

Hydropower Advancement Project (HAP)

U.S. DEPARTMENT OF
ENERGY | Energy Efficiency &
Renewable Energy



Facility Registration

Webinar

June 19, 2012

Hydropower Technology
Development

Wind and Water Power Program

Department of Energy - EERE

Wind and Water Power Program

Jose Zayas, Program Manager – Wind and Water Power Program

Michael Reed, Team Lead – Water Power Program

Rajesh Dham, Technology Development – Hydropower

Matthew Hess, Project Officer - Manager Hydropower Financial Assistance

Oak Ridge National Lab

Brennan Smith, Program Manager – Wind and Water Power Technologies

Introduction

Hydropower Advancement Project (HAP)
Assessments Overview

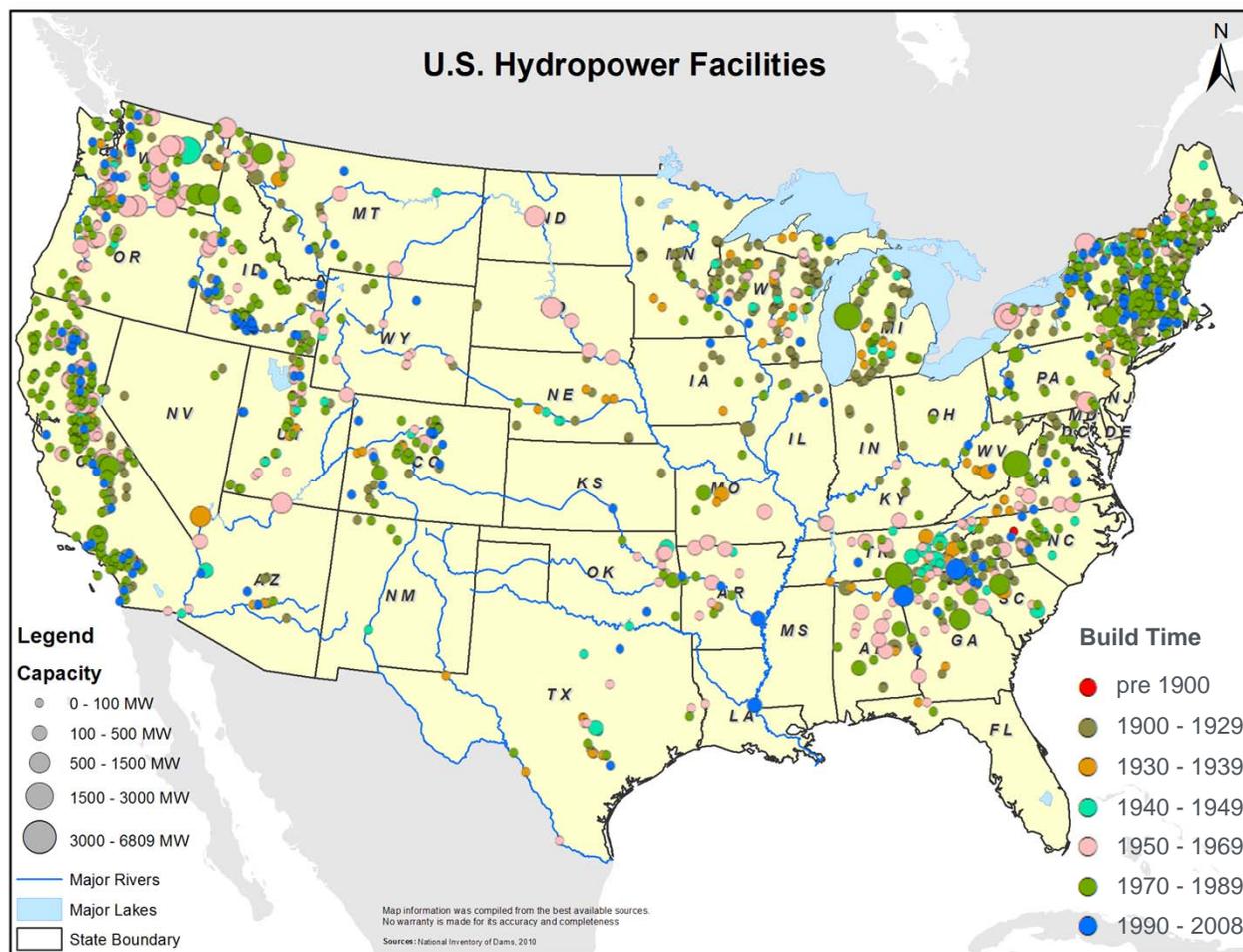
HAP Facility Registration Review

Appendix A & B

Questions

Attendees will be muted during the presentation. Submit your questions via the dialog box to the organizer. The organizer will pose questions after the presentation.

Hydropower US Fleet Capacity



United States:

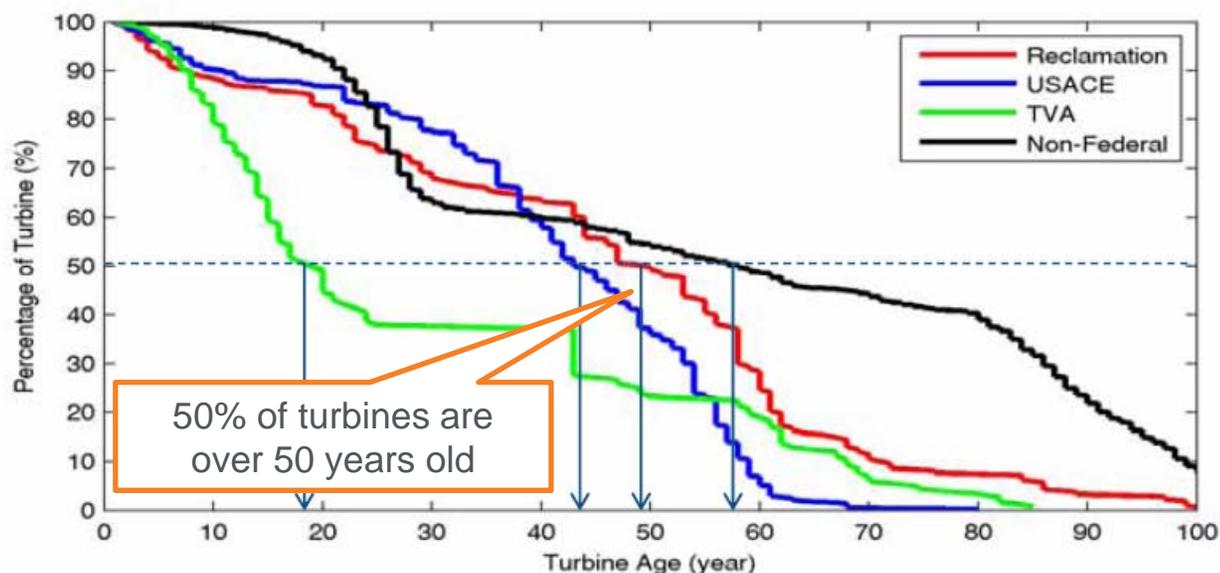
- Over 6% of Electric Production in 2010
- 78 GW Hydropower

Worldwide:

- 16% of Electric Production
- 723 GW

Hydropower is currently the nation's largest source of renewable energy with over 6% of total US electricity production, and comprising nearly 70% of all renewable generation.

Hydropower Existing Fleet Status



The status of the existing fleet demonstrates the potential to modernize hydropower for additional capacity, flexibility and generation

Turbine	Median Age	Older than 50 Years	Older than 75 Years
Non-Federal	58	54.6%	18.4 GW
Reclamation	49	49.8%	4.1 GW
Corps	44	37.2%	6.1 GW
TVA	18	23.3%	0.8 GW
Total US	53	52.5%	29.5 GW

*Percentages calculated by number of turbines

What are HAP Assessments?

- The purpose of HAP assessments is to identify opportunities to increase the generation and value of existing hydropower facilities at a reconnaissance level. HAP Assessments will review the condition of plant equipment and operations of the facility to identify opportunities.

What is the benefit of participating?

- Each facility HAP assessment will produce a report that identifies, catalogs and compiles opportunities for improvement for the owner/operator. The report includes estimates for increased energy potential and other benefits, as well the recommendations for additional studies and reconnaissance level cost estimates of improvement activities.

Purpose: Accelerate **improvement and expansion** of existing U.S. hydropower facilities to **increase of annual generation and value**

1. Establish a systematic and standard approach to evaluate and assess existing hydropower facilities
 - Develop Best Practices Catalog (reference material for assessments)
 - Assessment Manual (guide to perform assessments)
2. Train Assessment Teams to perform standard assessments
3. Perform 30-40 standard assessments starting in 2013
4. Report the results to facility owners on the current condition and opportunities for improvements and expansions
5. Catalog and trend the results to develop a high level estimate for U.S. hydropower improvement potential
6. Identify current barriers to improvements

DOE is performing standard assessments on select hydropower facilities to identify opportunities to increase generation and value through improvements and expansions

- DOE is providing this technical assistance opportunity to facility owners who volunteer to participate in HAP assessments.
- To be considered for the standard assessment DOE is requesting owners to volunteer their facility (facilities) with DOE by submitting responses that include the following information by **June 25, 2012**:
 - Facility data sheet per **Appendix B**
 - **Letter of commitment** stating that the owners are willing to volunteer their facility and will cooperate with the assessment teams and perform the functions described.
- Not all facilities that register will be selected for assessment.
- Facilities selected will be assigned to an assessment team for assessment
- Assessment teams will deliver an Assessment Report (<http://hydropower.ornl.gov/HAP/sar.shtml>)

- Appendix A is a list of data that will be requested at the start of each assessment.
 - The data is used by assessment teams to determine a detailed understanding of the facility and its operation
 - Facilities will not have all the requested information, this is expected
- Facility owners are asked to fill in Appendix B as part of registration.
 - Not all fields will be available or applicable to each facility
 - Information will be used in the assignment of facilities to each assessment team

- Hydropower Advancement Project Website:
 - <http://hydropower.ornl.gov/HAP/sar.shtml>
- HAP Facility Registration Announcement:
 - http://www1.eere.energy.gov/water/news_detail.html?news_id=18304
- Hydropower Advancement Project (HAP) - Standard Assessments to Increase Generation and Value Funding Opportunity Announcement:
 - <https://eere-exchange.energy.gov/#5a485f59-64c8-42b8-b2c0-dfa7eff7466e>

QUESTIONS ?