



Statement for the Record

On behalf of

The National Hydropower Association

Before the

U.S. House of Representatives Transportation and Infrastructure Committee

Subcommittee on Water Resources and Environment

Regarding

One Year Anniversary After Enactment: Implementation of the Water Resources

Reform and Development Act of 2014

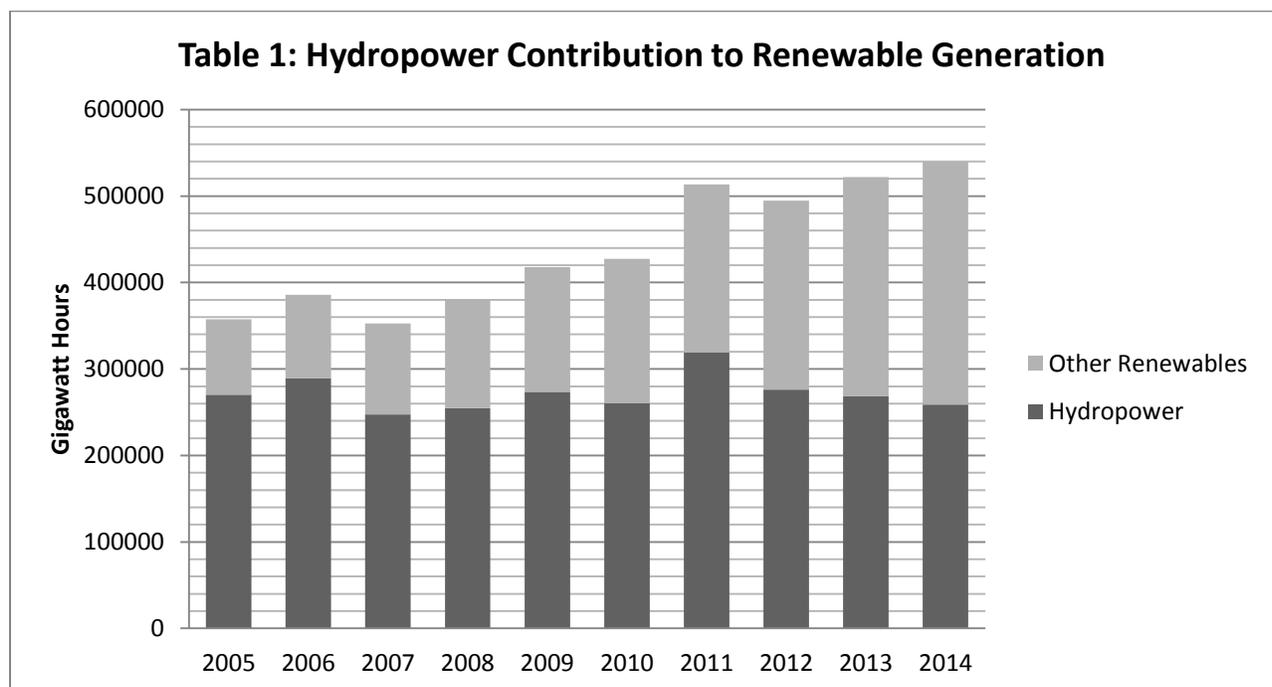
June 10, 2015

The National Hydropower Association¹ appreciates this opportunity to provide a statement for the record on the Subcommittee on Water Resources and Environment’s June 10, 2015 hearing on the implementation of the Water Resources Reform and Development Act of 2014 (WRRDA).

Introduction

Hydropower plays a central and indispensable role in reaching the nation’s clean energy goals and objectives for the U.S. electric power sector. Like wind, solar, and other renewables, hydropower is a source of clean, emissions-free energy. Distinct from these other renewables, however, hydropower provides flexible base load power to follow load, as well as peaking power when energy demand on the grid reaches its highest levels.

Hydropower also is a reliable and proven energy source. According to the U.S. Energy Information Administration, over the past 10 years hydropower generation has met or exceeded the generation of all other renewables *combined* - in some years constituting 75 percent or more of all annual renewable energy generation. Table 1 depicts hydropower’s substantial contribution to renewable energy generation over the last 10 years.



¹ NHA is the national non-profit association dedicated exclusively to advancing the interests of the hydropower industry, including conventional, pumped storage, conduit power and new marine and hydrokinetic technologies. NHA’s membership consists of more than 210 organizations, including consumer-owned utilities, investor-owned utilities, independent power producers, project developers, equipment manufacturers, environmental and engineering consultants, and other service providers.

What is often overlooked, however, is hydropower's potential to grow in an environmentally responsible way. Building upon the existing U.S. asset base, there are opportunities to increase capacity and generation. Most relevant to the June 10 hearing are the tremendous opportunities to add new hydropower generation units to existing non-powered dams operated by the U.S. Army Corps of Engineers (Corps).

Benefits of Hydropower to the U.S. Grid

The unique, flexible qualities of hydropower help integrate additional intermittent renewable resources to the electric grid. Hydropower facilities can quickly go from zero power to maximum output, making them exceptionally good at meeting rapidly changing demands for electricity throughout the day. This flexibility, along with energy storage benefits provided by both conventional and hydropower pumped storage projects, are critical to integrating greater amounts of intermittent renewable sources like wind and solar—thereby significantly increasing clean emission-free generation while preserving grid reliability.

These same attributes allow both fossil and nuclear units to run at peak efficiencies. This avoids unnecessary and undesired cycling of baseload nuclear generation units, as well as reducing carbon emissions from fossil units that would otherwise be called to run in less efficient modes of operation.

Thus, hydropower serves as the backbone for the effective functioning of the electric grid and the reliability and stability services it provides will be in even greater demand into the future. Particularly in conjunction with the emergence of wind, solar, and other renewables, hydropower plays an essential role in bringing these intermittent resources to the grid, expanding the utilization of this clean, emissions-free generation.

To illustrate, states that utilize more hydropower have the cleanest air and the lowest carbon intensity rates in the nation. For example, Washington state ranks number 10 in the nation in the amount of electricity generated. Because the majority of that generation comes from hydropower, the state ranks 50th in carbon intensity with only 132 lbs. of carbon dioxide produced per MWh. In 2012, nationwide, the use of hydropower avoided over 190 million metric tons of CO₂. This is the equivalent of avoiding the GHG emissions from approximately 40 million cars.

NHA believes that our clean energy goals, and system reliability, cannot be achieved without preserving the existing hydropower system, and importantly, supporting the deployment of new projects like those proposed for many existing non-powered dams owned and operated by the Corps.

Growth Potential of Hydropower

Today, hydropower accounts for approximately 7 percent of the nation's total electricity generation and half of all renewable electricity generation. Hydropower capacity in the United States is just over 100,000 MW, which includes 22,000 MW of pumped storage - by far the largest utility-scale energy storage resource deployed both in the U.S. and globally.

While many may assume that hydropower is mainly a Pacific Northwest energy resource, in fact, hydropower is utilized and available across the country, powering homes and businesses in every state. There are over 2200 federal and non-federal hydropower projects in service in the U.S. These projects are providing low-cost emissions-free power to consumers in every one of the 50 states.

While hydropower's existing contribution to the nation's energy system is significant, there also exists tremendous opportunity to increase capacity. One such growth area is on existing dams and conduits. The vast majority of U.S. dams were constructed for purposes other than hydropower generation - such as water supply, flood control, irrigation, and navigation. These dams include structures and impoundments that provide opportunities to install hydropower generation.

NHA estimates that only about 3 percent of the nation's approximately 80,000 existing dams are equipped with generation facilities. This presents an opportunity to maximize the public benefits of these non-powered dams and related infrastructure through retrofits to produce electricity. A 2012 study by the U.S. Department of Energy² concluded that an additional **12 GW** of capacity were available for development at existing non-powered dams. According to this study, the top ten sites alone have the potential to provide approximately **3 GW**, with the top 100 sites able to provide up to **8 GW**. In fact, 81 of the top 100 sites identified in the Department of Energy report are Corps dams.

As hydropower can be added to many existing dams with no incremental environmental impacts, this makes hydro generation, arguably, the cleanest of all new capacity options. In addition, as recent new projects have demonstrated, adding hydropower to Corps facilities can be done in such a way that works in concert with the other congressionally authorized purposes of the dams.

WRRDA of 2014 Implementation

With the passage of WRRDA, the Congress in an overwhelmingly bipartisan fashion, directed the Corps to make non-federal hydropower development a priority and work to address delays and inefficiencies in the Corps' approval process for proposed non-federal hydropower development on their dams.

Specifically, Section 1008 of WRRDA states "the development of non-Federal hydroelectric power at Corps of Engineers civil works projects, including locks and dams, shall be given priority" and that "approval of non-Federal hydroelectric power at Corps of Engineers civil works projects, including permitting required under section 14 of the Act of March 3, 1899 (33 U.S.C. 408), shall be completed by the Corps of Engineers in a timely and consistent manner."

NHA, and hydropower project developers, years prior to the passage of WRRDA, had repeatedly raised these same issues and had proposed improvements. While steps were taken over time, and some incremental progress was made, on the whole, developers reported that the Corps

² Available at: http://www1.eere.energy.gov/water/pdfs/npd_report.pdf

process continued to serve as a fundamental barrier to developing new clean hydropower. They also reported that the greatest resistance to adding hydropower came from staff or leadership at individual Corps districts across the country.

It was the industry's and NHA's hope that the direction provided to the Corps through WRRDA's passage would usher in a new era of hydropower development on Corps infrastructure. One year later, NHA is concerned that the Corps has not taken the steps necessary to fulfill Congress' intent and that this is having continued negative impacts on the development of clean hydropower on Corps infrastructure. In fact, developers have reported that when presented with the Section 1008 language, district officials have stated that they were not aware of it and they have not received any guidance from headquarters.

NHA believes there are those in leadership positions at the Corps – at headquarters and at the divisions and districts – that support non-federal hydropower development at Corps dams. However, a fundamental change in the view towards proposed hydropower projects has not reached all levels and a consistent policy has not emerged. NHA finds this reticence all the more frustrating and ironic as the Corps itself is the single largest producer of hydropower in the country. And as such, is the largest producer of clean, renewable, emissions-free power. One would think that the Corps would want to build on this accomplishment, not stymie it.

The following are general examples of the problems developers have encountered in the Corps approval process. Some of these examples pre-date the passage of WRRDA, but others have been experienced since then.

Problems working with the Corps

All too often, without clear directive or the lack of a strong 'champion' in the district, hydropower project work is given secondary status and is reviewed and commented on as time permits. It seems that many times other work that starts after a hydropower developer begins the Corps process still receives priority since it is considered 'normal' USACE work.

Some districts have also refused to be a cooperating agency with the Federal Energy Regulatory Commission (FERC), which is encouraged in the recent Memorandum of Understanding (MOU)³ between the two agencies. By refusing to be a cooperating agency districts have been reported to impose their own post-license conditions different from any FERC findings, which creates delay and adds uncertainty.

Other districts have been found to fight hydropower development by denying access to data and refusing to share baseline operating information without a FOIA request, even to the point of requiring a FOIA request from FERC. Even if data is shared, districts have not always notified or consulted with project applicants before changing project operations, like flow regimes - this in the middle of an applicant studying flow effects and after significant resources have been expended. This type of change fundamentally affects the design, operation, and economics of a

³ Available at: <http://www.ferc.gov/legal/mou/mou-usace.pdf>

project and can cost significant funds and time in order to analyze and respond to these changes. Lastly, one developer reported a district making it extremely difficult to obtain technical data which is necessary to assess hydro project feasibility, creating requirements for information disclosure above and beyond what Corps Headquarters requires.

In another example, a developer experienced a delay of over six months because the district, after the issuance of a FERC license, required a "System Safety Management Plan" that had not been identified prior to licensing. When the developer requested examples of similar Safety Plans that had been developed or approved by the district, the response was that they had never developed this type of plan for their projects and that they were unaware of any plan that they could provide as an example. Numerous draft plans were prepared and submitted for comments to the district's Safety Officer before being approved.

Regarding other process delays experienced, one developer has been waiting for a Section 408 approval for 17 months. The application has been under review at the division level and Headquarters since mid-December of 2013. For another project it took the Corps nine months to approve a 408 application, after 2.5 years of application revisions and negotiation. Ultimately, the Corps is not accountable to anyone for meeting deadlines.

NHA does want to highlight that there are some districts that are good to work with and fair and reasonable in dispensing their duties. These districts recognize the value of hydropower development and they have demonstrated that districts and developers can work together. They meet deadlines and they concern themselves with the pertinent issues. They do not push individual agendas.

Unfortunately, these examples are outnumbered by the problems experienced by developers, which can lead to significant real-world consequences impacting not only developers, but ratepayers in the end. For example, delays associated with one 408 approval for a developer caused several basis points to be lost in the financing, resulting in millions of dollars of interest being added to the overall project's cost. In another example, the added time for a 408 approval delayed the start of construction by approximately six months resulting in a 1.5 percent capital cost escalation equal to millions of dollars.

NHA recognizes that the Corps has many responsibilities to meet, but that should not stand in the way of good government, good projects, and good results for ratepayers. Increasing the renewable energy production of the nation at Corps infrastructure should be seen as an opportunity and not a burden. NHA stands ready to work with the Corps, at all levels, to improve on the status quo so that we can realize the multitude of energy and environmental benefits these hydropower projects will bring.

Conclusion

Hydropower is America's leading affordable, reliable, and renewable domestic energy resource, and its significant growth potential offers an indispensable tool to help meet our nation's clean

energy goals. Adding power generation to existing non-powered Corps dams is one of the prime opportunities to realize this growth potential in the hydropower sector. While the adoption of WRRDA and the hydropower provisions it contained was an important step, ultimately it is the Corps' implementation of the provisions that will make the difference in whether projects come online or not. We look forward to working with the Subcommittee, the Corps, developers, and stakeholders to ensure these opportunities are not lost.

Sincerely,

A handwritten signature in cursive script that reads "Linda Church Ciocci".

Linda Church Ciocci
Executive Director