

WRITTEN TESTIMONY OF KEVIN COLBURN ON BEHALF OF AMERICAN WHITEWATER  
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  
HEARING ON MARCH 15, 2017

TESTIMONY SUBMITTED BY KEVIN COLBURN  
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Chairman Upton, Ranking Member Rush, and Members of the Subcommittee:

American Whitewater appreciates having the opportunity to provide written testimony in relation to the March 15th Committee hearing on challenges and opportunities in expanding hydropower generation.

American Whitewater is a national 501(c)(3) non-profit organization with a mission "to conserve and restore America's whitewater resources and to enhance opportunities to enjoy them safely." With approximately 6,000 members and 100 affiliate clubs, we represent the conservation interests of tens of thousands of whitewater enthusiasts across the country. Since the early 1990's, we have actively participated in the FERC hydropower licensing and relicensing process on well over 100 dams. Through the Federal Power Act, our efforts have brought life back to rivers that had been severely impacted by hydropower for decades. In our work, we strive to balance society's need for power with what flowing rivers also do for fish, wildlife and our communities. As these rivers have been restored, so have local economies that depend on outdoor recreation, including paddlesports, fishing, and other river-dependent recreation.

**The Hydropower Relicensing Process Offers Opportunities For Rural Communities to Reclaim Rivers.**

Hydropower dams have dried up river beds that provide fishing and boating opportunities for local residents and visitors, inundated towns and farmlands under reservoirs, and blocked the migration of fish—including many species that provide economic and cultural value for local and regional communities. Many rural communities still suffer from these enduring losses today. Through the federal hydropower relicensing process of the Federal Energy Regulatory Commission (FERC), American Whitewater has worked as a public interest advocate to restore water and economic opportunities to communities across the country. We highlight several of our success stories below.

The Cheoah River was dewatered by Santeetlah Dam for 77 years before it roared back to life in 2005. We successfully advocated for 20 annual high flows and year-round base flows which together mimic key components of natural river while continuing to allow for ample power generation. These releases have become a recreational treasure in Graham County, which is one of the poorest counties in North Carolina. Anglers are reporting high quality smallmouth bass fishing, and last month an estimated 600 paddlers descended the river during a single scheduled release. Graham County recently passed a resolution in favor of additional recreational dam releases on the Cheoah, an outcome that is possible and envisioned in the FERC license. These transformative benefits for the communities around the river were apparently not overly burdensome on the Licensee, who sold the newly licensed project (the Tapoco Project, which includes four dams) in 2012, reportedly for \$600 million dollars.<sup>1</sup>

Nearby, power generation releases on North Carolina's Nantahala and Tuckasegee rivers are scheduled in advance to allow for profitable power generation as well as predictable rafting, canoeing, and kayaking. These releases support a large number of tourism related jobs in this rural Appalachian region, and are the result of collaboratively developed licenses that American Whitewater helped craft. A 2009 study found that the largest and one of many rafting outfitters in the area, the Nantahala Outdoor Center, created and maintains 579 jobs and contributed a total of \$48,073,691 to the local economy in 2008.<sup>2</sup>

In the early part of the 20th century, the Feather River in California was known as a world-class trout fishery until a series of dams either inundated or dewatered the river for much of its length. American Whitewater engaged in the relicensing process and was successful at securing new flows in several reaches that restore vital ecological functions to the river. The result has been a 30% increase in flows, better fishing, and popular kayaking and rafting opportunities, with only a modest 6% reduction in power production.

These examples illustrate that the modern relicensing process is capable of producing outcomes that allow for power generation while restoring ecological, recreational, and economic values with direct benefit to local communities. It would be an overstatement, however, to say that these rivers are flourishing. They remain severely impacted by the enormous footprint of the projects and their ongoing operations. They are working rivers with chronic problems, but the relicensing process has required the power companies to share the rivers with their neighboring communities, with many species that call these rivers home, and with the public who owns the river. That well-reasoned reallocation of a fraction of the river's water, which the relicensing process has facilitated, has indeed had profound benefits on rural and natural communities alike with corresponding positive economic benefits.

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<sup>1</sup>[http://www.thedailytimes.com/news/alcoa-closes-dam-sale-tapoco-now-brookfield-smoky-mountain-hydropower/article\\_90c65b1b-17f2-53cc-846f-03a2a541a6a1.html](http://www.thedailytimes.com/news/alcoa-closes-dam-sale-tapoco-now-brookfield-smoky-mountain-hydropower/article_90c65b1b-17f2-53cc-846f-03a2a541a6a1.html)

<sup>2</sup><http://datalibrary.nemac.org/swnc/sites/default/files/2009%20Nantahala%20Gorge%20Economic%20Impact%20Study.pdf>

## **Hydropower is a Mature, Built-Out Energy Source, and is Appropriately Challenged By Free Market Competition From Young Energy Sources That Have Ample Room To Grow.**

Generating electricity from hydropower is a more than century-old technology that has already been employed and operational at an enormous scale; the vast majority of potential sites have already been developed. We contrast this development with wind, solar, and advances in batteries and energy efficiency, that are each in their relative infancy and growing rapidly. In 2016 alone, more than 14 GW of new solar power and 8 GW of wind power was brought online in the United States.<sup>3</sup> In contrast, the Department of Energy estimates new hydropower potential over *the next 34 years* totals between 5.2 GW under a “business as usual scenario,” and 12.8 GW with advances in technology and low cost financing.<sup>4</sup> (Note that these figures do not include pumped storage that can be used for energy storage and is sometimes included in estimates of future hydropower potential.) Simply put, it will take creative action and 34 years for additional hydropower generation to compete with what wind or solar added to the grid last year alone.

Hydropower already plays a significant role in our energy system and we anticipate that it will continue to do so for many years to come. As the Hydropower Vision Report outlines, it is unlikely that hydropower will grow significantly, especially relative to wind, solar, and associated battery storage systems. Instead of providing baseload generation, hydropower’s value in the future will be one of helping to regulate the grid as these renewables continue to grow. In fact, it is reasonable to assume that these changes will leave some hydropower projects unprofitable and lead to removal. The future may well involve fewer hydropower projects, with those that remain being more efficient and effective at meeting the needs of the grid.

## **The Only Appropriate Opportunity For Expanding Hydropower Generation is at Existing Dams.**

The Department of Energy’s Hydropower Vision Report specifies that there is no potential for additional generation from new stream development under current circumstances, and potential for just 1.7 GW between now and 2050 if technological advances are realized and low-cost financing is in place. Instead of developing new projects, the future of expanding hydropower generation lies within upgrading existing projects and retrofitting non-powered dams. We support this effort if it is done in a responsible manner that protects public trust resources.

As mentioned above, the Department of Energy estimates that 5.2 GW of new hydropower capacity can be added through such upgrades and installations over the next 34 years.<sup>5</sup> While

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<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> U.S. Department of Energy, Wind and Water Power Technologies Office. *Hydropower Vision Report*. July 2016. P. 18. Available at: <http://energy.gov/eere/water/articles/hydropower-vision-new-chapter-america-s-1st-renewable-electricity-source> (last visited March 12, 2017).

<sup>5</sup> *Hydropower Vision Report* at 18. See also “business as usual” alternative, Table ES-2.

by no means a game-changing figure, this capacity is low hanging fruit. We have supported projects that fit this category, including the major capacity increase at Holtwood Dam on the Susquehanna River in Pennsylvania and numerous smaller projects.

During the hearing, there was discussion that it was potentially possible to add hydropower capabilities to at least half of the 80,000 existing dams without hydropower. While the Department of Energy's 2016 Hydropower Vision Report estimates that potential exists to add hydropower to over 50,000 non-powered dams in the U.S., it is not practical to do so at the majority of these projects. The Report wisely places a filter on this number for projects that have a minimum capacity of 500 kW, reducing the number of non-powered dams where it is practical to add hydropower capabilities to just 671 dams.<sup>6</sup>

Constructing new dams does not make sense in this era of rapid market changes. We support improving efficiencies at existing hydropower projects and adding hydropower capabilities to non-powered dams in large part because of the profound cumulative impacts that over a century of rampant private hydropower development have had on our public rivers. Our dammed, working rivers are already severely impaired, and our remaining free-flowing rivers are rare and more important than ever as biological strongholds and recreational destinations.

### **The Importance of Collaboration Among Stakeholders and State and Federal Resource Agencies.**

FERC's Integrated Licensing Process appropriately contains involvement from tribal, state and federal agencies with expertise in energy, fish and wildlife, water quality, recreation and cultural values. In our experience, good outcomes like those described above happen when the licensee works collaboratively with all stakeholders throughout the entire process. This includes ensuring that there is robust, scientifically sound data early in the process about the project and the river, and a willingness to mitigate the Project's impacts. When collaboration does not happen disagreements and intransigence lead to delays, administrative challenges, and occasionally litigation, which is expensive and time consuming. We reference David Steindorf's testimony on behalf of the Hydropower Reform Coalition for suggestions to ensure that the process is a collaborative one.<sup>7</sup>

Legislators proposed hydropower legislation in the last session of Congress (H.R. 8) that would have shifted responsibility for all of these areas to FERC. During the hearing questions arose about whether this should be pursued again. Our answer is no. Aside from licensing hydropower projects, FERC is an independent agency responsible for regulating the interstate transmission of electricity, natural gas and oil. By design, it does not have sufficient expertise relevant to rivers. This is the mandate given to other agencies, including the U.S. Forest Service, U.S. Bureau of Land Management, U.S. Fish and Wildlife Service, and state and tribal water quality agencies.

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<sup>6</sup> *Id.* at 252.

<sup>7</sup> <http://docs.house.gov/meetings/IF/IF03/20170315/105702/HHRG-115-IF03-Wstate-SteindorfD-20170315.pdf>, last accessed March 23, 2017.

When stakeholders cooperate, the Integrated Licensing Process takes approximately six years. While some compare this timeframe to the process for permitting a natural gas plant, we believe this is an unfair comparison. The impact of the two technologies is completely different. Hydropower dams automatically change the function and use and enjoyment of a publicly owned river by blocking it and significantly altering its flow, preventing species from accessing critical parts of their habitat. Additionally, hydropower license terms last for 30-50 years.

Further, hydropower licenses cover projects that can involve multiple dams, reservoirs and powerhouses, and more than one river. Some of the projects we've worked on in California involve dozens of dams and the footprint of one is the size of the state of Rhode Island. Additionally, the hydropower facilities that are up for relicensing now were first constructed before virtually all modern environmental laws were in place. It is during relicensing proceedings that the public gets the opportunity to ensure that dam owners make the necessary changes to comply with modern laws. The opportunity to mitigate for the damage to the environment, while still providing reliable electricity, only arises once in a generation or two. For all of these reasons, it makes sense to take the time to get it right.

### **Hydropower Emits Greenhouse Gasses.**

The idea that hydropower is a “clean, green, and renewable” source of power is a myth. In addition to the impacts to water quality, riparian habitat, and natural life cycles of aquatic fish and wildlife, the technology contributes to greenhouse gas emissions. Reservoirs behind dams are not carbon-neutral, but instead are responsible for approximately 1.3% of anthropogenic CO<sub>2</sub> equivalent emissions world-wide over a 100-year timespan.<sup>8</sup> In addition to carbon, reservoirs emit methane which has 34 times the warming potential as carbon.<sup>9</sup> We recognize that these reservoirs emit less carbon than a coal-fired power plant, but to say that they are carbon-free is incorrect.

### **Response to Sacramento Municipal Utility District's Testimony.**

One of the projects that we consider as an example of a relicensing success is that of the Sacramento Municipal Utility District's (SMUD) Upper American River Project (UARP) (FERC Project No. P-2101). American Whitewater participated in relicensing negotiations and was a signatory to the relicensing Settlement Agreement in 2007, as was SMUD. Given the spirit of collaboration and the final agreement, we were surprised to see SMUD's written testimony for this hearing in which it states:

*“The UARP was once an effective resource for meeting fluctuations in peak energy demand. But in the years since relicensing, the majority of water releases are for*

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<sup>8</sup> Deemer B, Harrison J, Li S, Beaulieu J, DelSontro T, Barros N, Bezerra-Neto J, Powers S, Dos Santos M, Vonk J. 2016. Greenhouse Gas Emissions from Reservoir Water Surfaces: A New Global Synthesis. *BioScience* 66: 949-964.

<sup>9</sup> *Id.*

*recreational purposes, leaving little water available to release into turbines during the late afternoon and early evening when summer air-conditioning needs are highest.”<sup>10</sup>*

SMUD would have the Committee believe that recreational releases are solely responsible for taking down what once was a great hydropower project. Nothing could be further from the truth. As SMUD points out in its testimony, the UARP is a 688-megawatt hydroelectric project that consists of 11 reservoirs and 8 powerhouses. The project is complex, with a footprint that spans an area from the crest of the Sierra Nevada mountains to the foothill communities of the Sacramento Valley. SMUD fails to specify which releases at which dams are causing this alleged issue. If it is referring to the few recreational releases that occur at Ice House Dam or Slab Creek, it is important that the Committee understand that the total amount of water that is returned to the river for these releases is a fraction of 1% of the water that SMUD diverts to produce power.

We believe that SMUD is likely referring to its obligations to coordinate with Pacific Gas and Electric (PG&E), which owns and operates the Chili Bar Hydroelectric Project (P-2155) immediately downstream of the UARP. The flow provided at PG&E’s Chili Bar Project are critical for the Lower South Fork American River because it is home to the largest commercial rafting industry on the West Coast, bringing in more than \$30 million to the local economy. The Chili Bar Dam and Reservoir are specifically designed to regulate flows into the Lower South Fork American River, which allows SMUD to operate the upstream UARP facilities in a peaking mode. In its testimony, SMUD failed to provide any evidence that its ability to provide grid regulating capabilities is compromised by its agreement with PG&E. American Whitewater participates in monthly license implementation meetings with SMUD and other stakeholders for the UARP, and SMUD has failed to provide any evidence of this in that setting as well.

SMUD’s statements are particularly perplexing in light of the fact that it was a willing participant in settlement negotiations and agreed to these flow conditions when it signed the 2007 Settlement Agreement. This settlement was based upon the understanding that, while we all did not get everything that we wanted in negotiations, we found this agreement to be enough of an acceptable compromise for FERC to issue SMUD a 50-year license term. It is unclear to us why SMUD is now indicating that this settlement was an agreement that they were forced into and is inherently unfair to their interests, their ratepayers and their community. Where SMUD could have challenged agency conditions in a trial-type hearing, or before FERC or the California State Water Resources Control Board during the process, they did not. Instead, SMUD helped to craft the Agreement that states, “the Parties agree that this Settlement is fair and reasonable and in the public interest, consistent with the standards under the FPA.”<sup>11</sup> SMUD also stated that it “agreed that the Settlement appropriately balances all interests and resources related to

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<sup>10</sup> Sacramento Municipal Utility District. Testimony for the House Energy and Commerce Subcommittee on Energy Hearing on *Modernizing Energy Infrastructure: Challenges and Opportunities to Expand Hydropower Generation*. March 15, 2017. Available at: <http://docs.house.gov/meetings/IF/IF03/20170315/105702/HHRG-115-IF03-20170315-SD011.pdf> (last visited March 24, 2017).

<sup>11</sup> Relicensing Settlement Agreement for the Upper American River Project and Chili Bar Hydroelectric Project. January 2007. §2.1, p. 9. (FERC Project No. P-2101, eLibrary Accession No. 20070201-4014)

relicensing of the UARP. SMUD applauds the efforts of the Settling parties in studying impacts of the UARP, assessing and analyzing study requests, understanding and working through differences, and ultimately negotiating the Settlement."<sup>12</sup>

Even more perplexing is that SMUD voluntarily provided these very same flows that it complains about for seven years before its license was finalized, which is contrary to its statement that there has been little water available for power generation because of recreational releases "in the years since relicensing." It is unclear to us why SMUD would offer to do this before the license was implemented if providing these flows had such an extreme impact to their ability to produce power.

SMUD also takes aim at the relicensing process indicating that the conditions placed on a license by resource agencies can only be challenged through the costly and time consuming trial-type hearing process. We agree that that this adversarial process is costly and time consuming, which is why we have opposed it since it was proposed by the industry back in 2005. SMUD also suggests that allowing agencies to have a reasonable basis defense for their conditions sets the bar too high for utilities to prevail in a hearing. We disagree. Going back to the days where sound science and resource protection are thrown out the window in favor of eking every last ounce of power from rivers would be a huge step backwards.

## **Conclusion**

We thank the Subcommittee for this opportunity to provide testimony on hydropower's future, which will affect rivers and recreation-based rural economies nationwide. We have significant experience with relicensing hydropower dams and feel that implementation of the Integrated Licensing Process has encouraged enhanced collaboration among all stakeholders. Placing more authority with FERC, an agency with DC-based decision makers, and less with local stakeholders and resource agencies that have on-the-ground expertise, will only serve to discourage this collaborative approach and local decision-making.

Much of the testimony before the Committee focused on the opportunity to increase capacity at existing dams through efficiency improvements and retrofitting existing non-powered dams to add generation capacity. We support this approach, and to the extent modest regulatory reforms will encourage this type of development, we welcome any opportunity to work with the members of the Committee, tribes, resource agencies, and utilities on comprehensive solutions that create these new opportunities, provided they are fully protective of our aquatic resources. We do not support or see potential for the construction of new hydropower dams.

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<sup>12</sup> Sacramento Municipal Utility District. *Explanatory Statement and Request for Technical Conference*. 2/1/2007. P. 2. (FERC Project No. P-2101, eLibrary Accession No. 20070201-4014)