RECLAMATION
Managing Water in the West

Water/Energy Symposium

Pittsburgh, PA

September 29, 2010

U.S. Department of the Interior
Bureau of Reclamation
Western United States – Early 1900’s

Grand Valley Project, Colorado

RECLAMATION
Mission Statement

• To manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.
Mission

- Storage
- Transfer
- Water Conservation
- New Technology
Infrastructure

348 Reservoirs
(~ 450 Dams)

58 Hydroelectric Plants

55,000 Miles of Canals

$2B in Hydropower Assets
Hydropower

- Second Largest Hydroelectric Producer in the U.S.A.
- Fifth Largest Electric Utility In The 17 Western States
- Produce 42B kwh Annually
- 192 Generating Units
Agricultural Irrigation

- Provides irrigation water to 20% of U.S. Western farmers (10M acres)
- Reclamation Projects enable farmers to produce 60% of the nation’s vegetables and 25% of the nation’s fruit and nut crops
Municipal And Industrial

Supplies About 10 Trillion Gallons Of Water To 31 Million People Every Year
Flood Control

- Regulating Flood Waters Has Prevented Destruction Of Cities And Agricultural Lands
- Billions Of Dollars Have Been Saved In Flood Damage Since 1950
Recreation (in partnership with others)

• About 90 Million Visitors A Year To Reclamation Projects And Lands

• 289 Recreation Sites That Feature Fishing, Boating And Camping
Fish And Wildlife Compliance

- Fish and Wildlife Habitat Mitigation
- Endangered Species Protection
Mid-Pacific Region
Upper Colorado Region
Lower Colorado Region
Great Plains Region
Secretarial Initiatives

- New Energy Frontier
- Treasured Landscapes
- Empowering Tribal Nations
- Youth Initiative
Climate Change/New Energy Frontier
Integrate Wind and Solar into Our Facilities
Hydropower

- Wind – Hydro Integration
  - Administration emphasis on renewable energy is bringing attention to the need for backup and storage energy
  - Hydro fits the bill
  - Reclamation and USACE could play key role
  - Working with DOE and NREL
Hydropower

• Non-Federal Hydro Generation
  – New technologies in low-head hydro generation (instream, in-canal drops)
  – Examples:
    • Klamath Irrigation District
    • Elephant Butte Irrigation District
    • Maricopa-Stanfield Irrigation District
    • Other Irrigation Districts
Memorandum of Understanding

DOI, DOE, USACE

March 24, 2010
MOU Overview

• To Advance Administration’s Energy Goals
• Focus on Hydropower as a Renewable Resource
• Leverage Assets, Resources and Funding
• Coordinate Activities
• Improve Environmental Resources and Protection
MOU Goals

• Demonstrate Environmental Compatibility

• Identify Sites for Development

• Increase Existing Generation

• Collaborate with Tribes, Environmental, and Other Stakeholders

• Facilitate the Permitting Process

• Integrate other Renewables
MOU Key Element

• Update 1834 Study (2005 Energy Policy Act)

• Original study completed in 2007

• Looked at existing Reclamation dams w/o Hydro

• New study will include existing dams

• New study will include other constructed waterways
Action Item #1
Energy Resource Assessments

- Evaluate all Fed and Non-Fed Facilities
- Hydropower Modernization Initiative
- National Hydropower Advisory Committee
- Funding of Projects
- Assess Impacts of Climate Change on Hydropower
More Efficient Water Control

- Hoover
- Glen Canyon
- Flaming Gorge
Action Item #2
Basin Scale Studies

• Identify 1-3 Basins
• Collaborate with Agencies and Stakeholders
• Hold Workshops
• Conduct Renewable Assessments
• Improve Environmental Conditions
Action Item #3
Green Hydropower Certification

• Identify Potential Criteria for Certification
• Hold Stakeholder Meetings
• Disseminate Criteria
Action Item #4
Inland Fed Hydropower Working Group

• Convene Federal Working Group
• Hold Quarterly Meetings
• Involve All Hydro-related Fed Agencies
• DOE, DOI, PMA’s USACE, TVA
Action Item #5
Technology Development and Deployment

- Conduct Yearly R&D Workshops
- Identify R&D Deployment Sites
- Involve Public In Identification and Development
- Produce Listing of Opportunities
- Facilitate Implementation
Action Item #6
Energy Integration and Storage

- Emphasize Role of Hydropower for Integration
- Assess the Types and Amounts of Energy Storage Needed
- Conduct Feasibility Analysis of Pumped Storage Sites
Action Item #7
Regulatory Process

• Investigate Ways to Facilitate Federal Permitting Processes

• Clarify the Current State of Processes

• Identify Time Intensive and Resource Intensive Components

• Streamline Processes Where Possible