

**Testimony of Malcolm Woolf  
President and CEO of the National Hydropower Association**

**“Modernizing Hydropower: Licensing and Reforms for a Clean Energy Future”  
Energy Subcommittee of the House Energy and Commerce Committee**

**May 12, 2022**

**Introduction**

Thank you, Chairman Rush and Ranking Member Upton, as well as Chairman Pallone and Ranking Member McMorris Rodgers, for hosting today’s Energy Subcommittee hearing on hydropower licensing reform. I hope we can use today’s hearing to build consensus on a prudent path forward to improve hydropower licensing in the United States.

I am Malcolm Woolf, President and CEO of the National Hydropower Association. NHA is the national non-profit trade association dedicated to advancing the interests of the U.S. hydropower industry, including conventional, pumped storage, and new marine energy technologies. NHA’s membership consists of more than 250 organizations, including consumer-owned utilities, investor-owned utilities, independent power producers, equipment manufacturers, and environmental, engineering, and other service providers. Our vision is for waterpower, in all its forms, to be valued as America’s premier carbon-free, renewable energy resource, be a growing source of green-energy jobs, and help achieve a reliable, sustainable, and clean electricity system in North America.

NHA is pleased to support this unprecedented Joint Hydropower License Reform package. The legislative proposal is the result of several years of discussion through the Stanford Woods Institute “Uncommon Dialogue” process to advance the renewable energy benefits of hydropower and the environmental and economic benefits of healthy rivers. Working with river conservation organizations and Tribal communities, we have reached a historic Joint Proposal, one that promises to improve the hydropower licensing, relicensing, and license surrender process while preserving important environmental safeguards and restoring self-determination for Tribal Nations. While we will continue to challenge each other on other issues, we have come together to support this landmark Package.

Congressional action on license reform is urgently needed for several reasons. As discussed briefly below:

- **Hydropower is an essential part of a reliable, clean energy grid;**
- **Both the existing hydropower fleet and new clean energy generation is at risk due, in part, to the byzantine licensing and relicensing process; and**
- **The proposed legislative reforms represent an integrated, holistic proposal that creates common ground among industry, tribal and environmental interests to preserve and enhance the hydropower fleet, while ensuring that the rights of Tribal Nations are respected, and environmental concerns are addressed.**

### **Hydropower is an Essential Part of a Reliable, Clean Energy Grid**

Since the Appleton Edison Light Company began operating in Wisconsin in 1882, hydropower has provided emission-free electricity and helped to power America’s economic prosperity. Through a continued commitment to robust environmental and technological advancements, hydropower is uniquely positioned to provide dispatchable renewable electricity and energy storage capacity, offer essential grid reliability services, and further enable the integration of variable wind and solar to accelerate the transition to a twenty-first century clean energy grid.

Today, traditional hydropower provides over 80 GW of electricity capacity in the United States, roughly 7% of electricity generation.<sup>1</sup> Pumped storage hydropower provides another 22 GW of dispatchable, long-duration energy storage, representing 94% of all energy storage currently in the U.S.<sup>2</sup> In addition to generating power around the country, hydropower and pumped storage are job creators. Today the waterpower industry provides 68,000 good-paying jobs around the country.<sup>3</sup>

Hydropower also plays a critical role in our electric system as a flexible, adaptable renewable resource that enables more wind, solar, and other variable renewables on the grid. When the sun goes down or the wind isn’t blowing, hydropower and pumped storage rush in to fill the gaps and balance the grid in seconds. For example, in the Spring of 2020, when a nuclear

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<sup>1</sup> U.S. Department of Energy, *U.S. Hydropower Market Report*, Jan. 2021, at p. iv, available at [www.energy.gov/eere/water/hydropower-market-reports](http://www.energy.gov/eere/water/hydropower-market-reports)

<sup>2</sup> *NHA’s 2021 Pumped Storage Report*, Sept. 22, 2021, at p. 4, available at [www.hydro.org/news/nha-unveils-new-2021-u-s-pumped-storage-hydropower-report](http://www.hydro.org/news/nha-unveils-new-2021-u-s-pumped-storage-hydropower-report)

<sup>3</sup> *2021 U.S. Energy Employment Report*, p. 83, available at [www.energy.gov/us-energy-employment-jobs-report-useer](http://www.energy.gov/us-energy-employment-jobs-report-useer)

unit tripped offline in New England, the lights in Boston didn't flicker because the Northfield Mountain and Bear Swamp pumped storage stations immediately provided 1,700 MWs of backup. Hydropower's flexibility allows it to serve as a force multiplier. We can incorporate more variable energy resources, like wind and solar, on the grid because hydropower can produce electricity when variable resources go offline.

Significantly, hydropower also plays an often-overlooked role in enhancing grid reliability. For example, although hydropower provides 7% of overall U.S. electricity generation, it provides nearly half (40%) of the nation's "black start" capability,<sup>4</sup> which is vital in enabling the grid to re-start (such as the 2003 Northeast blackout).<sup>5</sup> Additionally, hydropower is roughly 15% of installed capacity in California but can provide up to 60% of spinning reserves, a service that ensures that generation drops do not disrupt the reliability of the grid (which was particularly crucial during the August 2020 blackouts).<sup>6</sup> The chart from a recent Brattle Group report highlights hydropower's unique ability to provide black

FIGURE 3: RESOURCE CAPABILITIES TO PROVIDE VARIOUS GRID SERVICES

Product	Nuclear	Run-of-River Hydro	Pondage Hydro	Pumped Storage	Coal	Combined Cycle	Combustion Turbine	Wind	Solar	Battery Storage	Demand Response	Energy Efficiency
Day-Ahead Energy	✓	✓	✓	✓	✓	✓	○	✓	✓	○	○	○
Real-Time Energy	○	✓	✓	✓	✓	✓	○	✓	✓	○	○	○
Clean Energy	✓	✓	✓	○	✗	○	○	✓	✓	○	○	✓
Regulation	✗	○	✓	✓	✓	✓	○	○	○	✓	○	✗
Spinning Reserves	✗	○	✓	✓	✓	✓	✓	✗	✗	✓	○	✗
Non-Spinning Reserves	✗	✗	✓	✓	✗	✓	✓	✗	✗	✓	○	✗
Load-following	○	○	✓	✓	○	✓	✓	○	○	✓	○	✗
Reactive Power	✓	✓	✓	✓	✓	✓	✓	○	○	✓	✗	✗
Black Start	✗	✓	✓	✓	○	✓	✓	✗	✗	○	✗	✗
Resource Adequacy	✓	✓	✓	✓	✓	✓	✓	○	○	○	✓	✓

Technical Capability to Provide Product

✓ Well-Suited

○ Neutral

✗ Poorly-Suited

<sup>4</sup> Black start is the process of restoring a power station to operation without relying on the external electric power transmission network. In blackout conditions, when external power is unavailable.

<sup>5</sup> U.S. Department of Energy, *U.S. Hydropower Market Report*, Jan. 2021, at p. 19, available at [www.energy.gov/eere/water/hydropower-market-reports](http://www.energy.gov/eere/water/hydropower-market-reports)

<sup>6</sup> U.S. Hydropower Value Study: Current Status and Future Opportunities, January 2021 at 19, available at <https://www.energy.gov/sites/default/files/2021/01/f82/hydropower-value-study-v2.pdf>

start capability, frequency response,<sup>7</sup> spinning reserves,<sup>8</sup> and other essential grid reliability services.<sup>9</sup>

The importance of these reliability services provided by hydropower should not be underestimated. As the chart above demonstrates, hydropower is the only form of renewable energy that provides the full suite of ancillary services which help ensure consumers can keep the lights on.<sup>10</sup> If hydropower disappears, our electric system will be forced to rely on carbon-based forms of energy generation for these reliability services. The decisions legislators make today about whether to create a licensing framework that preserves and promotes hydropower generation will determine whether we can transition to a reliable, clean energy system in the future.

### **Both the Existing Hydropower Fleet and New Clean Energy Generation are at Risk Due, In Part, to the Byzantine Licensing and Relicensing System**

#### **1) Today's inefficient relicensing process threatens the continued operation of the existing fleet.**

281 facilities, representing 13.8 GWs of hydropower and pumped storage facilities, are set to have their licenses expire by 2030.<sup>11</sup> This represents a “doubling of FERC relicensing

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<sup>7</sup> Frequency response is the ability of generation to increase and decrease output to maintain the frequency necessary for the electric system to function.

<sup>8</sup> Spinning reserves are rapidly-available capacity available in generating units that are operating at less than their capacity. When there is a sudden generation disruption, resources with spinning reserves can increase energy generation to prevent loadshedding.

<sup>9</sup> The Brattle Group, *Leveraging Flexible Hydropower in Wholesale Markets, Principles for Maximizing Hydro's Value*, April 2021, available at [www.hydro.org/wp-content/uploads/2021/04/Leveraging-Flexible-Hydro-in-Wholesale-Markets.pdf](http://www.hydro.org/wp-content/uploads/2021/04/Leveraging-Flexible-Hydro-in-Wholesale-Markets.pdf)

<sup>10</sup> For more information on ancillary services. See generally, <https://greeningthegrid.org/integration-in-depth/ancillary-services>.

<sup>11</sup> U.S. Department of Energy, *U.S. Hydropower Market Report*, Jan. 2021,” at p.39, available at [www.energy.gov/eere/water/hydropower-market-reports](http://www.energy.gov/eere/water/hydropower-market-reports)

activity” over the eight years.<sup>12</sup> Together, these 281 facilities represent about 30% of the roughly 1,000 active FERC hydropower licenses.<sup>13</sup> By 2035, this number soars even higher to 45%.<sup>14</sup>

The uncertainties surrounding the cost, duration, and outcome of the relicensing process threaten the existing hydropower fleet. According to a U.S. DOE study, relicensing takes, on average, 7.6 years to complete,<sup>15</sup> with relicensing for many facilities lasting over a decade. Surprisingly, relicensing an existing hydropower facility takes longer than relicensing a nuclear power plant.<sup>16</sup>

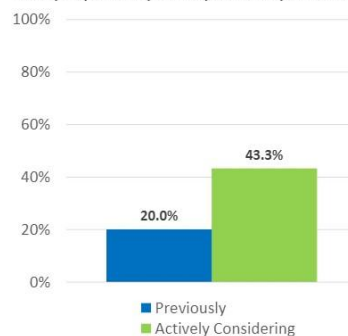
The process paperwork associated with relicensing is also expensive. Projects of greater than 10 MW report licensing costs exceeding \$1 million. Projects more than 100 MW reporting costs around \$10 million or more.<sup>17</sup> In addition to the paperwork, relicensing typically requires physical construction, including modernization of recreational facilities and environmental improvements, such as the installation of new fish passage, or the replacement of expensive equipment to improve environmental performance.<sup>18</sup>

Regulatory uncertainty created by our existing hydropower licensing process – a byproduct of choices made by Congress – is pushing existing hydropower operators to consider retiring their assets. More than two-fifths (43.3%) of hydropower industry asset owners said that they were “actively considering” decommissioning a facility in

## Decommissioning

### Question:

“Have you previously, or are you actively considering, decommissioning any facilities?”



One-fifth of survey participants (20.0%) have previously considered decommissioning any of their facilities, while more than two-fifths (43.3%) are actively considering doing so in the future.

<sup>12</sup> Id. at p. v.

<sup>13</sup> U.S. Federal Energy Regulatory Commission (FERC), *Hydropower Primer: A Handbook of Hydropower Basics*, available at [www.ferc.gov/sites/default/files/2020-05/hydropower-primer.pdf](http://www.ferc.gov/sites/default/files/2020-05/hydropower-primer.pdf)

<sup>14</sup> U.S. Federal Energy Regulatory Commission (FERC), Complete List of Active Licenses. Updated 04-14-2022 [[https://ferc.gov/sites/default/files/2022-04/ActiveLicense\\_4.14.2022.xlsx](https://ferc.gov/sites/default/files/2022-04/ActiveLicense_4.14.2022.xlsx)]

<sup>15</sup> U.S. DOE National Renewable Energy Laboratory (NREL), *An Examination of the Hydropower Licensing and Federal Authorization Process*, at p. xiii, available at [www.nrel.gov/docs/fy22osti/79242.pdf](http://www.nrel.gov/docs/fy22osti/79242.pdf)

<sup>16</sup> Id. at p. xiii compared to U.S. Nuclear Regulatory Commission, Background on Reactor License Renewal, aiming to complete license renewal decisions within 18 month from receipt of application, available at [www.nrc.gov/reading-rm/doc-collections/fact-sheets/fs-reactor-license-renewal.html](http://www.nrc.gov/reading-rm/doc-collections/fact-sheets/fs-reactor-license-renewal.html)

<sup>17</sup> Id. at p. 66.

<sup>18</sup> U.S. Department of Energy, *U.S. Hydropower Market Report*, Jan. 2021, at p. 6.

a recent industry survey, up from 20% only a few years ago.<sup>19</sup>

Inefficiencies in the hydropower licensing process have already taken a toll on the existing fleet. 41 facilities submitted license surrender applications to FERC from 2010 to 2019.<sup>20</sup> The Intergovernmental Panel on Climate Change (IPCC) recently made clear that global greenhouse emissions need to peak before 2025 at the latest if we want to limit global warming to 1.5 degrees Celsius.<sup>21</sup> At a time when we need to dramatically expand clean energy generation, it makes no sense to perpetuate a regulatory system that pushes clean energy offline.

## **2) The antiquated licensing process is also a significant barrier to new clean energy generation.**

A 2012 Department of Energy report found that the top 100 non-powered dams (81% of which are Army Corps of Engineer facilities) could contribute approximately 8 GW of clean, reliable hydropower.<sup>22</sup> Yet a decade later, only a handful of these prime sites for new hydropower have been developed. Similarly, there are 90 proposed pumped storage facilities in the development pipeline. Many of the challenges outlined above related to hydropower relicensing are also a barrier to licensing new projects. Regulatory uncertainties surrounding time, costs, and outcomes push developers away from retrofitting existing dams with hydropower production or building new pumped storage facilities. What this means is federal policies are preventing private developers from creating new, much needed sources of clean electricity generation and energy storage.

## **The Proposed Legislative Reforms Represent an Integrated, Holistic Proposal that Creates Common Ground Among Industry, Tribal and Environmental Interests Package to Preserve and Enhance the Hydropower Fleet, While Ensuring that Environmental Concerns are Addressed and the Rights of Tribal Nations are Respected.**

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<sup>19</sup> Hydropower Foundation, Ontario Waterpower Association, and Kleinschmidt, *Ear to the Water industry survey*, Oct. 2021, available at <https://info.kleinschmidtgroup.com/eartotheiver-results>, at p.20.

<sup>20</sup> U.S. Department of Energy, *U.S. Hydropower Market Report*, Jan. 2021, at p. 5.

<sup>21</sup> Press Release, IPCC, *The evidence is clear: the time for action is now.* (April 4, 2022) <https://www.ipcc.ch/2022/04/04/ipcc-ar6-wgiii-pressrelease/>

<sup>22</sup> U.S. DOE, Oak Ridge National Labs, *An Assessment of Energy Potential at Non-Powered Dams in the United States*, April 2012, at viii, available at [www.osti.gov/biblio/1039957-assessment-energy-potential-non-powered-dams-united-states](http://www.osti.gov/biblio/1039957-assessment-energy-potential-non-powered-dams-united-states)

The proposed licensing reform package will help ensure the long-term viability of the hydropower industry by reducing administrative uncertainty and red tape in the hydropower licensing process. The NHA supports the entire proposal, which was the product of a careful compromise. We look forward to collaborating with the Committee to advance the legislative proposal.

I would like to take this opportunity to highlight a few provisions that are particularly important for the hydropower industry:

**1) Clarifying the scope of conditioning authority under the Federal Power Act will reduce uncertainty and litigation during licensing and relicensing.**

The proposed legislative package would require that mandatory conditions imposed on a hydropower facility be reasonably related to the project's effects. The hydropower industry recognizes that dams can change and affect the river ecosystems they are part of and welcomes the opportunity to mitigate these effects. It is also proud of its environmental stewardship, as hydropower licensing often involves significant environmental enhancement. Hydropower facilities also contribute to local communities by providing clean, reliable electricity, adding to the job and tax base, and creating parks, trails, and other recreational opportunities such as fishing and boating at local reservoirs.

In NHA's experience, hydropower licensing and relicensing efforts can get bogged down by trying to determine the scope of federal and state agencies' existing authority to impose conditions on hydropower facilities. Clarifying that conditions must be reasonably related to the effects of a hydropower project will help focus the licensing process, reduce litigation, and avoid unnecessary delays. At the same time, this proposal ensures that the appropriate governmental authorities retain authority to impose conditions that are reasonably related to the hydropower project's effects and the ability to mitigate effects, if any, on the surrounding environment. This provision is a step forward for all parties in licensing.

**2) Two-year expedited licensing is appropriate when seeking to add renewable generation at existing, qualifying non-powered dams.**

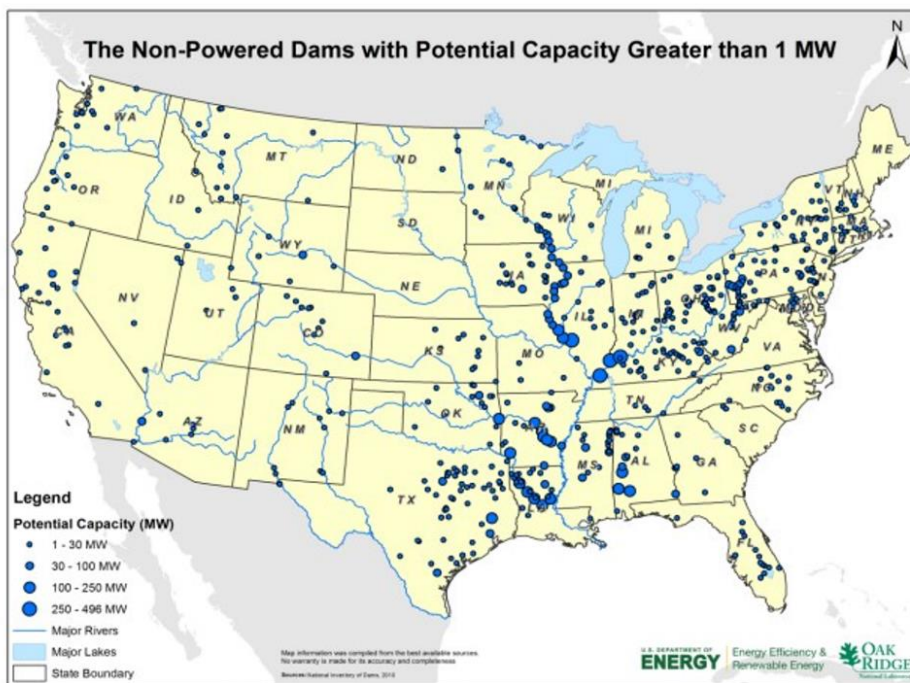
The DOE Oak Ridge National Laboratory report referenced above estimated that – in total – adding generation to existing non-powered dams could unlock 12 GW of new clean



energy generation.<sup>23</sup> Almost all the nation’s 90,000 dams were built for flood control, water storage, irrigation, navigation, or recreation. Less than 3% of these multi-purpose dams (roughly 2,200) are also used to generate emissions-free electricity. Better utilization of the nation’s existing non-powered dams can accelerate the transition to a clean electricity grid, while simultaneously improving environmental outcomes. Unfortunately, it takes nearly five years on average to license a non-powered dam with hydropower production,<sup>24</sup> with some projects nearly twice that length.

In the 2018 *America’s Water Infrastructure Act* (AWIA), Congress attempted to create a two-year process to retrofit non-powered dams with hydropower generation. However, in the four years since this new process was created, only one project developer has applied to use the provision and was

found to be ineligible. The two-year framework from AWIA is not working because it did not include pre-licensing activities (those process milestones and consultation requirements that must occur before a developer may file a license application and constitute a major portion of the licensing process). As a result, project developers who examined it have concluded that the



**Figure ES-1: Locations of the top non-powered dams with potential hydropower capacities greater than 1 MW**

<sup>23</sup> U.S. DOE, Oak Ridge National Labs, *An Assessment of Energy Potential at Non-Powered Dams in the United States*, April 2012, at viii, available at [www.osti.gov/biblio/1039957-assessment-energy-potential-non-powered-dams-united-states](http://www.osti.gov/biblio/1039957-assessment-energy-potential-non-powered-dams-united-states). A subsequent 2016 DOE Waterpower Technology Office study was more conservative, estimating 4.8 GW potential at nonpower dams by 2050. See U.S. Department of Energy, Waterpower Technology Office, *Hydropower Vision: A New Chapter for America’s First Renewable Electricity Resource*, Oct. 21, 2016, at p.1, available at [www.energy.gov/eere/water/downloads/hydropower-vision-report-full-report](http://www.energy.gov/eere/water/downloads/hydropower-vision-report-full-report).

<sup>24</sup> [An Examination of the Hydropower Licensing and Federal Authorization Process \(nrel.gov\)](http://www.nrel.gov) p. 56.



process would not significantly reduce the licensing timeframe that would otherwise be achieved using one of the existing licensing processes, particularly the integrated licensing process.

If enacted, our proposal would revisit the existing two-year process for licensing new hydropower production at existing dams by requiring a FERC licensing decision within two years after FERC determines that the project proposal meets the applicable environmental screening criteria (a process that takes just 90 days). This starts the clock much earlier in the process than the license application filing. Unlike earlier attempts to create a two-year process, this proposal *requires* FERC make a license decision within two years. To qualify for this expedited licensing process, retrofitting a dam with hydropower must not materially change the operations of the existing dam. When deciding whether a non-powered dam qualifies for this expedited process, FERC can consider whether environmental mitigations that would be a part of adding hydropower to a dam, like fish passage, would *help improve* the health of a river ecosystem the dam is part of. This is an important acknowledgement of how hydropower operations with environmental mitigations can make river conditions more suitable for fish than a dam without mitigations. By providing a clear set of criteria for whether a non-powered dam qualifies for an expedited licensing process, Congress can help developers select non-powered dams for retrofits that they know are more likely to qualify for this process.

### **3) Three-year expedited licensing process is appropriate for developing qualifying new closed-loop and off stream pumped storage projects.**

The United States needs to rapidly build out our energy storage capacity to effectively incorporate more variable energy resources into the electric grid. While much of the political discourse has focused on batteries, pumped storage is a proven source of energy storage that is often overlooked. Pumped storage facilities essentially serve as a “water battery” and can integrate a growing amount of variable wind and solar resources into the grid (which can charge the “water battery”) while maintaining grid stability and reliability.

Today, the United States has 43 existing pumped storage projects, with over 22.8 GW of storage capacity, representing 94% of all installed capacity of energy storage.<sup>25</sup> Pumped storage generates power the same way a traditional hydropower plant does, by using a turbine and

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<sup>25</sup> NHA's 2021 Pumped Storage Report, Sept. 22, 2021, at p. 4, available at [www.hydro.org/news/nha-unveils-new-2021-u-s-pumped-storage-hydropower-report](http://www.hydro.org/news/nha-unveils-new-2021-u-s-pumped-storage-hydropower-report)

generator to transform the kinetic energy of falling water into electricity, but with an added feature. When there is surplus electricity on the grid, pumped storage facilities pump water to the upper reservoir and store it for later use. That gives pumped storage the flexibility to inject power into the grid or to absorb it when needed. Both functions are becoming increasingly important for grid stability and reliability.

Unlike other forms of energy storage, pumped storage does not require mining large amounts of minerals in countries with poor environmental track records. Pumped storage developers have a proven track record of working with U.S. regulators to limit the ecological impacts of their projects.

Our proposal creates a new three-year licensing process for qualifying closed-loop pumped storage and off-stream pumped storage facilities. Closed-loop and off-stream pumped storage projects use two reservoirs that are not located within a stream. To qualify, facilities must not implicate the critical habitat of endangered or threatened species and be unlikely to involve complex environmental issues. When a pumped storage facility qualifies for this process, FERC is required to issue a license decision within three years. This is a vast improvement over the typical licensing process for pumped storage projects, which can take anywhere from 7 to 10 years.<sup>26</sup> This is also an improvement over the 2-year licensing process for pumped-storage Congress attempted to create in AWIA. The legislation only required that FERC make a licensing decision within two years after a fully developed license application was filed with FERC. While that was a good start, most of the licensing time occurs *before* an application is filed. The legislative package proposes to close this loophole by requiring a 3-year licensing process for closed-loop pumped storage projects, start to finish.

Today, there are over 90 pumped storage projects in some stage of development across 27 states, representing over 90 GW of new, long-duration storage, including 16 projects in the Northwest, 41 projects in the Southwest, 10 projects in the Northeast, and 12 projects in the Southeast. The three-year process for licensing new closed-loop and off stream pumped storage projects, along with the other reforms in the package, will help bring these projects to fruition, creating jobs in communities around the country, improving grid reliability, and enhancing our ability to dependably incorporate renewable energy resources into our power system.

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<sup>26</sup> [An Examination of the Hydropower Licensing and Federal Authorization Process \(nrel.gov\)](#) p. 56.

**4) Improving coordination between FERC and other federal, state, and tribal authorities with conditioning authority will promote a more efficient licensing process.**

Depending on the location and impacts, licensing or relicensing a hydropower facility may implicate 13 major federal statutes and five major federal agencies.<sup>27</sup> State resource agencies also have responsibilities in the hydropower licensing. No single agency has authority to coordinate the current hydropower licensing process. This means relicensing efforts can often get delayed when one agency fails to discharge its responsibilities in a timely manner.

If enacted, the license reform proposal will help ensure the coordinated and timely review of license applications. The proposal directs FERC to convene a technical conference at the beginning of every licensing and relicensing effort with all agencies that have responsibilities under existing law to attempt to establish a joint schedule for discharging their responsibilities and to analyze opportunities to coordinate studies required under law. Once a joint schedule and study plan is established, FERC is then directed to convene a technical conference to analyze and address what challenges may disrupt this schedule. This “belt and suspenders” process at the beginning of each licensing will create clear timelines and expectations for agencies to adhere to.

Because a wide range of agencies wield conditioning authority in hydropower licensing, another challenge faced by the industry is inconsistent or conflicting licensing terms. In existing hydropower licensing, FERC lacks authority to work with agencies that wield conditioning authority to resolve inconsistent or conflicting terms. This puts the impetus on hydropower operators to appeal the Commission’s decisions to the U.S. Courts of Appeals to resolve inconsistencies in their licenses. This package proposes to fix this issue by directing FERC to convene a technical conference to allow these conditioning agencies to work together in an attempt to resolve inconsistent or conflicting licensing conditions. By improving coordination between agencies with conditioning authority, these reforms will help minimize unnecessary administrative delays during hydropower licensing and relicensing process.

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<sup>27</sup> The statutes are: Federal Power Act, River and Harbors Act, U.S. Bureau of Reclamation Statutes; National Environmental Policy Act, Clean Water Act, Endangered Species Act, Fish and Wildlife Coordination Act, National Historic Preservation Act, Coastal Zone Management Act, Magnuson-Stevens Fishery Conservation and Management Act, Marine Mammal Protection Act, Pacific Northwest Planning and Conservation Act. The federal agencies include: FERC, Environmental Protection Agency, Department of the Interior (including U.S. Fish and Wildlife Services and the National Park Service), U.S. Forest Service, and the National Oceanic and Atmospheric Administration.

**5) Providing 4(e) conditioning authority to Tribes removes the Department of the Interior as an intermediary, reducing an administrative burden in hydropower licensing.**

Section 4(e) of the Federal Power Act gives the Secretary of the Interior authority to impose mandatory conditions in the licenses of hydropower facilities on Indian reservation land held in trust by the Department of the Interior. In theory, this authority is supposed to empower the Secretary of the Interior to act as a trustee and impose conditions that are in the best interests of the impacted tribe. In practice, the Secretary of Interior has not always wielded this power to protect the best interests of tribes.

In the experience of hydropower industry operators, providing mandatory conditioning authority to the Secretary of the Interior creates an inefficiency in the hydropower licensing process. Rather than having a seat at the negotiating table, Tribal Nations are forced to work through the Secretary of the Interior. This puts Tribal interests to the whim of bureaucrats in Washington while preventing Tribes and hydropower industry operators from working together to solve problems.

The joint legislative package would shift 4(e) mandatory conditioning authority for hydropower facilities on reservation lands from the Department of the Interior to the Tribal Nation where the project is located. This provision recognizes tribal sovereignty by entrusting Tribal Nations with the power to make mandatory conditioning decisions on their own lands. Like all conditions, those imposed by a tribe under 4(e) must be reasonably related to the effects of the hydropower project. By bringing tribes to the table at the start of licensing process, this provision removes the Department of the Interior as a middleman between tribes and hydropower operators and will reduce a friction point in the licensing process. We are confident this reform will contribute to a more efficient licensing process in the instances when hydropower facilities are on tribal lands.<sup>28</sup>

**6) Since hydropower licenses last 30-50 years, considering the changing climate is appropriate.**

Hydropower licenses may last from anywhere between 30 – 50 years. Given the length of these licenses, it makes sense for FERC to consider how changing environmental conditions may

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<sup>28</sup> The National Hydropower Association estimates 10 FERC licensed facilities will be affected by this provision.

affect hydropower operations. From industry's perspective considering the reasonably foreseeable effects of climate change in relicensing will only strengthen the importance of hydropower. As noted above, hydropower is a major source of clean energy generation. The most important thing we can do to mitigate climate change is reduce carbon emissions. By providing reliable, carbon-free energy, hydropower is an essential part of any climate solution. Hydropower has the added benefit of being a clean energy multiplier by helping grid operators incorporate more variable wind and solar energy resources into the electric system. In addition to providing clean energy, dams can help mitigate the effects of climate change by storing water for environmental, agricultural, and drinking purposes in areas where it is becoming increasingly scarce. Overall, we believe considering climate change in hydropower relicensing *improves* the case for our industry moving forward.

### **Conclusion**

Thank you for allowing me to testify before the Committee. I look forward to answering your questions and working with the Committee to advance this joint reform package.