1.4 Million Acres In South Central Washington State
Yakama Nation Demographics:

• Established by Treaty of 1855
• 10,190 Enrolled Members; Descendants of the 14 Tribes and Bands of the Yakama Nation
• Governed by a 14 Member Tribal Council; 3 Member General Council Executive Board
Tribal Utility Background

Information

• General Council membership resolution GC-04-98, directed Tribal Council to research the opportunity of a tribal utility

• Established tribal utility in 2006; Yakama Power,

• Current Yakama Power load is 2.5 megawatts, services tribal operations
Background Information

• Yakama Power Board of Directors consists of 7 Tribal Council members;
• Received a relicensing settlement from Grant Public Utility District in 2007 which is supporting our utility start up expenses.
• Partnership with Grant PUD: the settlement agreement includes a “right of first refusal” on all renewable energy development projects.
Wapato Irrigation Project

• Built and maintained by Bureau of Indian Affairs for seasonal irrigation; April through October, with 1,100 miles of canals
• Irrigates 176,00 acres on Yakama Reservation for tribal and non-tribal farmers and ranchers.
• Budget for operation and maintenance comes from WIP customers.
• Federal funding for capital repairs is unavailable due to historical mismanagement.
Wapato Irrigation Project

• Yakama received a transfer of vintage electrical equipment only from BIA in February 2008 including:
  – Transformers, generators, control systems, from Drops 2 & 3, and the 34.5 kV transmission line
• The buildings at both drop sites are Leased from Bureau of Indian Affairs
• Power Sales Agreement signed with Bonneville Power Administration
Drop 2 Generation Plant

Background

• Concrete and brick building constructed in 1940
• Westinghouse Generator, 2400 voltage
• Custom built generator and wicket control system
• Currently being refurbished by Yakama Power
• March 2009 target to test power generation
Project Overview: Supplement power generation at Drop 2 with inflow water turbines by 1 megawatt
Wapato Irrigation Project, Drop 2
Drop 2 Water Turbine
Custom Built Hydraulic Wicket Control System
Custom Built Generator Control System
Project Objectives:

• Purchase Inflow water turbines
  – Possible Units:
    • Pelton Vertical Turbine, 1-50 kW
    • Pelton Horizontal Turbine, 1-30 kW
    • Compact Units: Kaplan runner, 8 to 35 kW or 8 to 50 kW

• Manufacturer from Austria
Project Objective (continued)

• Hydro kinetic turbines from Free Flow Power Corp-Required a confidentiality disclaimer for which YN is not willing to sign.

• Verdant Power Hydro kinetics
Project Participants

- YN Department of Natural Resources;
- YN Tribal Council including oversight Committees
- Yakama Power
- Wapato Irrigation Project, BIA
- Grant Public Utility District
Requested Technical Support

• Received on-site technical support to begin a renewable energy plan for NREL’s Tribal Energy Program

• Draft Energy Vision Established:
Draft Vision Statement:

• “The Yakama Nation will research and develop energy efficiency and renewable energy through a diverse portfolio of renewable energy projects and programs to become increasingly self-sufficient and energy independent, to reduce costs and enhance tribal economic opportunities and minimize impacts of climate change.

• The Yakama Nation will promote sustainable energy project while preserving and enhancing the cultural, traditional and environmental resources and protecting the rights as outlined in the Treaty of 1855.”
Future Plans

• More Micro-Hydropower Projects on WIP
  Drop 1, Drop 3, Drop 4, Satus Drop,
• Extend Distribution Power Lines to rural W.S.
• Complete Draft Energy Plan
• Additional Renewable Projects in Woody Biomass, Wind and Solar
Thank You, Questions?