

# BPA Demand Response Pilot Projects

December 4<sup>th</sup> Brown Bag  
Pam Sporborg



# Why is BPA Interested in Demand Response?

- Continued regional load growth is leading to a forecasted capacity shortage in ~2015.
- Wind integration, fish operations, and other operational constraints are limiting the flexibility of the hydro system to meet peak demand.
- Demand Response is a proven, low-cost resource, widely utilized in other regions to address peak demand.



# Demand Response Guiding Principles

- **Collaboration & Partnership:** BPA will work collaboratively with our Public Utility Customers to develop and implement Demand Response pilots and programs
- **Balance Cost and Risk:** BPA will work to implement the least-cost, least-risk DR solutions. However, BPA recognizes that this may frequently require trade-offs between these two goals.
- **Regional Leadership Role:** BPA will lead by example in the region, through information sharing, collaborative research efforts, and demonstrating state of the art technology. This includes integrating Demand Response into the Smart Grid.
- **Reliability & Flexibility:** BPA's Demand Response resource will primarily aim to improve system reliability and enhance flexibility.
- **Environmental Stewardship:** BPA will consider the environmental impacts of each DR Option.



# BPA Recent Activities in Demand Response

- Demand Response potential assessment and action plan.
  - Developed DR Supply Curves that will be inputs into the Resource Program
  - Identified Action Items for 2009-12
- Past Pilot Projects include:
  - Gridwise Olympic Peninsula Project (dynamic pricing)
  - Non-Wires Solutions Pilot (direct load control, back up generation)
  - Ashland Pilot (Direct Load Control)
  - Demand Exchange (Wholesale)



# Potential DR Pilots

- FY 2009 Automated Direct Load Control
  - Employ state of the art technology and communications system to conduct demand response tests in the residential sector
- Dynamic Pricing Pilot
  - Understand how customers react to peak pricing signals.
- Emergency/Capacity Pilot
  - Working with large commercial/industrial customers to provide system capacity in critical or emergency events
- Wind Integration Pilot
  - Develop “Proof of Concept” for Demand Response as a tool in Wind Integration. This is in the very early stages of planning.



# 2009 Automated DLC Project Objectives

- Pilot how an automated notification system can be used in the residential sector for demand response. Evaluate the effectiveness of such a system.
- Determine how residential customers respond to demand response automation.
- Identify what type of DR shifting and shedding strategies can be automated in the residential sector using a “whole house” approach.
- Develop an accurate baseline measurement for automated residential winter-peaking programs.
- Explore how automation of control strategies can increase participation rates in DR programs and events.
- Explore a “shared trigger” approach, allowing both the local utility and BPA to utilize DR to address both price and reliability issues.
- Understand the benefits of DR for hydro operations, especially the difference in the benefits for weather-induced peaks vs. emergency events.
- Understand the costs and benefits of participation from the owner’s perspective.



# Questions for BPA?



# BPA Questions for Utilities

- What types of DR projects are you considering? What timeframe are you thinking about for launch?
- Why do you believe demand response is important for your utility?
- What resources would you like BPA to provide (financial, technical, information, etc)

