Voice of the Customer

Mike Lowe, SRP Executive (retired)
Smart Meters

Leaner, Greener, and More Customer-Centric

Michael Lowe
Deputy General Manager & Chief Customer Executive
Salt River Project
(Retired)
Substantial Cost Savings from Automation of Meter Reading

Salt River Project (Tempe, Arizona, USA) Case Study:

- Reduction of 5 meter readers and 1 field technician for every 50,000 smart meters deployed
- **$17 million** annual savings at full deployment of 1 million meters
- **$140,000** annual savings for each position eliminated
Smart Meters Much More than Automated Reads

Grid - Edge Intelligence enables a revolutionary level of precision in management of the grid

smart infrastructure in Homes and Businesses
The New Eco-System

Smart Grid Electricity Infrastructure

- Utility Communications
- Dynamic Systems Control
- Data Management
- Distribution Operations
- Internet
- Advanced metering
- Control Interface
- Distributed Generation and Storage
- PV
- Renewables
- Efficient Building Systems
- Smart End-Use Devices

- PV
- Plug-In Hybrids
Grid Modernization Plan

- Advanced Distribution Management Capability
- System Performance
- System Capacity
- Active Customer Participation
- Asset Management

2015
- Funding Identified
- Distribution Feeder Auto (DFA)
- Fault Current Outage Locating
- Smart Caps
- Substation Controlled Voltage Optimization
- Substation Dynamic Rating
- Micro-grids
- Customer Storage
- Next Generation Smart Meters
- Volt/Var Optimization (VVO) – Using AMI, Cap Control LTC Control
- Transformer Asset Optimization

2025
- Advanced Distribution Management Capability
- Market Opt in Demand Response
- Vehicle to Grid Storage
- SRP Storage
- Dynamic Distribution Line Rating
- Opt-in Demand Response
- Substation Equipment Real Time Monitoring
- Substation Data Manager
- Fault Location Isol, Sys Restore
- Cable Fault Anticipator
- Vehicle to Grid Storage
- Distribution Asset Optimization

(Funding Identified)
Many Benefits from AMI (1/2)

• “Big data”
  – Daily reading of each meter results in immediate labor savings
  – Interval AND scalar measurements
  – Measurement of usage AND customer-generation
    – Customers who choose their bill due date are among the most satisfied with a utility’s overall billing and payment process
• Remote disconnect switch
  – Avoids truck “rolls” for turn-ons / turn-offs / disconnections for non-payment
    – SRP avoids 300,000 truck rolls per year
Many Benefits from AMI (2/2)

- Voltage measurement
- Tamper detection
- Outage identification
- Support for “load shaping” to reduce cost and carbon-intensity of energy supply
Customers Want Help To Manage Their Usage

Information Makes Electricity Tangible

Bill projection for July is $280.00 for account 5006 (based on power usage through July 27, 2017)

SRP POWER

now
Utilities No Longer Dependent on Customers to Report Power Outages

Failure points are identified and repaired more quickly
Need for Load Shaping in a Desert Territory

- Solar output peaks before system load

**Retail Load vs. Solar Generation**
June 18, 2016

- Retail Load
- Central Station Solar
- Onsite Solar
Load Shaping Delivered by Smart Meters
Multiple Tariff Options on a Single Smart Meter Platform Help to Shape Load

Percentage of Total Daily Usage

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Tariff Options Appeal to the Unique Needs of Customers

- Income
- Consumption
- Green
- Credit Standing
- Age

Less → Prepay → Basic → TOU → More
Smart Meters Much More than Automated Reads

A critical component in the evolution of grid edge intelligence

Interact with smart infrastructure in Homes and Businesses

Enable new services for customer convenience and bill control

Improve customer satisfaction