Building a Strong Future for the U.S. Hydro Industry

Hydraulic Power Committee Spring Meeting
NHA Activities & Federal Policy Update

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NHA: Looking to the Future

Vision

- Double America's largest renewable energy resource – hydropower – in support of a sustainable and secure clean energy future.

Mission

- Champion hydropower, in all of its forms, as America's premier clean and renewable energy resource.
- Focus on growth, operational excellence and environmental stewardship.

NHA's Strategic Goals

- Double Hydropower Capacity and Green Hydropower Jobs by 2035
- Elevate NHA's Voice to a Position of Major Influence on Public Policy
- Support a Strong Financial and Revenue Position
- Build a High Performance Organizational Structure
- Provide Resources to Help Members Achieve a High Level of Operational Excellence at Existing and Planned Hydroelectric Projects

Challenges to Growth

Long development lead times

- Permitting and licensing can take over 5 years, followed by construction.
- Incentives generally extended on short-term basis.
- Numerous stakeholder involvement can add to time and cost
- Hard to attract investment

Large up-front capital investment required

- In addition to licensing costs, study costs, projects can require significant up front capital. (New pumped storage projects - $1-2 billion).
- Projects economic over long-term, but have high immediate start-up costs.

Uncertainty re: support, incentives, and regulatory policy

- Financial community concerned that incentives for hydro may not be renewed before project comes online.
- Affects both utilities and small developers abilities to pursue projects (conventional and new).

Legislative Update – 113th Congress

The Senate Energy & Natural Resources Committee held a Full Committee hearing (yesterday!) on 4 Hydro Bills

- **S.545**, the *Hydropower Improvement Act,* Sen. Murkowski (R-AK) and Wyden (D-OR).
- **H.R. 267**, the *Hydropower Regulatory Efficiency Act*, Rep. McMorris-Rodgers (R-WA) and Degette (D-CO).
- **S. 306**, the *Bureau of Reclamation Small Conduit Hydropower Development and Rural Jobs Act*; and the House companion bill, **H.R. 678**, by the same title. Sen. Barasso (R-WY) and Rep. Tipton (R-CO).

- These bills (and previous versions in the last Congress) have enjoyed overwhelming **bipartisan support**. In fact, H.R. 267 has passed the House of Representatives by a unanimous vote – twice. The first was **372-0**, with the second **422-0**. H.R. 678 recently passed the House by a vote of **416-7**.

Legislative Update – It's in the Details

- H.R. 267 – *Hydropower Regulatory Efficiency Act of 2013* / S. 545 – *Hydropower Improvement Act of 2013*
- Timeline:
  - Feb. 4: H.R. 267 Passed House Energy Committee on a voice vote
  - Feb. 13: Passed House unanimously **422-0**
  - March 13: S. 545 Introduced
- Significance (similar provisions in both bills):
  - Directs FERC to explore a potential **two-year licensing process** for hydro projects at existing non-powered dams and closed-loop pumped storage projects.
  - **Increases the exemption** for small hydro projects from 5 to 10 MWs, and conduits from 15 to 40 MWs.
  - Provides FERC the authority to **extend the three-year preliminary permit** term for up to two additional years – allowing time to complete and file applications.
  - Directs the DOE to conduct a study of the technical flexibility and grid reliability benefits that pumped storage facilities can provide to support and integrate intermittent renewable energy.

Legislative Update – Details Cont.

- H.R. 678 /S. 306 – *The Bureau of Reclamation Small Conduit Hydropower Development and Rural Jobs Act*
  - Timeline:
    - Feb. 13: S. 306 Introduced
    - March 25: H.R. 678 Passed Natural Resources Committee
    - April 10: Passed House **416-7**
  - Significance:
    - **Authorizes small conduit power projects** (5 MW and under) on Bureau of Reclamation infrastructure, while providing irrigation districts and water users associations the first right to develop small hydropower on their conduits.
    - Reinforces the water supply priority for Reclamation facilities used for hydropower development.
    - Directs the Bureau of Reclamation to use its **NEPA categorical exclusion** process for small conduit applications.
    - Grandfathers existing FERC conduit applications on Bureau facilities.

Regulatory & Expedited Licensing

- NHA working on improving the licensing process at Army Corps facilitates
  - Improving Section's 404 & 408 timeline and approval process
  - Encouraging greater administrative efficiency within the Corps
- **Water Resources Development Act (WRDA)**
  - NHA drafted legislative language, adopted by Senate EPW as Section 2009:
    - Congressional direction/policy that hydropower development be a **priority** with the Corps – timely and consistent reviews and approvals
    - Language stating that hydro development is consistent with **authorized project purposes** and with environmental protection;
    - Language that encourages the Corps to develop clear and **consistent lines of authority** within and across the Corps on hydropower project development;
    - Language for developing a **dispute resolution process** in the Corps for developers; and
    - A **required report** in 1 year on the initiatives to implement these improvements, a list of new Corps activities on hydro, and a status update on pending applications.
- Next Steps: Mandatory Conditioning, 401, Study Requests

Regulatory Opportunities & Trends

- Filing Opportunities:
  - Forest Service Proposed directives to FS Handbook & Manual for implementing FS Planning Rule – **April 29th**
  - ASMFC *Draft Addendum III to the Interstate Fishery Management Plan for American Eel* – **May 2**
  - EPA Draft Report of the National Rivers and Streams Assessment 2008–2009 – **May 9**
  - CEQ *Principles and Requirements for Federal Investment in Water Resources* (P&G) – **May 28**
  - Renewable Energy for America Program (REAP) – **June 11**
- State RPS Programs & Policies
  - States are revising their RPS policies, and many of are now looking to increase hydropower's role. Examples include: Washington, Maine, Virginia, and Connecticut, to name a few.
- Large Scale Conservation Efforts - bundling projects, multiple licensees, NGOs

Regulatory Continued

- Markets & Ancillary Services
  - Integrations of intermittent renewables
  - Recognition and valuation of hydro's benefits to grid: black start, storage, intermittent/ variable renewable energy integration, peaking, ramping, spinning reserve, etc.
- Federal Renewable Energy Procurement Policies – RFPs, MOUs
- Implementing Legislative Provisions – What's it look like?
  - Technical Conferences & Rulemakings?
- Cybersecurity
  - FERC Office of Energy Infrastructure Security, Dept. of Homeland Security, Executive Orders, Pending Legislation – How will it be coordinated?
  - NERC CIP Version 5 – FERC Announced Notice of Proposed Rulemaking (NOPR) on April 18th (You will hear more about this at 9:30).

Hydro Economic Incentives

Production Tax Credit (PTC)/ Investment Tax Credit (ITC)

- End of 2012 – Congress modifies PTC/ ITC language from "placed in service" to "begin construction" by end of 2013.
- Treasury Department released begin construction guidance: **2 Methods to Qualify**
  - Begin physical work of a significant nature – Can be done by 3rd party, on-site and off-site work included, must maintain continuous construction.
  - Safe harbor - Developer pays/incurs 5 percent or more of the total costs of the facility and makes continuous efforts to advance towards completion of the facility.

Dept. of Agriculture – Rural Energy for America Program (REAP)

- Proposed Rule to revise REAP – Comments Due June 11, 2013
- New Definition - **Hydroelectric Source** - A Renewable Energy System producing electricity using various types of moving water including, but not limited to, diverted run-of-river water, in-stream run-of-river water, and in-conduit water… 30 MW or less
- Important Provisions: retrofitting, technical reports, applications tiered by project costs
- The industry has significantly benefited from REAP in the past, in 2011 alone, over $8 million was awarded to hydro projects.

Research and Development

FY'12 Funding

- $59 million
- Largest federal investment in over 6 years

DOE Water Power Program (FY'13)

- President requested $20 million
- House proposed $45 million
- Senate proposed $59 million

2013 Continuing Resolutions

- Two separate CRs - continue FY'12 levels through end of year
- Subject to sequester ~ 6-9%

FY'14 Funding

- **President requested $55 million**
- NHA requested $59 million
- **DOE request $55 million**

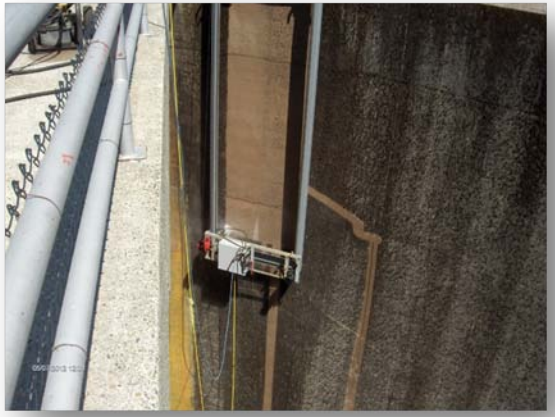
EERE Budget Summary

	FY 2012 Current	FY 2013 Request	FY 2013 Annualized CR	FY 2014 Request
Sustainable Transportation	**617,287**	**770,000**	**635,573**	**957,000**
Vehicle Technologies	320,966	420,000	330,819	575,000
Bioenergy Technologies	194,995	270,000	200,496	282,000
Hydrogen and Fuel Cell Technologies	101,326	80,000	104,258	100,000
Energy Efficiency	**485,289**	**872,000**	**495,690**	**949,000**
Advanced Manufacturing	112,692	290,000	116,287	365,000
Building Technologies	214,706	310,000	220,546	300,000
Federal Energy Management Program	29,891	32,000	30,074	36,000
Weatherization and Intergovernmental Activities	128,000	195,000	128,783	248,000
Renewable Electricity	**471,570**	**490,000**	**481,785**	**615,500**
Solar Energy	284,702	310,000	290,719	356,500
Wind Energy	91,813	95,000	93,825	144,000
Geothermal Technologies	36,979	65,000	38,094	60,000
Water Power	58,076	20,000	59,147	55,000
Corporate	**216,311**	**250,000**	**217,635**	**267,000**
Facilities and Infrastructure	26,311	26,400	26,472	46,000
Program Direction	165,000	164,700	166,010	185,000
Strategic Programs	25,000	58,900	25,153	36,000
Subtotal Energy Efficiency and Renewable Energy	**1,790,457**	**2,337,000**	**1,830,683**	**2,788,500**
Use of Prior Year Balances	**-9,909**	**-69,667**	**-9,970**	**-12,800**
Total Energy Efficiency and Renewable Energy	**1,780,548**	**2,267,333**	**1,820,713**	**2,775,700**

Outstanding Stewards of America's Waters

2013 Winners

www.hydro.org/osaw



Tacoma Power

Innovative Dam Washer

Category: Operational Excellence

Removing moss from the face of a dam can be a dangerous and costly process for hydropower plant operators. In response, Tacoma Power employees at the Cowlitz Hydroelectric Project designed and fabricated a remote-controlled pressure washer to safely and effectively remove moss from the utility's 7 dams. Before the dam washer was invented, removing the moss by hand was a long and painstaking process. Their innovation has increased employee safety, resulted in faster and less costly moss removal, and has already been used to clean more than 500,000 square feet of concrete on three of its dams-- an area larger than 10 football fields.

Jordan Hydroelectric Limited Partnership

Jordan Hydroelectric Project

Category: Operational Excellence

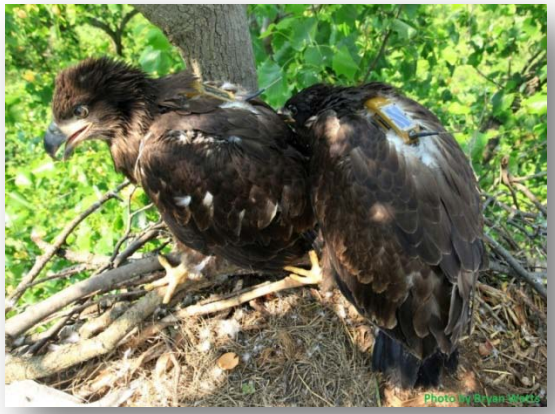
The Jordan Hydroelectric Project is the first hydropower facility of its kind in the country, using vertical turbines installed on an intake tower at a U.S. Army Corps of Engineers flood control dam. It involves the installation of two conventional vertical Kaplan turbine-generators, each with a capacity of 2.2 MW under 57.5 feet of gross head and flow of 550 cubic feet per second, installed in a 180-ton steel enclosure (power module) that seals (like a headgate) to the upstream side of the tower's intake. Due to the adjustable nature of the design, power can be generated nearly 95% of the time without sacrificing any of the normal or flood control capabilities of the dam.

Chelan County PUD, Army Corps of Engineers, Bureau of Reclamation

Geocache Challenge: Take the D3 Tour

Category: Public Education

Visitors at Grand Coulee, Chief Joseph and Rocky Reach Dams on the Columbia River had the opportunity to try a high-tech educational treasure hunt that involved using geocaching technology -- finding hidden clues using GPS (global positioning system) devices or smart phones -- to search for the hidden items and learn about clean, renewable hydropower along the way. Once they collected stamps from each of the three dams, the nearly 300 participants earned a unique geocaching embroidered patch as testament to their new-found appreciation for hydropower production and other essential facts about the role dams play in the Pacific Northwest.



PPL Holtwood

Holtwood Expansion Bald Eagle Management and Monitoring Plan

Category: Recreational, Environmental & Historical Enhancement

To protect two pairs of nesting bald eagles located within 2,600 feet of construction at the Holtwood hydropower facility PPL Holtwood partnered with the U.S. Fish and Wildlife Service and Pennsylvania Game Commission to develop a site-specific adaptive management plan. This plan includes seasonal construction restrictions, phased construction activities and monitoring studies at the nests during blasting. Results from these studies have produced new knowledge about the tolerance of bald eagles to construction activities. This information will assist regulators, consultants and licensees in understanding how to protect the iconic symbol of the U.S. and how to develop reasonable solutions to avoid disturbing eagles during construction.

New York Power Authority

Great Gorge Railway Trail Stone Stairway

Category: Recreational, Environmental & Historical Enhancement

NYPA's Great Gorge Railway Trail Stone Stairway is a new recreational feature built as part of the Niagara Power Project relicensing which connects the existing hiking trails at the top and bottom of the Niagara Gorge to form a hiking loop, thereby enhancing the gorge's appeal to everyday users. The gorge is a unique and spectacular scenic area but is greatly underused by the tourist public due to challenges from the steep, rugged terrain and a lack of easy, family-friendly access. To deal with the complex underlying geology and steep slope while maintaining the natural character of the gorge setting, NYPA partnered with New York State Parks to install this dry-laid stone stairway set into the surface contours of the slope. The result is an exceptionally beautiful, unobtrusive, easy-to-hike stairway and path that enhances its natural surroundings.

Avista

Upper Falls Aesthetic Spill Project

Category: Recreational, Environmental & Historical Enhancement

Avista successfully restored two channels downstream of their Upper Falls Development on the Spokane River to look much the way it did long ago, before the channels were altered to divert water to numerous flour and lumber mills, as well as for hydropower generation. The channel restoration, using weirs shaped and colored to look like the bedrock throughout the river, spread water more evenly throughout the two channels and has now functioned successfully through an entire spill season. Combined, they produce an aesthetically pleasing flow over the falls that viewers can enjoy throughout the year.

NHA Regional Meetings & Conferences: 2013

Ensuring the Industry has the opportunity to meet and network!

- May 15-16: NHA Midwest Regional Meeting w/ MHUG
- **June 3: Hydropower Finance Summit, New York, NY**
- September 9-11: Hydraulic Power Committee Fall Retreat, Spokane, WA
- September 26-27: Alaska Regional Meeting, Girdwood, AK
- October 2-3: Northeast Regional Meeting, Northampton, MA

NHA
National Hydropower Association

Hydropower Finance Summit
June 3, 2013
The Roosevelt Hotel, New York

This exclusive one-day event brings together key leaders in the hydropower and financial sectors. Sessions examine project opportunities, financing options, and growth forecasts for the country's largest renewable energy resource.

Featured Speakers Announced!

- Donald A. Russak, Executive Vice President & CFO, New York Power Authority
- Bernard "Bud" Cherry, CEO, Eagle Creek Renewable Energy
- Michael Bernier, Senior Manager, Tax Credit & Incentive Advisory Services, Ernst & Young LLP
- Linda Church Ciocci, Executive Director, National Hydropower Association
- Lisa Jacobson, President, Business Council for Sustainable Energy
- Dennis V. McGinn, Vice Admiral, U.S. Navy Ret., President & CEO, American Council On Renewable Energy

Development Potential	Capacity Pre-pays	Leasing Structures
Public vs. Private Development	Prepaid PPAs	Construction Bidding
Tax Issues Affecting Financing	REITs, MLPs, Sale-Lease Backs	Partnership Flips

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Questions?