

WRITTEN TESTIMONY OF DAVID STEINDORF ON BEHALF OF  
THE HYDROPOWER REFORM COALITION  
UNITED STATES HOUSE OF REPRESENTATIVES  
THE ENERGY AND COMMERCE COMMITTEE  
ENERGY SUBCOMMITTEE  
HEARING ON "MODERNIZING ENERGY INFRASTRUCTURE: CHALLENGES AND OPPORTUNITIES TO  
EXPANDING HYDROPOWER GENERATION"  
CONGRESSMAN FRED UPTON, CHAIRMAN  
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Chairman Upton, Ranking Member Rush, and Members of the Subcommittee:

Thank you for this opportunity to testify and share the perspective of the Hydropower Reform Coalition on the topic of Challenges and Opportunities to Expanding Hydropower Generation.

The Hydropower Reform Coalition is a diverse consortium of more than 160 national, regional and local organizations with a combined membership of more than one million people. We represent stakeholders, from canoeists to conservationists to lake homeowners, with an interest in restoring rivers that are impacted by hydropower dams. Together, our efforts have protected or restored thousands of river miles and countless opportunities for boating, fishing and other forms of recreation across the country that provide direct economic benefits to communities impacted by hydropower development.

I come before the Subcommittee today as an individual with more than 20 years of direct experience in hydropower licensing, working as a consultant for hydropower companies and non-governmental organizations. During this time I have been directly involved in study development, study implementation, hydropower license negotiations, and license implementation on more than 20 hydropower projects in California. I currently serve as the Special Projects Director for American Whitewater, a 501(c)(3) organization with a mission to conserve and restore America's whitewater resources and enhance opportunities to enjoy them safely. Since the 1990's, American Whitewater has actively participated in hundreds of Federal Energy Regulatory Commission hydropower licensing and relicensing processes across the country. We were a founding member of the Hydropower Reform Coalition and the California Hydropower Reform Coalition. I serve as the Chair of the California Hydropower Reform Coalition and am on the steering committee of both coalitions.

## Hydropower Licensing

Hydropower provides approximately 7% of the overall energy production in the country, and comprises 50% of all non-fossil fuel energy consumed in the U.S. In my home state of California, we have 287 hydropower plants that produced 6% of total in-state electricity in 2014.<sup>1</sup>

The Federal Energy Regulatory Commission (FERC) oversees licensing hydroelectric dams, with the critical involvement of the federal Departments of Agriculture, Commerce, and the Interior, as well as state and tribal water quality agencies. Public interest organizations and individuals likewise participate and add significant value to the process. FERC may grant a license for a term of 30 to 50 years, with the average life of a license being 45 years. Licenses dictate river flows, reservoir levels, public access, and power generation, and thus profoundly affect fish, wildlife, communities, and recreation-based economies for several decades.

The Federal Power Act grants FERC the authority to license non-federal hydropower dams, and FERC is thus the convenor and decision maker on many components of the license. The Federal Power Act ensures that power companies have rights and protections as recognized by FERC in the relicensing process. The Clean Water Act grants states, and some tribes, the right to prescribe instream flows for fish, water quality, and water-based recreation in order to protect the interests of their citizens. Federal agencies that are responsible for the management of public land and water and imperiled and/or migratory fish species also have the ability to protect those public interests in relicensing through issuing mandatory conditions in the license. The National Environmental Policy Act ensures that the relicensing process is science-based, transparent, and open to local citizens, municipalities and counties, and organizations that are most directly affected by the hydropower projects.

These regulatory authorities are designed to ensure that hydropower development balances power and non-power interests and that adverse impacts to underlying resources—such as fish, wildlife, and recreation values—are avoided or mitigated. Without these dovetailed legal authorities, local communities, fish and wildlife, and recreation-based economies would be left, as they historically have been, at risk of irresponsible hydropower development.

### Relicensing the Rock Creek and Cresta Hydroelectric Project—Feather River

I became directly engaged in hydropower licensing over two decades ago when I first attended a meeting for the relicensing of Pacific Gas and Electric's Rock Creek and Cresta Project on the North Fork Feather River. At the time, I was teaching high school economics, had long been an avid fly fisherman, and had recently started whitewater paddling. I wanted to help restore the ecological and recreational integrity of the river. Before the project was built, the Feather was considered to be among the best coldwater fisheries on the West Coast. The river was a popular tourist destination that supported a robust local economy that was built around the river and anglers who came from around the country to experience the spectacular fishing. Once a

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<sup>1</sup> <http://www.energy.ca.gov/hydroelectric/> (last visited March 12th, 2017).

series of dams and associated hydropower projects were built, the river became a collection of stagnant ponds connected by a small trickle of water. The project's operations had reduced the river's flows to between just 5% and 10% of what they had historically been, and the impacts to the fishery and the local economy were devastating.

Over the course of a series of meetings with Pacific Gas and Electric, resource agencies, and non-governmental organizations, we reached a consensus on the future operations of the Rock Creek and Cresta Project that we presented as a comprehensive settlement to FERC. This settlement restored flows in the river to 30% of their historic average, and as a result, we are now well on our way to restoring this section of the North Fork Feather as a robust recreational and economic resource for the entire region. We have achieved specific fishery objectives, including restoring multiple age classes of trout to the river. The average length of a trout caught is more than 10 inches long, with a good sprinkling of some longer than 17 inches. The same is true for whitewater recreation. Where paddlers once drove by a dry riverbed, today they flock to the Feather River from all across the country to enjoy a series of recreational releases. The reduction in power production to make this happen was just 6%, which is typical for projects like this one. From my perspective as a ratepayer and a river enthusiast, the economic and societal benefits gained are well worth this cost.

To be clear, getting to these types of positive outcomes requires a collaborative spirit and active, ongoing engagement from local stakeholders, but in my view it is well worth the effort. These locally based solutions to natural resource issues have a meaningful and lasting impact. Some contend that the federal hydropower licensing process takes too long, but when local stakeholders come together to develop a plan for managing the river for several decades into the future, it makes sense to take some time and get it right.

### **Opportunities to Encourage Collaboration and Local Solutions**

The current legal and regulatory framework that guides hydropower licensing recognizes the importance of collaboration. Congress attempted to improve licensing when, in the Energy Policy Act of 2005, it created an alternative to the Traditional Licensing Process. This new process, the Integrated Licensing Process (ILP), encourages the type of collaboration we experienced in developing the license proposal for the Feather River. It brings all the resource agency staff with local knowledge and expertise into the room with the licensee to facilitate information sharing and encourage collaboration as early as possible. The ILP process was developed by FERC through consultation with licensees and other stakeholders. However, despite the process improvements it offers, opportunity remains to further improve coordination and efficiency among the agencies, applicants and stakeholders. For example, FERC could take actions to further expedite licensing by initiating Memorandums of Understanding (MOU) between itself, tribes, and states. As Chair of the CHRC, I assisted in crafting an MOU between the FERC and the California State Water Resources Control Board to allow the ILP process and the §401 process to happen in parallel, rather than sequentially.

When collaboration does not happen disagreements and intransigence lead to litigation, which is expensive and time consuming. The costs of licensing, monetary and otherwise, are ultimately borne by the people of the United States, and all parties should be interested in minimizing cost whenever possible and appropriate. For these reasons, we believe FERC should promote the adoption of memoranda of understanding (MOUs) between itself, tribes, and states to incentivize collaboration rather than litigation.

Another potential avenue to increase collaboration and reduce time consuming consultations is for the Committee to consider delegating to Native American tribes the authority to protect their lands. Currently, §4(e) of the Federal Power Act grants the Secretary of the Interior, working through the Bureau of Indian Affairs, the authority to condition a license to protect tribal resources. If tribes were granted that authority directly, it would expedite the licensing process by eliminating the middleman. There is precedent for such delegated authority: many tribes have been delegated Clean Water Act authority to set and enforce water quality standards, including in hydropower license proceedings. The HRC urges the Committee to consider, in full consultation with the appropriate tribal representatives, whether it would be advisable to devolve the authority to protect tribal resources from the Department of the Interior to the tribes themselves.

### **Ensure Critical Information is Available at the Beginning of the Process**

It is imperative to start the licensing process by collaboratively developing and carrying out studies about the river, how the project operates, and the impact that it has had on the ecosystem and surrounding communities. This information informs the entire licensing process, and is important to get right because licenses last for 30-50 years. Additionally, many of the projects that are due for relicensing were originally licensed before bedrock environmental laws and health statutes were implemented, and before impacts to water quality, fish, wildlife, recreation and federal lands and waters were adequately considered.

FERC, federal resource agencies, and state and tribal water quality agencies submit requests that studies be done in order to evaluate the impact that a hydropower project has had on their respective jurisdictions. These studies are necessary in order for agencies to fulfill their statutory obligations in relationship to hydropower relicensing. The standard length of a study is only two years, although if the licensee presents insufficient information, the studies may go on longer.

Once agencies, tribes, and other stakeholders submit their study requests, FERC issues a decision (i.e. a “study plan determination”) on what studies they determine are necessary. FERC may reject some study requests, including those that are designed to provide critical information for resource agencies to exercise their authority. When this happens, most federal resource agencies undergo a dispute process to ensure that they will have access to the information they need. Agencies with §401 authority under the Clean Water Act have the authority to require their studies later. In both instances, it unnecessarily delays the process. In some cases, decade-long delays have ensued in part because the §401 agency has been

denied, by FERC and/or the licensee, access to the information necessary for it to complete the process in a legally defensible manner.

The HRC recommends that at the beginning of the licensing process, FERC either grant these study requests or allow other agencies to require them under their own regulatory authority. We also recommend that FERC and other agencies develop a memorandum of understanding to improve coordination throughout the process, as discussed above. While these recommendations do not necessarily require a change to the Federal Power Act, a statement by Congress would have the salutary effect of encouraging FERC to adopt them.

Some stakeholders are doing a poor job of learning from decades of relicensing proceedings and integrating that knowledge into future study plan development. In my experience, some licensees argue that studies they did not propose are unnecessary, when in actuality, they have become standard practice in other relicensing proceedings. The relicensing process could go much more efficiently if FERC works with experienced relicensing stakeholders to develop and implement a Best Practices Guide to relicensing studies.

### **Meeting the Challenge of Adequately Funding Resource Agencies**

Federal resource agencies play a vital role in the hydropower licensing and relicensing process, ensuring that fish, wildlife, recreation and public lands and waterways are granted equal consideration to power generation as stakeholders develop hydropower license conditions. Federal agency staff provide invaluable first-hand, on-the-ground expertise and experiences with the project because they live and work in the region where the project is located. While FERC staff often live in Washington, D.C., and are only able to visit a project once or twice in the course of a relicensing proceeding, federal resource agency staff attend relicensing meetings regularly and have experience from other projects that informs the process. They also have the ability to sit down with the licensee, can get out on the river to observe real-time conditions, and understand the river and its hydrology because they have monitored it. The information that they gather is pivotal to the licensing process, allowing stakeholders to make challenging decisions in the public interest about trade-offs between resource protection and power generation.

Where FERC's mandate relates to energy regulation, Congress directed federal resource agencies (the U.S. Forest Service, U.S. Bureau of Land Management, U.S. Fish and Wildlife Service, U.S. Bureau of Indian Affairs, and the National Marine Fisheries Service) to fulfill certain obligations and make scientifically informed and legally defensible conditions on hydropower licenses. Their ability to carry out their regulatory obligations in a timely fashion has become increasingly constrained in the face of funding restrictions.

In order to carry out their duties in an efficient and effective manner federal resource agencies must be adequately funded in order to support their employees and their work. The HRC recommends that Congress increase appropriations to the federal resource management agencies in order to fund the staff positions that allow them to efficiently and thoroughly

evaluate applications for hydroelectric licenses. Additionally, we request that Congress evaluate allowing licensees to pay to the land managing agencies a portion of the fees that they now pay to FERC for the direct cost of implementing their license conditions.

### **Improving the Process of Adding Hydropower to Existing Army Corps Dams**

We have heard concerns from some in the hydropower industry that the FERC licensing process is duplicative of the process required by the U.S. Army Corps of Engineers (Corps) when installing hydropower at existing non-powered dams. However, given that Corps dams are taxpayer owned, authorized by Congress for specific purposes, and are generally considered critical infrastructure, it is essential that the Corps retain its authority to carefully consider the implications of alterations to their facilities when adding hydropower to their structures. Therefore, we agree with then-Director of the Office of Energy Projects at FERC, Ann Miles, when she testified before the Subcommittee in May 2015 that it might be advisable for the Committee to give the Corps the exclusive authority to regulate non-federal hydropower development at Corps infrastructure.<sup>2</sup> To simplify the process of adding hydropower to non-powered federal dams, the Committee should consider amending the Federal Power Act to remove these dams from FERC's jurisdiction.

### **Opportunities to Expand the Value of Hydropower**

The subtitle of this hearing is "Challenges and Opportunities to Expanding Hydropower Generation." It is important to understand the reality of this quest in the context of other new energy development. In 2016 alone, more than 14 GW of new solar power and 8 GW of wind power were brought online in the United States.<sup>3</sup> Solar installations were led by California, North Carolina, Nevada, Massachusetts and New York, while the biggest increase in wind production occurred in Texas, Oklahoma, Iowa, North Dakota, Kansas and Nebraska.<sup>4</sup> These states span the entire geographic and political spectrum of the United States. For context, the July, 2016, U.S. Department of Energy *Hydropower Vision Report* evaluated the potential for increasing hydropower production in the U.S.<sup>5</sup> The Report stated that there is potential to add 1.7 GW of new hydropower capacity by 2050<sup>6</sup> through constructing new dams.<sup>7</sup> This is just 7% of the wind

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<sup>2</sup> United States. Cong. House. Committee on Energy and Commerce, Subcommittee on Energy and Power. *Hearing on Discussion Drafts Addressing Hydropower Regulatory Modernization and FERC Process Coordination under the Natural Gas Act*. May 13, 2015. 114th Cong. 1st sess. (Testimony of Ann Miles, Director, Office of Energy Projects, Federal Energy Regulatory Commission at p. 15). Available at: <http://docs.house.gov/meetings/IF/IF03/20150513/103443/HHRG-114-IF03-Wstate-MilesA-20150513.pdf> (last visited March 12, 2017).

<sup>3</sup> Solar Energy Industries Association. (n.d.) *Solar Market Insight Report 2016 Year in Review*. <http://www.seia.org/research-resources/solar-market-insight-report-2016-year-review> (last visited March 12, 2017); and American Wind Energy Association. (n.d.) *U.S. Wind Industry Fourth Quarter 2016 Market Update*. Available at: <http://awea.files.cms-plus.com/FileDownloads/pdfs/4Q2016%20Fact%20Sheet.pdf> (last visited March 12, 2017).

<sup>4</sup> *Id.*

<sup>5</sup> U.S. Department of Energy, Wind and Water Power Technologies Office. *Hydropower Vision Report*. July 2016. Available at: <http://energy.gov/eere/water/articles/hydropower-vision-new-chapter-america-s-1st-renewable-electricity-source> (last visited March 12, 2017).

<sup>6</sup> *Hydropower Vision Report* at p. 4.

and solar installed last year alone. In addition, the report stated that the United States could add 11.1 GW of new hydropower capacity by upgrading existing projects and retrofitting non-powered dams with hydropower capabilities by 2050.<sup>8</sup> While there is certainly potential to retrofit existing dams, it is doubtful that these facilities will be able to compete in the emerging energy marketplace, unless they have grid-regulating capabilities.

In the past, many have focused on total energy production as the metric to consider when quantifying opportunities for expanding hydropower. However, simply calculating the gross number of electrons that a project can produce is no longer adequate. Instead, the future of hydropower should focus on the value it provides in the context of rapidly changing energy markets. As solar generation increases in California and other energy markets, there is an increasing risk of over-generating power in the middle of the day.<sup>9</sup> This phenomenon, formally known as the “duck curve,” highlights the fact that bringing on more baseload generation in today’s marketplace is akin to bringing sand to the beach. Simply put, the projects that will have the most value in the immediate and foreseeable future are those that can provide complimentary grid regulation as renewables like wind and solar continue to rapidly come online. To this end, FERC can improve their analysis of license applications by including an assessment of whether projects are capable of regulating the grid while maintaining or improving the integrity of the aquatic environment and recreational values of the waterway. This is something that is already happening. In a relicensing in which I’m currently involved, we have found that we can actually increase the grid regulating capabilities of the project while providing additional flows to the river. It is this type of smart operation combined with efficient environmental protection that is the future of hydropower.

Lastly, a critically important finding of the Department of Energy’s 2016 Hydropower Vision Report is that building new dams will cost more in both investment dollars and negative impacts to clean water, wildlife, and rural economies than it is worth. The Report concluded that efforts to expand hydropower production should instead focus on promoting efficiency, retrofitting suitable non-powered dams, and upgrading the century-old technology that is present in far too many currently operating hydroelectric projects. We agree. As recent events associated with Oroville Dam on the Feather River demonstrate, the hydropower industry needs to be focused on maintaining their existing projects before considering any expansion. We oppose and strongly discourage any incentives or initiatives aimed at building new hydropower dams. The future of hydropower is in the smart and responsible operation of the existing system to better meet the needs of the grid, with modest additions to capacity at existing dams. The Committee should focus its attention there.

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<sup>7</sup> See generally, *Hydropower Vision Report*.

<sup>8</sup> *Id* at 18.

<sup>9</sup> Scottmadden Management Consultants, *Revisiting the California Duck Curve: An Exploration of Its Existence, Impact, and Migration Potential*, October 2016. Available at: [http://www.scottmadden.com/wp-content/uploads/2016/10/Revisiting-the-Duck-Curve\\_Article.pdf](http://www.scottmadden.com/wp-content/uploads/2016/10/Revisiting-the-Duck-Curve_Article.pdf) (last visited March 12, 2017).

## **Conclusion**

In my work with hydropower licensing, I have had several successful experiences negotiating license agreements that provide for continued profitable generation of hydropower in a manner that recognizes the non-power values our rivers provide for fishery resources, recreational experiences, cultural values, and general public use and enjoyment. We all want our lights to come on and we all value healthy rivers. In hydropower licensing, as in all things, we must seek consensus and compromise when possible.

There are many opportunities to improve the hydropower licensing process, the value of hydropower, and the health of our rivers. This includes ensuring that resource agencies have the funding and information they need to fulfill their statutory obligations and incentivizing collaboration through adopting MOUs. It also involves recognizing the role that hydropower plays in a rapidly changing energy market and ensuring it meets the needs of the grid while maintaining or improving the integrity of the aquatic environment and recreational values of the waterway. Finally, as we consider modernizing hydropower we need to focus on maintaining and upgrading existing infrastructure and in some cases, consider project removal.

Thank you for providing the opportunity to provide this testimony. I am happy to answer questions and provide further information as necessary.