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

- Established by Treaty of 1855
- 10,190 Enrolled Members; Descendents 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
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.
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 projects while preserving and enhancing the cultural, traditional and environmental resources and protecting the rights as outlined in the Treaty of 1855.”
Originally built in 1868, maintained by BIA 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.

WIP is self-funded; budget for operation and maintenance comes from WIP customers.

Federal funding for capital repairs is unavailable due to historical BIA mismanagement.
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
Concrete and brick building constructed in 1940
Westinghouse Generator, 2400 voltage
Custom built generator and wicket control system
Refurbished by Yakama Nation
July 2009 at 2 MW power generation, 1.7 MW maximum prior to rebuild.
Drop 2, Wapato Irrigation Project
Wapato Irrigation Project, Drop 2
Custom Built Hydraulic Wicket Control System
Custom Built Generator Control System
Project Overview:

- Original intent: Supplement power generation at Drop 2 with inflow water turbines by one megawatt.
- Revised Goal: Supplement power generation at Drop 4 on WIP by one megawatt.
WIP, Drop 4
Drop 4, Plant Summary

- Rated Power 970 kW
- Estimated Annual Energy 2,836,000 kWhrs (based on 6 month irrigation season)
- Penstock 600 cfs, 7 feet diameter, 10 feet long, tailrace 30 feet
Project Participants

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

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