

Written Testimony of John Suloway  
On behalf of  
The National Hydropower Association  
Before the  
U.S. House of Representatives Energy and Commerce Committee  
Power and Energy Subcommittee  
Regarding  
Discussion Drafts Addressing Hydropower Regulatory Modernization and FERC Process  
Coordination under the Natural Gas Act

May 13, 2015

## **Executive Summary**

1. Hydropower has proven energy, grid reliability, and clean air qualities that are needed to sustain economic growth. There is significant potential for increased hydropower capacity, which is not being realized.
2. The development of more hydropower should be a key component America's Energy Portfolio and it's not, in part, because the hydropower licensing process is protracted, costly and risky.
3. There have been improvements in the licensing and administration of hydropower, but additional work needs to be done to make the process more efficient, so a significant portion of that undeveloped capacity can be constructed to help drive the economy of the future.
4. The regulatory principles expressed in the discussion draft bills would help make hydropower more attractive to developers and investors – while ensuring environmental values are considered and preserving the ability to protect natural resources.

## **Introduction**

Good morning Chairman Whitfield, Ranking Member Rush and members of the Subcommittee. I am John Suloway, and I appear before you today on behalf of the National Hydropower Association (NHA). I am pleased to be here to discuss the Subcommittee's work on the Architecture of Abundance energy legislation, and in particular, the discussion draft for hydropower regulatory modernization.

To begin, let me provide you a little bit of information on my background. I have spent a career in the energy sector, with over 35 years of experience in energy and transmission project development, licensing, and environmental research. Most of that time was with the New York Power Authority (NYPA). I only recently retired from NYPA at the end of 2014, serving at the time as Vice President of Project Development, Licensing & Compliance.

NYPA is one of New York State's leading suppliers of electricity, operating 16 generating facilities and more than 1,400 circuit-miles of transmission lines. NYPA's 4600+ MW hydropower system is one of the largest in the country, comprising both small and large conventional hydropower projects and pumped storage. At NYPA, I worked extensively on project evaluation, regulatory processes, public relations, contract negotiations, and management of environmental, economic and engineering studies. Much of my work focused on hydropower projects, though I also worked on natural gas and transmission projects.

My main message to you is this: improvements to the regulatory process to relicense existing hydropower plants and to approve new capacity are needed if we as a country are to fully realize

the energy and clean air benefits that hydropower – America’s single largest renewable electricity resource – provides to millions of businesses and families across the country.

NHA appreciates and commends the work of Chairman Upton and the Subcommittee on the discussion draft, as well as that of Rep. Cathy McMorris Rodgers with the release of her discussion draft. We strongly support the overarching principles to remove regulatory inefficiencies and impediments to licensing clean and reliable hydropower generation. Addressing these long-standing issues will go far to remove the barriers that currently disadvantage hydropower as a cost-competitive resource.

While important steps have been made over the years to improve the licensing and administration of hydropower, the record abundantly demonstrates that further improvements are still warranted. There remains a pressing need for procedural changes that increase efficiencies, reduce redundancies and duplication of work, promote transparency, and reduce costs, while also preserving important environmental values.

NHA also believes process modernization is a benefit to all stakeholders in the process. License applicants, for existing or new projects, often reach agreements with parties in a license proceeding and are prepared to implement significant mitigation packages associated with their projects. Unfortunately, the implementation of these measures is postponed when decision-making is deferred and approvals are delayed. This situation benefits neither the project nor natural resources.

NHA looks forward to working with the Subcommittee, full Committee and others, as well as the Federal Energy Regulatory Commission, resource agencies and stakeholders on these issues as the legislative process unfolds.

### **Background**

NHA is a national association dedicated exclusively to advancing the U.S. hydropower industry, including hydropower, pumped storage, conduit power and marine and hydrokinetic technologies. NHA represents more than 210 companies, from Fortune 500 corporations to family-owned small businesses. Its members include both public and investor-owned utilities, independent power producers, project developers, equipment manufacturers, and service providers.

Today, hydropower projects generate power in every region of the country and are America's leading source of domestic renewable electricity. 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 energy storage resource deployed both in the U.S. and globally.

Hydropower generation avoids millions of metric tons of carbon emissions each year. In fact, regions that rely on hydropower as a primary energy source reap the benefits of significantly cleaner air with some of the lowest carbon intensity rates in the country. In addition to this clean energy, hydropower infrastructure provides other important benefits, including managing river

flow for species and habitat protection, water supply, recreation opportunities, irrigation, flood control and navigation.

And critically, hydropower and pumped storage assets provide essential grid reliability and stability services, such as the ability to quickly meet changing demand in load, firming for intermittent variable energy resources, such as wind and solar, and blackstart capability in times of outage. While these are highly technical, “behind the scenes” issues in electric grid management, they underscore the unique and vital importance of hydropower in an “all of the above” energy strategy.

As just one example, following the August 2003 East Coast blackout, hydropower projects in New York and Canada, including NYPA projects, operated continuously and served as the base for restoring power to millions of Americans. Unfortunately, all too often, these essential contributions of hydropower are not accounted for by regulators in the licensing process.

Finally, hydropower is a proven renewable energy resource – one that has been in use in our country for well over 100 years. And despite its long and established history, hydropower is also an energy resource for our future, with tremendous growth potential. Recent studies by the Department of Energy and others demonstrate the potential for new development opportunities, particularly those that maximize the contribution from our existing infrastructure – whether that be adding capacity to existing hydropower facilities or adding power generation to existing non-powered dams and conduits. And new studies are demonstrating additional project opportunities in the areas of pumped storage, marine energy and hydrokinetics and new development.

## **Need for Regulatory Improvements**

While the opportunities are many, the full benefit of these projects will not be achieved without addressing the challenges presented by the complex development process for hydropower – a process that takes years to complete, has significant up-front costs, and contains too much uncertainty and risk. Meaningful improvements to the hydropower regulatory process are needed to meet today’s challenges confronting the nation’s development of hydropower.

**Hydropower has proven qualities that are needed to sustain economic growth. There is significant potential for increased hydropower capacity, which is not being realized.**

Hydropower is an important component of the existing energy generating portfolio. As stated, hydropower comprises 7 percent of existing electricity generation in the United States and approximately half of the renewable electricity generation. It’s valued for the following qualities:

- A long life span;
- No emissions (a sustainable resource and the leading form of renewable electricity in the country);
- The ability to provide base load power (unlike many other renewable resources), because we can forecast the output a day ahead;
- No fuel risk (meaning no hedging exposure, no counterparty risk and no transportation risk);
- No waste stream;
- Low operation and maintenance costs;

- Reliability;
- Affordability (taking into account the full project lifetime, fuel costs and operation and maintenance, hydropower has the lowest levelized cost of electricity of any resource);
- Predictable rates; and
- Limited regulatory risk (once operating)

More hydropower capacity should be installed to meet future needs. At the NHA annual conference last month, for example, representatives from Yahoo and Microsoft spoke about the importance of hydropower. They explained how they valued its reliability and cost effective rates. Microsoft also spoke how the use of hydropower was consistent with their policy with regard to climate change. Both Yahoo and Microsoft also expressed interest in the potential for additional hydropower for their data centers. Its characteristics make hydropower well suited for future economic development.

However, of the more than 80,000 dams in the United States, just three percent (roughly 2,500) provide the more than 78 gigawatts (GW) of hydropower. While many non-powered dams may not be, for various reasons, appropriate candidates for power additions, a significant number are well suited for the addition of hydropower assets. An April 2012 report by the Department of Energy's Oak Ridge National Lab found that adding power to the nation's non-powered dams has the potential to add more than 12 GW of new capacity (representing a 15 percent increase of hydropower capacity and nearly 10 percent increase of the total current renewable capacity).

Yet, with the need and potential for more hydropower, there was only a 1.48 GW increase in installed capacity in the United States from 2005 to 2013 and capacity additions to existing projects accounted for 86 percent of the increase. Whereas, there was an increase of 42 GW of installed summer capacity for generators burning natural gas in that same time period.

**The development of more hydropower should be a key component America's Energy Portfolio and it's not, in part, because the hydro licensing process is protracted, costly and risky.**

The time, cost and risks associated with licensing hydropower projects are not commensurate with the impacts when compared with other forms of generation. Because of the licensing burdens, when faced with the choice of what type of generation to install, there is less risk in choosing a simple cycle turbine or a combined cycle plant that burns natural gas or low-sulfur oil, than building a hydro plant. The use of natural gas has proven to be a valuable component of our energy portfolio, but over-reliance on one fuel is a weakness that should be avoided in our energy portfolio of the future.

While there is some variability with regard to size and location, the regulatory approval processes for simple cycle turbine or combined cycle plants are generally 1-2 years – even in urban areas like New York City. The FERC licensing process for hydro plants is generally 8 years or more, including both licensing and pre-filing activities. With regard to licensing costs, a combined cycle plant is approximately \$1 to \$2 million; whereas, fisheries studies alone can cost

multiples of that figure for a hydropower project. It is not uncommon for a hydropower license applicant to spend \$10 million or more on just the licensing process.

When comparing the risk between hydropower and natural gas generation, much of the risk that is placed on hydropower is due to the associated regulatory burdens – and not due to any inherent differences between hydro and natural gas fuel sources. In fact, the need is increasing for more hydropower capacity because of the tremendous value it brings to the grid. Despite this value, hydropower is considered too risky by some developers because of the regulatory barriers. This is not a situation where we need more regulation of combined cycle plants. We need to bring order to and streamline the licensing of hydropower.

The cost of licensing hydropower projects is in part driven by the regulations requiring extensive information on the proposed project, existing environment, and potential impacts. Protecting the environment and natural resources is important, and is a commitment the hydropower industry takes seriously, but the amount of information that is requested can be excessive and not directly related to the project or its potential impacts. For existing projects undergoing relicensing, extensive information requests are sometimes used as a negotiating tactic, which can increase costs and prolong negotiations. For proposed new development, where the license applicant does not have the benefit of the proposed project's income stream, study requests can be an effective means of increasing project costs to a point where the project is no longer cost-competitive.

In addition to over-expansive study requests, other aspects of the licensing process add undue costs to hydropower projects and, ultimately, to ratepayers. Under the Federal Power Act (FPA), for example, FERC has the statutory obligation to craft license conditions in a manner that gives “equal consideration” to the spectrum of public interests present in our nation’s waterways, such as power development, environmental protection, navigation, recreation, and water supply. However, FERC’s obligation is frustrated when other agencies exercise their broad powers, under the FPA and other statutes, to impose conditions in the license that FERC cannot balance or modify in the public interest, and which create inconsistencies and conflicts, which themselves can cause further delays and increase licensing costs.

These mandatory conditions are very significant to the hydropower licensing process because of the costs associated with measures. In some cases, the resource agencies leverage the potential use of their mandatory conditioning power in negotiations. This approach can make the discussions acrimonious and protracted. Even though FERC issues the hydropower license, these authorities create a complicated process, where agencies with seemingly equal authority have different ideas on resource management, and where no single agency can evaluate the license obligations as whole, to ensure that the public interest is met.

**Changes are needed to make the hydropower licensing process more efficient, to tap into the significant potential for new capacity, and to drive the economy of the future.**

In my judgment, one of the hallmarks of the discussion draft bills is the concept of placing FERC as the lead agency for all authorizations required under federal law for the licensing and

development of hydropower resources. Authorizing FERC to establish and enforce an overall schedule will help keep the process on track and avoid delays that have been the status quo in this industry for decades. Requiring other agencies with review requirements to cooperate with FERC will create efficiencies, promote economy, reduce redundancies, and again reduce delays. This proposal is consistent with the regulatory process in the State of New York, implemented in the 1980s, that has proven to be very successful. New York State uses an orderly, coordinated approach to license electric generating facilities and high voltage electrical transmission lines. There are separate processes for licensing generation and transmission projects, but both use a “one-stop forum” for applications to facilitate the process.

Article 10 of the New York State Public Service Law (“PSL”) covers applications to construct, operate and/or modify an electric generating facility. In 2011, Governor Cuomo signed legislation that put the new Article 10 Law in effect. It includes a fast track to modify existing major electric generating facilities. Article 10 applications are reviewed by the New York State Board on Electric Generation Siting and the Environment (“Siting Board”). The Department of Public Service serves as the Chair of the Siting Board.

The schedule requirements are mandated. The Siting Board will determine, within 60 days of filing, whether the application complies with Article 10. Once the application is determined to be in compliance, the Siting Board will conduct public hearings to clarify project-related issues, receive public comments and review evidence. The Siting Board must make its determination within one year from the date the application is deemed to fully comply with Article 10, unless

that timeframe is waived by the applicant. There is a similar process for Transmission lines covered under Article VII of the PSL.

This type of coordinated and scheduled processing of license applications has worked in New York State. The particulars will be different for the federal licensing and approval of hydropower projects, but the general principles and objectives should be the same:

- 1) A fair, efficient process where FERC takes the input of all the relevant agencies and appropriate stakeholders, but is the ultimate decision-maker.
- 2) A scheduled process that is comparable to that of other generation technologies with regard to cost and duration so that hydropower is not disadvantaged.
- 3) A process that meets the legal requirements of environmental protection, but takes into account the benefit and costs when evaluating options for enhancement, protection and mitigation measures.

These principles can be achieved through incremental changes to the FPA. The goal here is a more efficient and balanced process while maintaining environmental standards and agency authorities.

### **Conclusion**

Today, there is much at stake for hydropower and the families, businesses and communities that rely on its low-cost, reliable, clean generation. NHA and the hydropower industry stand ready to help meet our common clean energy goals and we look forward to working further with this Subcommittee and others on these important issues.

I thank the Subcommittee for providing me this opportunity to testify on hydropower's role in meeting our nation's environmental, energy and economic objectives and look forward to answering your questions.