



December 3rd, 2019

Kimberly Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

RE: Comments of the National Hydropower Association (NHA) in response to the Federal Energy Regulatory Commission's (the Commission) Notice of Proposed Rulemaking (NOPR) regarding *Implementation Issues Under the Public Utility Regulatory Policies Act*, Docket Nos. RM19-15-000 and AD16-16-000.

NHA represents 66,000 American workers at more than 240 companies, from Fortune 500 corporations to family-owned small businesses. Our diverse membership includes public and investor-owned utilities, independent power producers, developers, equipment manufacturers, and other service providers. The proposals in the NOPR will affect our members, especially the utilities and project developers. Therefore, NHA has a direct and substantial interest in this proceeding which cannot be adequately represented by any other party.

Introduction:

The Public Utility Regulatory Policies Act (PURPA) plays an important role in the history of hydropower development in the United States. Passed in 1978, PURPA explicitly recognizes the value of small hydropower to both energy independence and a clean electric grid. Fast forward to 2019 and PURPA continues to be a critical statute to the hydropower industry. While PURPA has successfully led to the financing and construction of scores of small hydropower projects the last few decades, use of PURPA by technologies other than hydropower has, in some cases, raised serious concerns with electric utilities. As such, the comments put forth from NHA, the leading voice of the hydropower industry, including both developers and utilities, should be taken into full consideration by the Commission.

When promulgating the Final Rule, NHA requests the Commission consider the differences between hydropower Qualifying Facilities (QFs) compared to other renewable resources, both in regards to available public policy incentives and governing statutes. PURPA is a uniquely important program for small hydropower development because hydropower is either ineligible or does not benefit from the billion-dollar public policies available for the development of other renewable resources. In addition, new hydropower projects, similar to cogeneration, are required by statute to be "best adapted" for comprehensive use of a waterway, of which electrical generation is only one of many different uses. Therefore, NHA requests the Commission retain the 20 MW rebuttable presumption for hydropower QFs, as the Commission has proposed for cogeneration, because it will give states the flexibility to determine whether or not hydropower projects 20 MW or less have access to competitive markets.

Comments on the “Background” Section of NOPR:

To the extent that recent growth and available public policy incentives are a justification to reform PURPA, NHA requests the Commission consider the differences between the growth rate and incentives available to hydropower as compared to other renewables.

One of the intentions of PURPA is to “provide for the expeditious development of hydroelectric potential at existing small dams.”¹ The hydropower industry continues to fulfill this goal in a responsible manner and is not the reason why many stakeholders want PURPA reform, but we are currently caught in the cross hairs of the NOPR. Clarifying some of the arguments in the Commission’s “Background” section of the NOPR helps to illustrate this critical point.

The Commission points out that the “renewables industry has grown and matured over the past 40 years” and that benefits from “federal tax credits and from state-mandated renewable portfolio standards” may justify the need to reform PURPA, as renewable resources may no longer require the benefits provided by PURPA.²

First, the growth rate of the hydropower industry is significantly lower than the growth rate of other renewables. Second, the value hydropower receives from federal tax credits and state RPS mandates pales in comparison to the value other renewable resources receive. As a result, small hydropower developers continue to rely on PURPA to finance and construct their projects. In fact, the majority of recent and expected growth in new hydropower projects is attributable to PURPA eligible projects at non-powered dams and conduits.

From 2006 to 2016, total hydropower growth was 2,030 MW, with 1,435 MW (70%) coming from refurbishments and upgrades.³ The vast majority of new hydropower projects were the 113 projects built on non-powered dams (40) or existing conduits (73), many of which are under 20 MW and relied on PURPA to finance construction.

Annually, the hydropower industry grew by 0.4% from 2006 to 2016, while other technologies grew by nearly 32% per year throughout the same timeframe. Much of this growth disparity is attributable to the different treatment hydropower receives in the federal and state policies mentioned by the Commission:

¹ FERC “What is a Qualifying Facility?” Available at: <https://www.ferc.gov/industries/electric/gen-info/qual-fac/what-is.asp>

² FERC Notice of Proposed Rulemaking September 19, 2019: “Implementation Issues Under the Public Utility Regulatory Policies Act of 1978” (Pages 14-15). Available at: <https://www.ferc.gov/whats-new/comm-meet/2019/091919/E-1.pdf>

³ DOE 2017 Hydropower Market Report Executive Summary (April 2018). Available at: <https://www.energy.gov/sites/prod/files/2018/04/f51/Hydropower%20Market%20Report%20-%20Executive%20Summary.pdf>

Federal Tax Credits: Of the \$19.9 billion in direct tax expenditures on renewable resources from 2010 to 2016, less than 0.5% was spent on hydropower.⁴ The EIA estimates that the leveled cost of electricity for hydropower is cheaper than other renewables absent tax credits, but relatively more expensive once tax credits are factored in.⁵

State Renewable Portfolio Standards (RPS): There is a \$1.5 billion disparity between how hydropower and other renewables are valued under state RPS programs.⁶ Hydropower is ineligible for tier one RECs in many states. In other states, only a subcategory of hydropower projects qualify for RECs, with the threshold typically set to less than 5 MW, 10MW, or 30 MW.

Bloomberg's 2018 Sustainable Energy Outlook makes the same finding:

"Total renewable capacity has nearly doubled since 2008, reaching 239GW in 2017 (excluding pumped hydro). Nearly all the growth has come from wind and solar, which together jumped 471% during that period while other technologies held flat, in part due to weaker tax policy support. Wind and solar have also benefited from state-level renewable portfolio standards (RPS)."⁷

Looking forward, hydropower development at non-powered dams and conduits is an industry with extraordinary potential. Similar to in 1978 when Congress passed PURPA to "provide for the expeditious development of hydroelectric potential at existing small dams," in 2018, Congress passed the America's Water Infrastructure Act (AWIA), to establish an "expedited processes for issuing and amending licenses for qualifying facilities at existing non-powered dams." The Commission promulgated a Final Rule on April 18, 2019 implementing AWIA and created the "Expedited Licensing Process" for adding power to non-powered dams.⁸ In addition, on October 17, 2019 the Commission published a list of "Nonpowered Federal Dams with Potential for Non-federal Hydropower Development," which includes 175 federally owned non-powered dams with power potential under 20 MW.⁹ Further, the potential for conduit projects, especially in the West where there is vast irrigation water infrastructure, but often no access to RTO/ISO markets, is significant. These types of projects provide benefits to a wide range of stakeholders.

⁴ EIA "Direct Federal Financial Interventions and Subsidies in Energy in Fiscal Year 2016" April, 2018. Available at: <https://www.eia.gov/analysis/requests/subsidy/pdf/subsidy.pdf>

⁵ EIA "Levelized Cost and Levelized Avoided Cost of New Generation Resources in the Annual Energy Outlook 2019" (February, 2019). Available at: https://www.eia.gov/outlooks/aeo/pdf/electricity_generation.pdf

⁶ The Brattle Group "Recognizing the Environmental Value of Hydropower" (December 2017).

⁷ Bloomberg 2018 Sustainable Energy Outlook. Available at: <https://about.bnef.com/blog/sustainable-energy-america-factbook-2018/>

⁸ FERC News Release: "FERC Finalizes Expedited Hydro Licensing Process" (April 18, 2019). Available at: <https://www.ferc.gov/media/news-releases/2019/2019-2/04-18-19-H-1.asp#.XeVnyFdKiU>

⁹ The Commission's Notice "NONPOWERED FEDERAL DAMS WITH POTENTIAL FOR NON-FEDERAL HYDROPOWER DEVELOPMENT" (October 19, 2019). Available at: <https://www.ferc.gov/industries/hydropower/gen-info/guidelines/10-17-19-notice.pdf>

The DOE estimates that there is 4.8 GW of hydropower potential at existing non-powered dams in the United States.¹⁰ Absent tax parity and equal treatment under state RPS programs, PURPA is and will continue to be a uniquely critical statute for the development of hydropower on existing infrastructure.

To the extent that recent growth and available public policy incentives are a justification to reform PURPA, NHA requests the Commission consider the differences between the growth rate and incentives available to hydropower as compared to other renewables.

Table 2. Measures of electricity net generation and growth (FY 2000 versus FY 2016)

Beneficiary	2000 Net Generation (billion kilowatt-hours)	2016 Net Generation (billion kilowatt-hours)	Share of 2000 Generation (percent)	Share of 2016 Generation (percent)	Annual Growth from 2000 to 2016 (percent)
Coal	1,931	1,208	51.4	29.6	(2.9)
Natural Gas and Petroleum Liquids	684	1,431	18.2	35.1	4.7
Nuclear	765	799	20.4	19.6	0.3
Other	13	21	0.3	0.5	3.1
Renewables	365	618	9.7	15.2	3.3
Biomass	59	63	1.6	1.5	0.4
Geothermal	15	16	0.4	0.4	0.5
Hydroelectric	286	268	7.6	6.6	(0.4)
Solar	1	51	0.0	1.2	31.8
Wind	5	220	0.1	5.4	26.3
Total	3,759	4,077	100.0	100.0	0.5

Notes: Totals may not equal sum of components due to independent rounding. A table value in brackets () denotes a negative value. Zero denotes rounding to zero value. *Other* includes net generation from hydroelectric pumped storage, other gases, batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, and miscellaneous technologies. *Biomass* includes net generation from wood and waste. *Solar* includes distributed (small-scale) generation and utility-scale generation.

Sources: U.S. Energy Information Administration, *Monthly Energy Review*, February 2018, Table 10.6 (solar) and Table 7.2a (all other).

Comments on Proposed Reforms to a Utilities’ Obligation to Purchase:

NHA requests the Commission retain the 20 MW rebuttable presumption for hydropower QFs because hydropower, similar to cogeneration, is required by statute to be constructed for purposes beyond simply power generation.

NHA requests the Commission retain the 20 MW rebuttable presumption for hydropower qualifying facilities because hydropower, similar to cogeneration, is required by statute and enforced by the Commission to be “best adapted” for comprehensive use of a waterway, of which power generation is just one of many different and competing uses.

¹⁰ DOE Hydropower Vision Report (2016). Available here: <https://www.energy.gov/eere/water/downloads/hydropower-vision-report-full-report>

The Commission proposes to maintain the 20 MW rebuttable presumption for cogeneration, because cogeneration is “statutorily required to show that they are intended primarily to provide heat for an industrial, commercial, residential or institutional process rather than fundamentally for sale to an electric utility” and as a result “might not be as familiar with energy markets and the technical requirements for such sales.” The same is true for hydropower QFs.

The Federal Power Act (FPA) is the primary statute governing hydropower facilities and it requires developers to show that the hydropower project is “best adapted” for multiple uses, including irrigation, flood control, navigation, recreation, environmental restoration, wildlife preservation, and power generation.

Section 10(a) of the FPA states that a hydroelectric facility must be:

“best adapted to a comprehensive plan for improving or developing a waterway or waterways for the use or benefit of interstate or foreign commerce, for the improvement and utilization of water-power development, for the adequate protection, mitigation, and enhancement of fish and wildlife (including related spawning grounds and habitat), and for other beneficial public uses, including irrigation, flood control, water supply, and recreational and other purposes.”¹¹

The Commission also makes this clear in the Commission’s “Hydropower Primer” which states:

“Section 10(a)(1), often referred to as the comprehensive development requirement of the FPA, states that any project licensed must be, in the judgment of the Commission, best adapted to a comprehensive plan for improving or developing a waterway or waterways for the benefit of multiple public uses. In conjunction with section 4(e), it sets forth the matters the Commission must consider in reviewing a license application. Equal consideration must be given to power development, energy conservation, fish and wildlife, recreation, other aspects of environmental quality, and other beneficial uses (irrigation, flood control, water supply).”¹²

In addition, unlike other small power production facilities, which are built solely for the production and sale of electricity, a non-powered dam or a conduit is by definition existing infrastructure that is not currently used for power generation. For the owners of these projects, whether irrigation districts out west or an Army Corps lock and dam in the Midwest, the water on site is used for purposes other than power generation. However, similar to cogeneration, there is potential energy to be harvested by adding generation technology to the non-powered dam or conduit to capture what otherwise would be wasted energy. Even once hydropower generation has been added to a non-powered dam or conduit, the projects typically operate in the exact same manner as they did prior to adding power generation, which confirms that power generation is a secondary use of the project as a whole. For example: once

¹¹ 16 U.S. Code § 803.

¹² FERC “Hydropower Primer: A Handbook of Hydropower Basics” (February 2017). Available at: <https://www.ferc.gov/legal/staff-reports/2017/hydropower-primer.pdf>

power generation is added to a lock and dam, the water on site must be managed as it was prior to the addition of power generation: for the purposes of irrigation, flood control, or other uses. Only once those needs have been satisfied can the project be used to generate power.

Therefore, similar to cogeneration, the owners and developers of these projects may not “be as familiar with energy markets and the technical requirements for such sales” since their primary duties are to irrigation, flood control, or other uses. NHA is concerned that unilaterally requiring hydropower projects between 1 – 20 MW to access the complicated pricing mechanisms of RTOs/ISOs, the Mid-Columbia (Mid-C) and Palo Verde hubs, or “prices determined by a formula based on natural gas price indices and a specified proxy heat rate for an efficient natural gas combined-cycle generating facility (Combined Cycle Prices)” as suggested by the Commission in the NOPR, will be disproportionately more burdensome for hydropower developers than for other renewable resources because of the different uses of the project. To add to the complexity of a new hydropower project by unilaterally requiring developers to access the price formation mechanisms proposed by the Commission would be a significant barrier to the development of hydropower at non-powered dams and conduits.

Instead, similar to how the Commission proposes to retain the 20 MW rebuttable presumption for cogeneration, NHA requests the Commission retain the 20 MW rebuttable presumption for hydropower. This will give states the flexibility to determine whether or not hydropower QFs have competitive access to markets. As the Department of Energy’s graph below shows, there is tremendous potential for hydropower development at non-powered dams above 1 MW. Giving states the flexibility to retain the 20 MW rebuttable presumption for hydropower will increase the chances that they are developed.

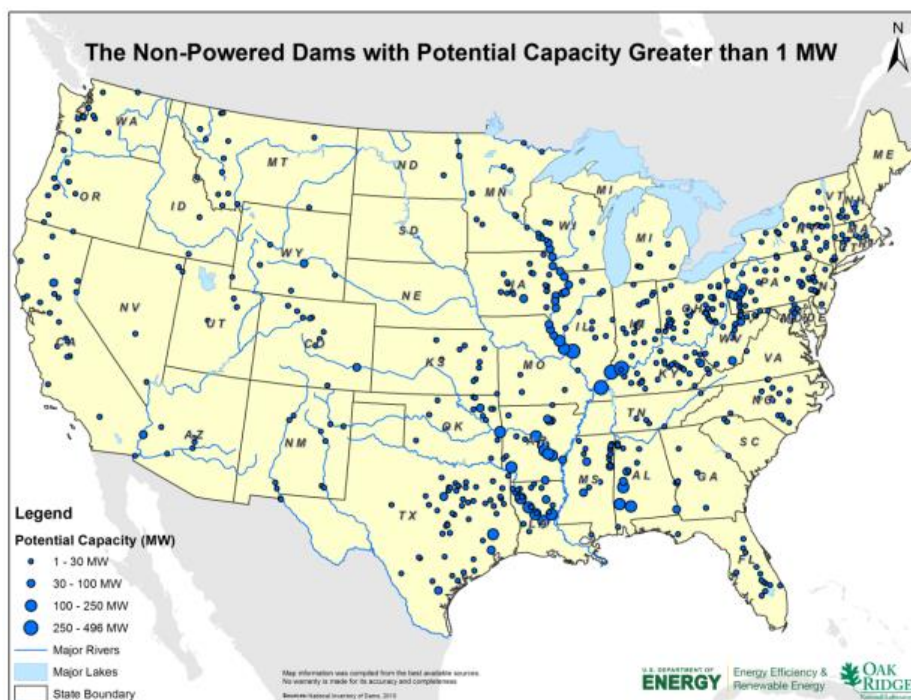


Figure ES-1: Locations of the top non-powered dams with potential hydropower capacities greater than 1 MW

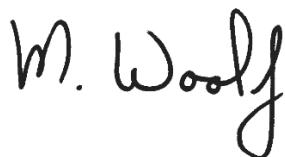
Conclusion:

NHA requests the Commission retain the 20 MW rebuttable presumption for hydropower qualifying facilities because,

1. Hydropower growth and available incentives are significantly lower than other renewables,
2. Hydropower is statutorily required to be built for purposes other than power generation,
3. The hydropower industry, including utilities and developers, agree that hydropower use of PURPA is not the driving force behind the need to reform PURPA.

Utilities would still be able to petition their state PUCs for relief from the 20 MW rebuttable presumption for hydropower, but it will give the hydropower industry the opportunity to make our case one more time in front of state PUCs. Absent this reform to the NOPR, NHA is concerned that the NOPR will significantly impair development of the primary source of new hydropower projects in the United States.

Sincerely,



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