AMERICAN PUBLIC POWER ASSOCIATION
Powering Strong Communities

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Hydropower

- Hydropower is a reliable, low-cost, non-emitting domestic source of electricity critical to the stability of the electric grid.
- The country cannot afford to lose existing hydropower capacity without impacting reliability and making it more difficult to achieve emission reduction goals.
- The American Public Power Association (APPA) strongly supports congressional action to cut the lengthen and duplicative processes for licensing and relicensing hydropower projects.
- APPA also supports legislation creating a tax credit to support upgrades at existing hydroelectric dams for qualified dam safety and environmental improvements.

Background

Hydropower makes up a large portion of the nation's source of emissions-free, renewable energy, accounting for 30 percent of domestic renewable generation and 6 percent of total electricity generation according to the most recent Energy Information Administration data from 2021. It is a reliable source of energy, being available most of the time, unlike some other renewable resources. Furthermore, hydroelectric generators can be started or stopped quickly, which makes them more responsive than most other energy sources for meeting demand for electricity at its "peak" or highest volume. These units also often have "black start" capability that makes them especially valuable in restoring power when there are widespread outages or disruptions on the system – this capability allows the generating units to cycle back on quickly if they have been tripped off in a power outage. Given these characteristics, hydropower plays a significant part in ensuring reliable, zero-emissions electric service at low-cost.

Most dams were built decades ago for purposes other than power generation, such as for flood control, crop irrigation, or storage of municipal water supplies. There is substantial potential for adding renewable electric generation to non-powered dams: only three percent of the country's over 80,000 dams currently have facilities that generate electricity. Analysts at the Oak Ridge National Laboratory found that 12,000 megawatts (MW) of new, emissions-free hydropower can be generated at non-powered dams throughout the country.[1] Also, there is the potential to dramatically increase the hydropower output in existing municipal, industrial, and agricultural water distribution conduits/canals in the U.S.[2] Other forms of hydropower can also be developed or further developed in the U.S. as well, including pumped storage, hydrokinetic turbines, tidal, and wave technologies.

The Licensing Process

The Federal Energy Regulatory Commission (FERC or Commission) is the primary federal agency responsible for the licensing and relicensing of non-federal hydroelectric projects. In issuing a license, FERC is required under the Federal Power Act (FPA) to give equal consideration to electric generation; fish and wildlife; water quality and supply; navigation; and recreation impacts of a project.

1 Hadjerioua, Boualem. 2012. An Assessment of Energy Potential at Non-Powered Dams in the United States. Report prepared for the U.S. Department of Energy Wind and Water Power Program. Oak Ridge National Laboratory. Retrieved from https://www.energy.gov/sites/prod/files/2013/12/f5/npd_report_0.pdf
2 2020 Energy Information Administration (EIA) data.

Resource agencies, such as the U.S. Fish and Wildlife Service, Bureau of Land Management, National Marine Fisheries Service, and others, play a significant role in the licensing process as well. These agencies can require mandatory conditions that must be met for the project to proceed, which FERC cannot reject regardless of cost, impact, or whether the condition is directly relevant to the project. In some cases, the economic impacts of these mandatory conditions have stopped the development of projects.

The current licensing process constitutes a significant impediment to the development of new hydropower facilities and the relicensing of existing facilities. This is especially true for small hydropower projects. While it is appropriate to consider the broad array of potential impacts of a hydropower project, FERC must be given more authority to weigh costs and benefits and to impose timelines for resource agencies to weigh in. Modernizing and streamlining the licensing process is urgently needed. Between now and 2030, 281 facilities representing nearly 14 gigawatts of hydropower generation and pumped storage capacity (roughly 30 percent of FERC hydropower licenses) are up for relicensing.[3] On average, relicensing a hydropower facility takes seven years and the paperwork costs $3.5 million, which does not include costs of new turbines, fishways, or dam safety.[4] The U.S. cannot afford to lose existing hydropower capacity without impacting grid reliability and making it more difficult to achieve emissions reduction goals.

In April 2022, the National Hydropower Association (NHA) and a number of tribal nations and environmental advocacy groups released a compromise package of proposals aimed at improving hydropower licensing, relicensing, and the license surrender process. The House Energy & Commerce Committee's Subcommittee on Energy held a hearing on the package in May 2022. While APPA appreciates the work put into identifying potential areas of compromise, the association views the hydropower licensing process as needing more robust reform along the lines of what is included in H.R. 1588, the Hydropower Clean Energy Future Act, proposed by Representative Cathy McMorris Rodgers (R-WA) in March 2021.

Congressional Action

The Infrastructure Investment and Jobs Act (IIJA)(P.L. 117-58), which was signed into law in November 2021, contains several important hydropower provisions in subtitle D supported by APPA:

- Hydroelectric Production Incentives – section 40331 authorizes $125 million for hydroelectric production incentives under section 242 of the Energy Policy Act of 2005 (42 U.S.C. 15881) and raises the payment limit per facility from $750,000 to $1 million.[5]
- Hydroelectric Efficiency Improvement Incentives – section 40332 authorizes $75 million for hydroelectric efficiency improvement incentives under section 243 of the Energy Policy Act of 2005 (42 U.S.C. 15882) and raises the payment limit per facility from $750,000 to $5 million.
- Maintaining and Enhancing Hydroelectricity Incentives – section Sec. 40333 creates a new grant program (section 247 of the Energy Policy Act of 2005) that authorizes $553 million in funding to make incentive payments to the owners or operators of qualified hydroelectric facilities for capital improvements directly related to supporting grid resiliency, improving dam safety, and environmental enhancements. Incentive payments are limited to 30 percent of the cost of the capital improvement and only one incentive payment of no more than $5 million can be made to a single qualified project per year.

In June 2021, Senators Maria Cantwell (D-WA) and Lisa Murkowski (R-AK) introduced S. 2306, the Maintaining and Enhancing Hydroelectric and River Restoration Act of 2021. The bill would create a 30 percent tax credit to support upgrades at existing hydroelectric dams for qualified dam safety, environmental, and grid resilience improvements. Notably, this credit would be available as a direct payment to public power utilities. The bill would also create a 30 percent tax credit for the removal of obsolete river obstructions (powered and non-powered). The dam removal provisions do not apply to federal hydropower and must be done with the consent of the dam owner. APPA strongly supports S. 2306.

3 Pacific Northwest National Lab: An Examination of the Hydropower Licensing and Federal Authorization Process (2021).
4 Oak Ridge National Lab: Costs of Mitigating the Environmental Impacts of Hydropower Projects in the United States (2020).
5 Sections 242 and 243 of the Energy Policy Act of 2005 created two DOE programs that encourage utilizing existing dams for power generation: Section 242 created a hydropower production incentive program to spur new development on existing infrastructure (non-powered dams and conduits) and section 243 created a program to encourage efficiency improvements at existing hydropower facilities. Section 243 never received any appropriations and section 242, although originally authorized in 2005, did not receive appropriations until 2014. Both programs were reauthorized through FY 2036 in section 2005 of the Energy Act of 2020, which passed as part of the Consolidated Appropriations Act of 2020.

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The American Public Power Association is the voice of not-for-profit, community-owned utilities that power 2,000 towns and cities nationwide. We represent public power before the federal government and protect the interests of the more than 49 million people that public power utilities serve and the 96,000 people they employ.