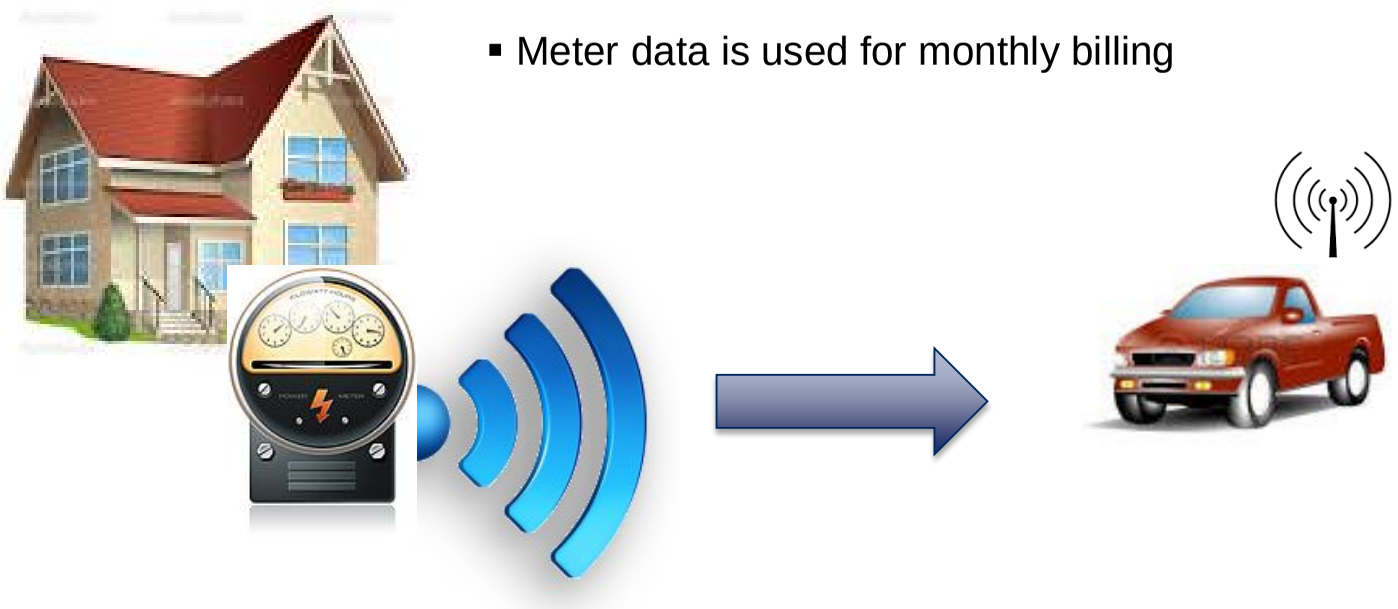
Avista's History in Metering Technology

Itron

Advanced Metering Infrastructure

Automated and Mobile Meter Reading (AMR)

- Meters have one-way communication modules
- Meter data is collected and stored in a database
- Meter data is used for monthly billing



Advanced Metering Infrastructure (AMI)

- Two-way communication
- More information, more applications

Advanced Metering Infrastructure

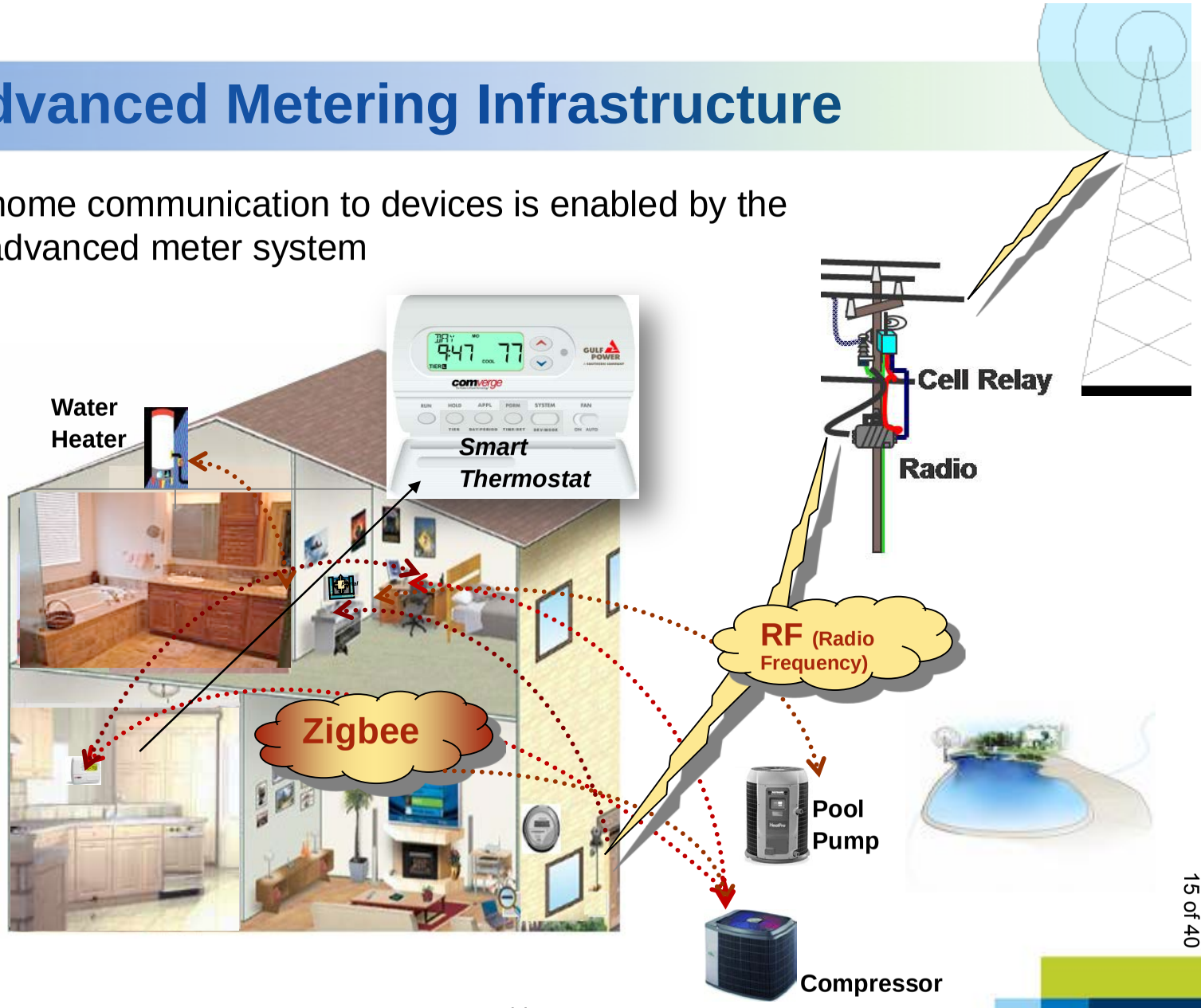
- Measures incoming and outgoing flow of electricity in real time
- Records the measure of electricity flow every 5 – 15 minutes
- Meters communicate with each other
- Receives and responds to signals sent from the utility

Meters are only part of the advanced metering system – other infrastructure is also necessary to create the network to collect and manage the data

Advanced Metering Infrastructure

Advanced Metering Infrastructure

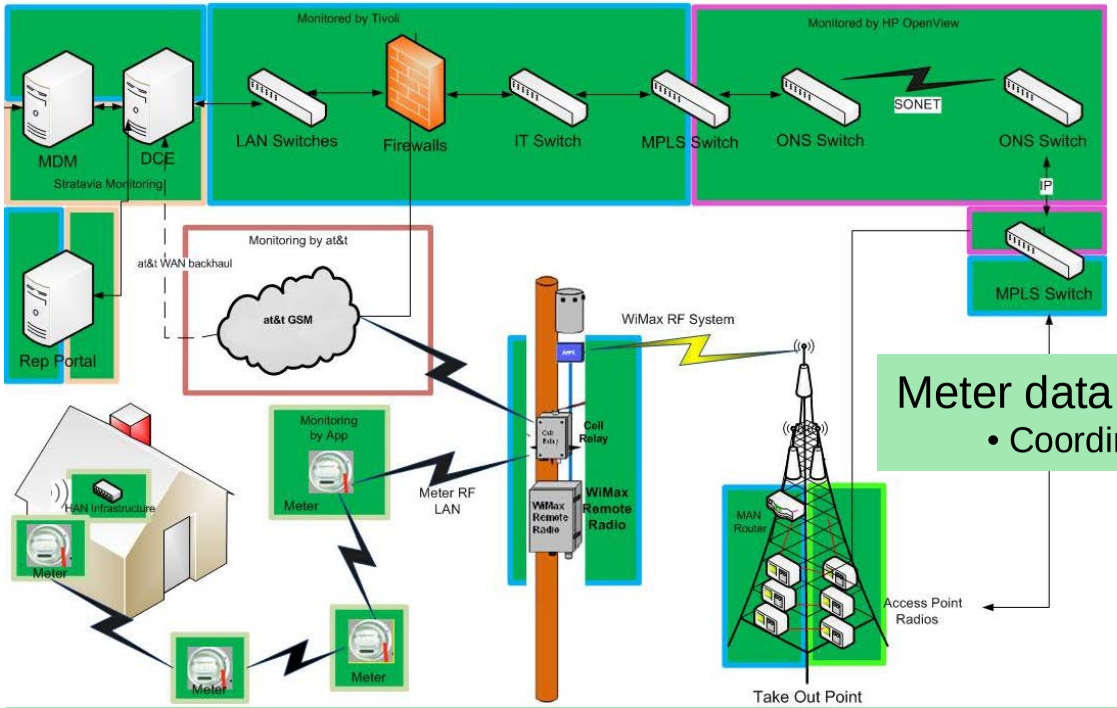
In home communication to devices is enabled by the advanced meter system



Advanced Metering Infrastructure

Meter Data Management System

- Storing, validating, editing, analyzing meter data
- Integrated with other utility systems

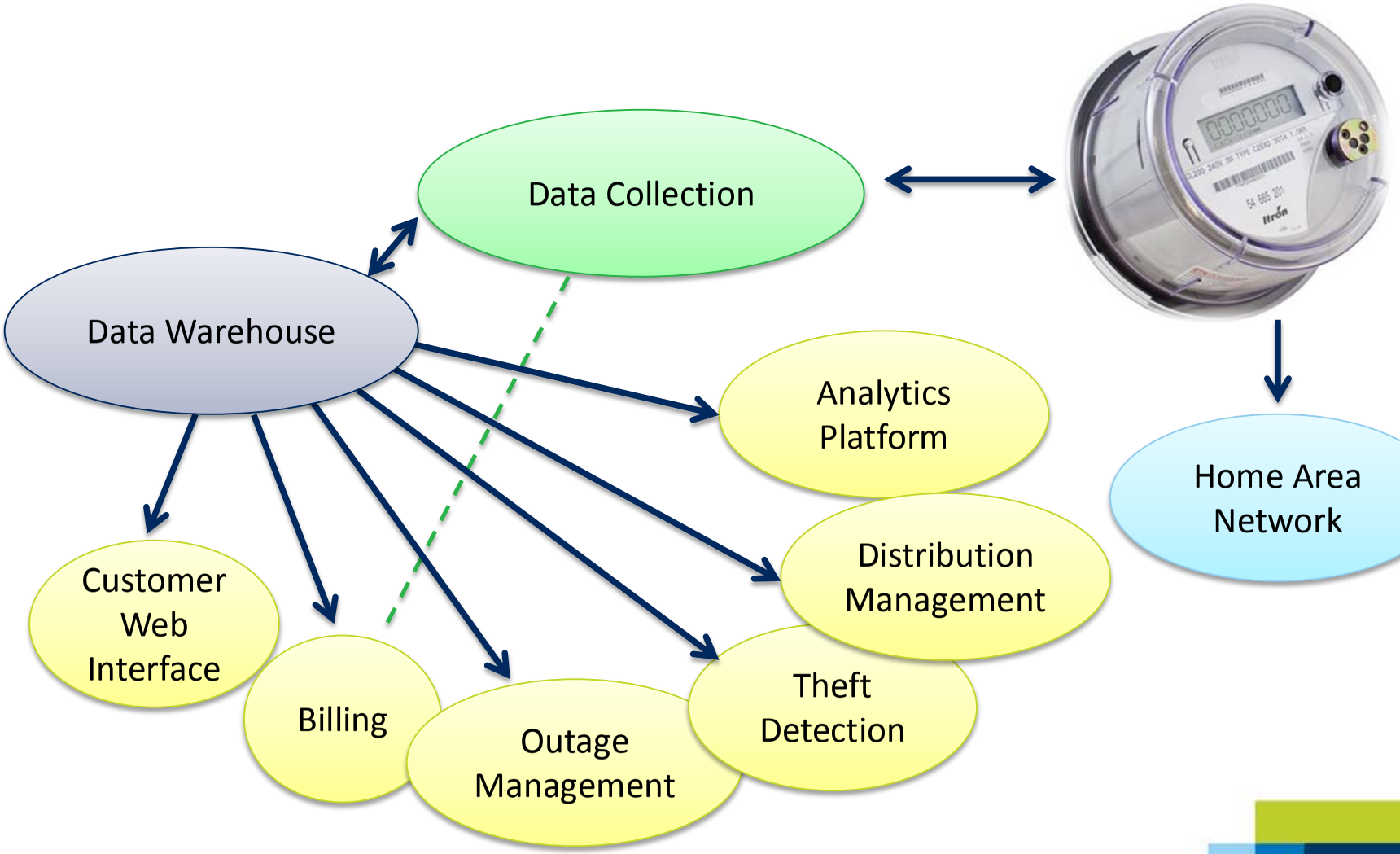


Meter data collection system

- Coordinates networks – Collects data

Requires specialized and secure communication network

Integrates with Utility Operations Systems



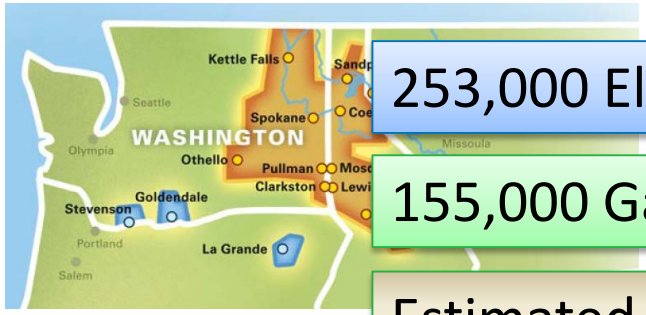
Avista's Pullman Demonstration Project

13,000 Electric Customers

5,000 Gas Customers

Current Plans for the Washington Advanced Metering Project

Washington Advanced Metering Project



253,000 Electric Meters

155,000 Gas Meters

Estimated Capital Cost $142 M

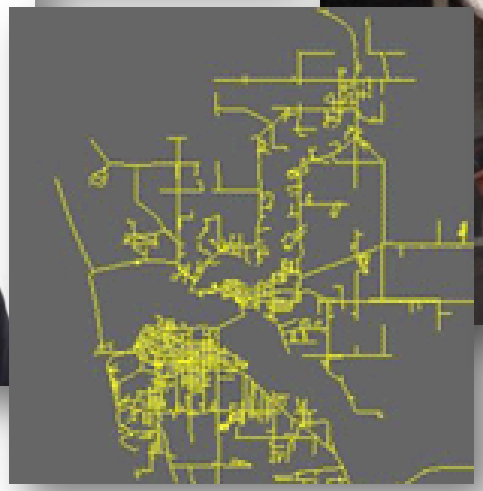
AMI→

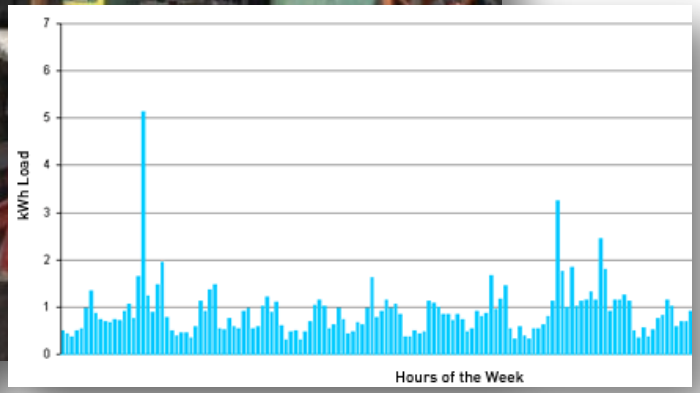
Customer Benefits

Operational Benefits

Cost Savings

Advanced Metering Benefits

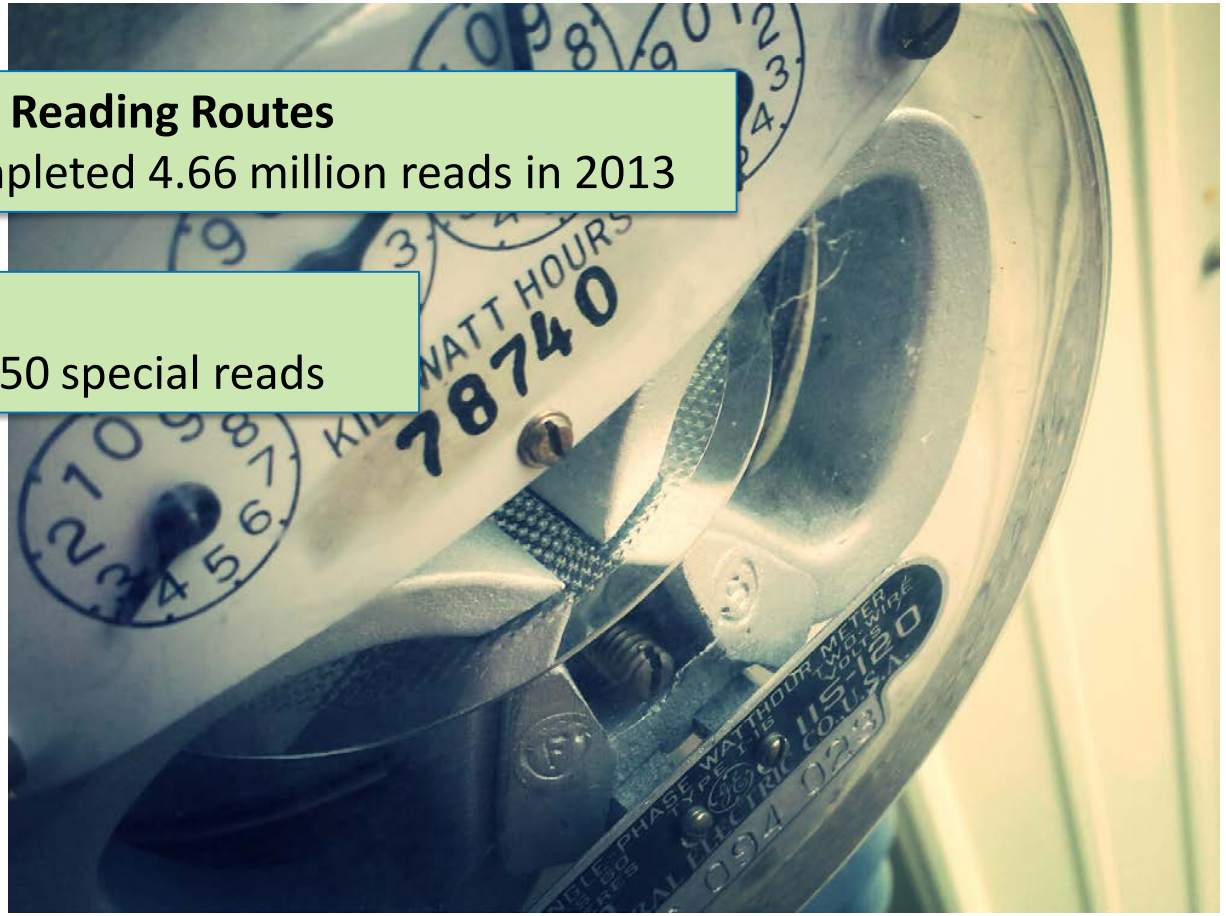




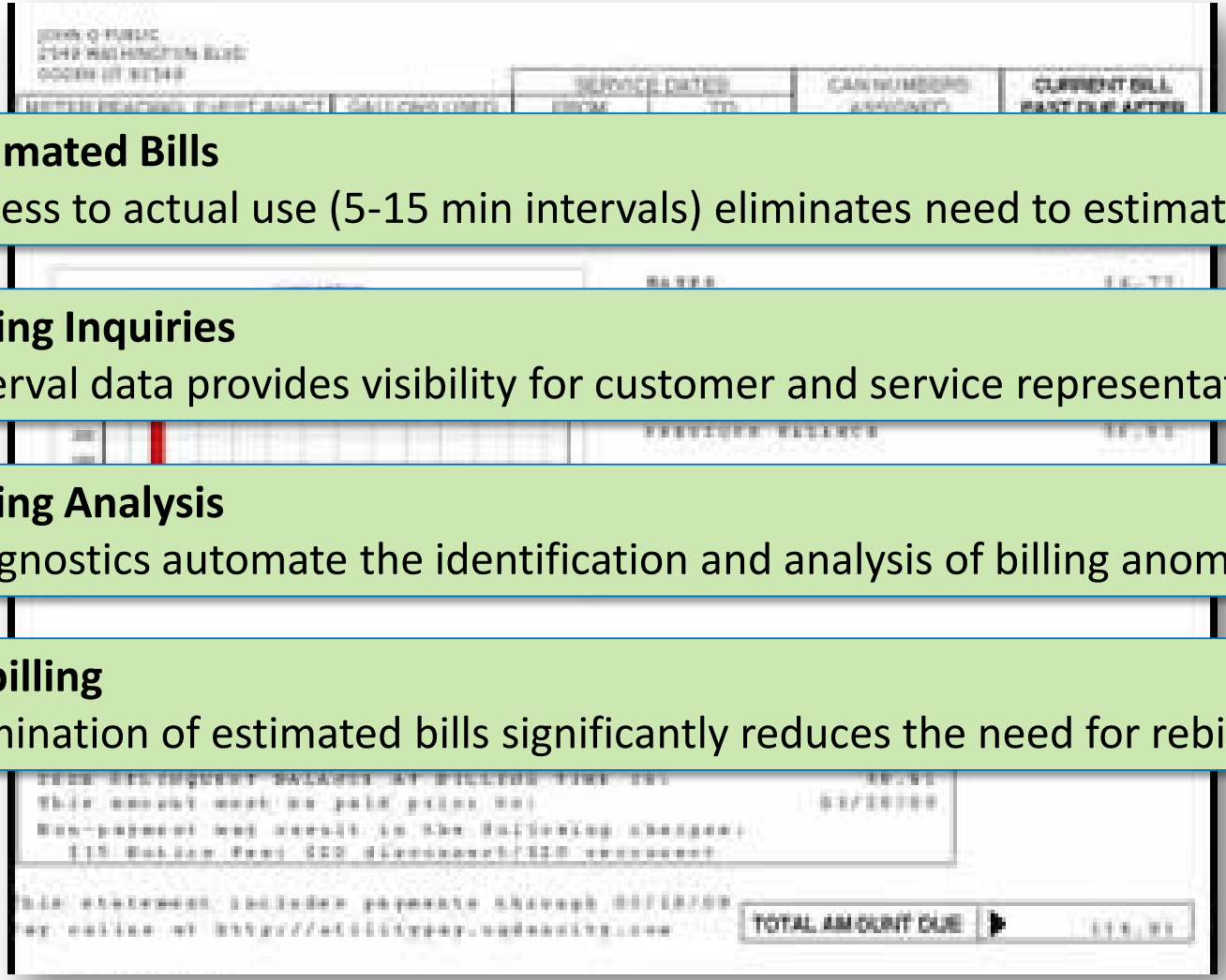
Eliminates Manual Meter Reading

Regular Meter Reading Routes
Forty staff completed 4.66 million reads in 2013

Special Reads
Completed 7,750 special reads



Billing Accuracy



Estimated Bills
Access to actual use (5-15 min intervals) eliminates need to estimate bills

Billing Inquiries
Interval data provides visibility for customer and service representative

Billing Analysis
Diagnostics automate the identification and analysis of billing anomalies

Rebilling
Elimination of estimated bills significantly reduces the need for rebilling

Remote Rapid Reconnect

Account Open/Close Transfer
150,000 transactions in Washington in 2013
14,702 cases where field personnel were dispatched for disconnect/reconnect

Credit Disconnects/Connects/Collections
Over 30,000 cases where field personnel were dispatched in 2013

Immediate Restoration of Service
Significant reduction in restoration time

Energy Theft & Unbilled Usage

Meters are equipped with tamper alarms

Theft Diversion
In 80% of cases a customer has activated an inactive meter or has significantly damaged a working meter

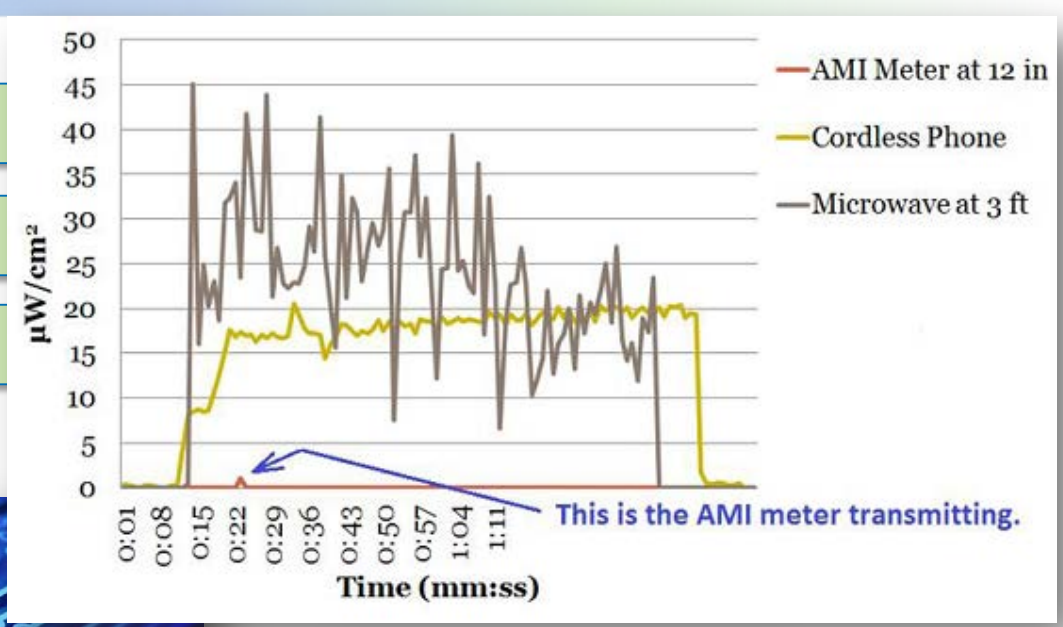
Unbilled Usage
Meter can be switched off or set to alarm for inactive accounts

Slow/Failing Meters
Can be very difficult to isolate with conventional metering

Stopped Meters
Advanced meter analytics can reduce the number of meters investigated

Customer Protections

- Customer Health & Safety
- Customer Opt Out Program
- Advanced Meter Security



Cyber and Customer Information Security

Avista Customer Privacy Policy

Secure Virtual Private Network

Access authorized and authenticated

Data encrypted at the meter

Cyber and Customer Information Security

Oversight Committee

- Oversees development of advanced metering security plan
- Ensures secure implementation and operation of the system

Advanced metering security working group

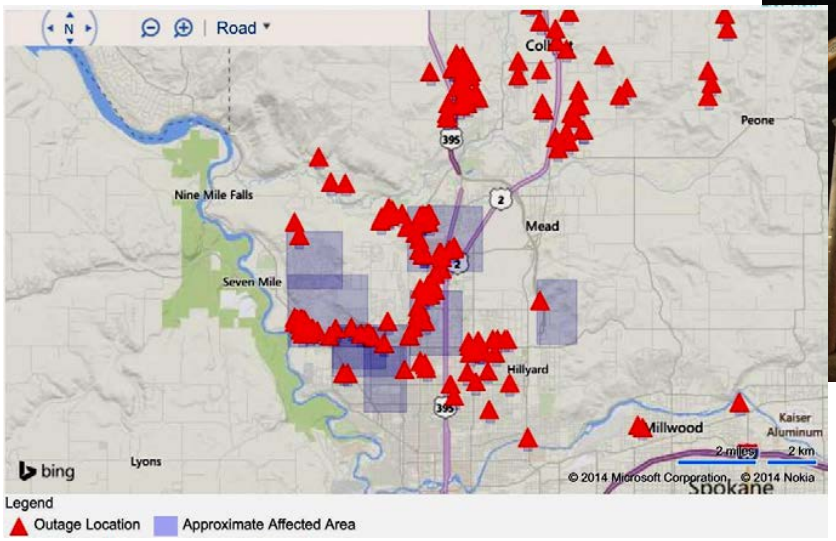
- Implementation of security plan
- Address new/emerging issues

Outage Management

Meter signals utility when power to the meter is disrupted & restored

Integrated with utility's outage management system – better visibility

More efficient and shorter restoration times



Energy Efficiency

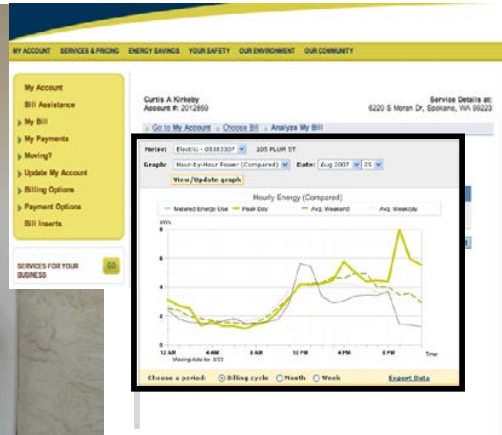
Conservation Voltage Reduction

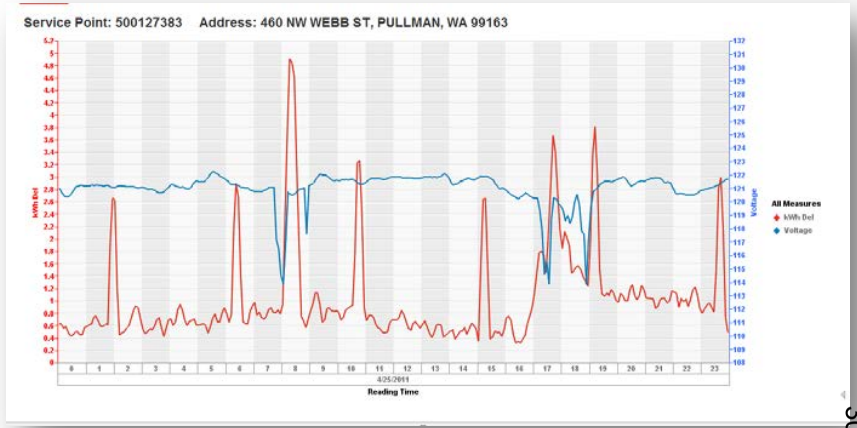
More efficient regulation of distribution voltage

Optimized with advanced metering – voltage alarming capability

Customer Installed Measures

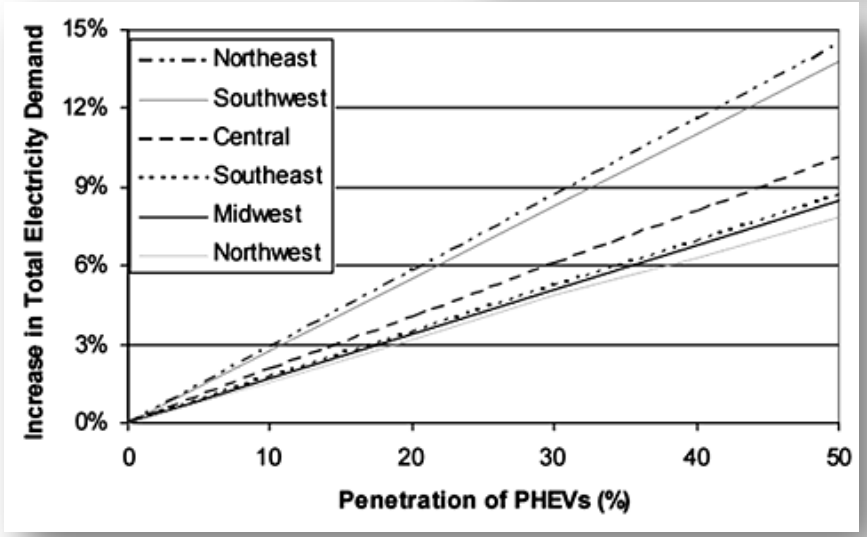
Access to energy use information coupled with conservation education





Utility Studies

- Retail Load Studies
- Meter Testing
- Engineering Studies



Customer Experience

Web Portal
Customer access to their interval energy usage data (5-15 min)

Home Area Network
In-home interface provides access to real-time energy use

Text Alerts
Outbound messaging on customer-selected status of energy use

Billing Inquiry & Service Changes
Eliminate estimated bills; streamline open, close, transfer of service

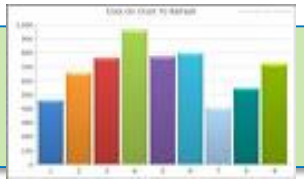
Privacy
Reduced visits of Avista employees on customer property

Opportunity for Future Benefits

Rate Options
Time of use, prepay, critical peak, demand pricing

Micro Grids & Smart Cities
Opportunities for multi-application networks

Data Analytics
Platform for new uses of data to benefit customers



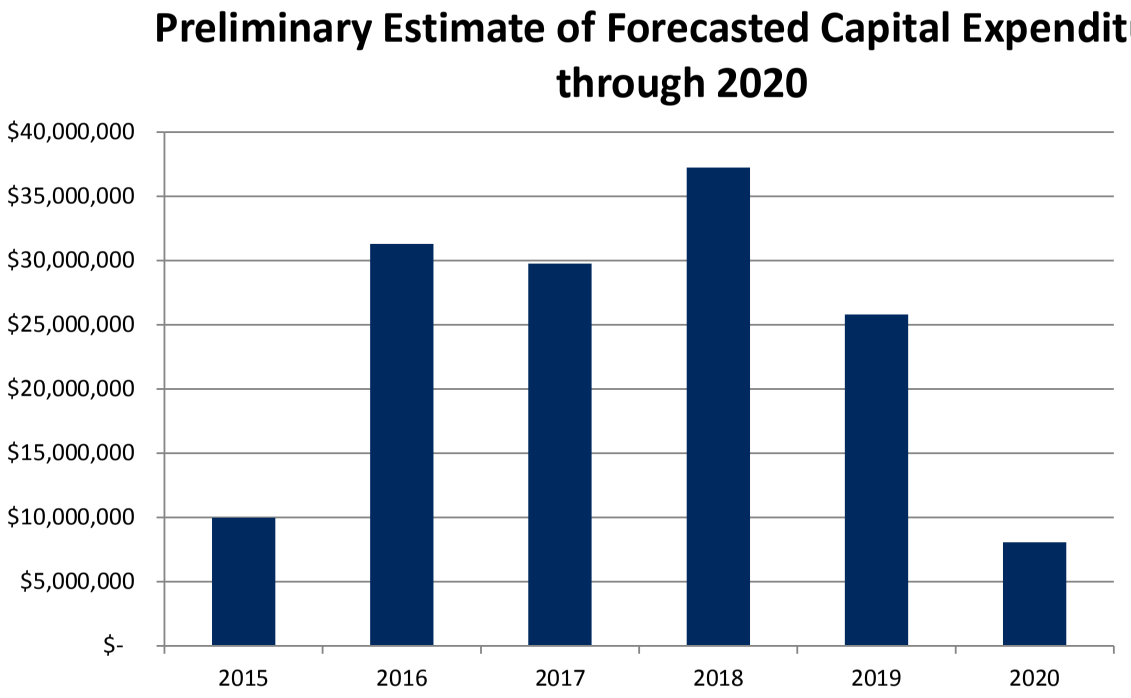
Distributed Generation
Better understand and integrate customer-owned resources

Project Costs and Benefits

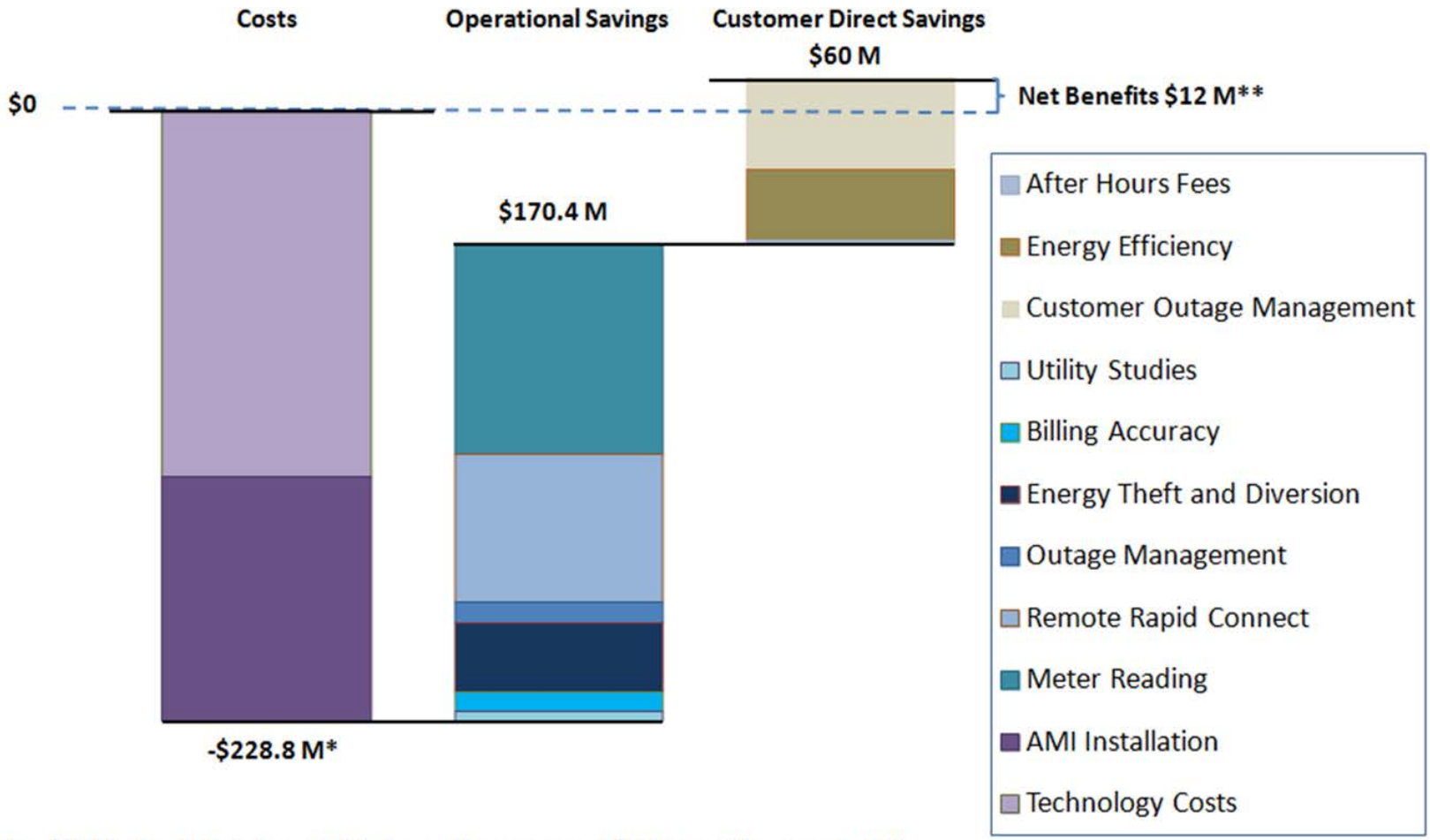
Project Cost

Preliminary estimate of the capital investment is $142.1 million

Preliminary estimate of the NPV of operating expenses is $87 million over the 21 year life of the project



Preliminary Estimate of Lifetime Net Benefits of Washington AMI



* Includes $142M of capital costs and NPV of operating expense of $87M over 21 year project life

** Does not include the unquantifiable customer experience benefits (e.g., text alerts, web portal, access to real time data, etc.)

Implementation Timeline

Project Timeline

2015 — **Project Kickoff**
Servers, Software, Security

2016 — **Field Installation and System Integration**
Residential Meters, Commercial Meters, Communications Infrastructure, System Integration

2018 — **90% Functional**
Residential meter install complete
Continue with commercial metering & communications infrastructure

2020 — **Project Complete**

Conclusions

The industry is rapidly moving to advanced metering systems

Timing takes advantage of maturing technology and lowered costs

Measurable benefits balance deployment costs – meter reading, billing accuracy, remote rapid reconnect, energy theft /unbilled use, outage management, energy efficiency, utility studies

Customer Experience is improved, albeit the benefits are unquantified

Protections will ensure customer choice, health, safety, and security

Optionality for future programs for customers is enabled

Questions