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November 9, 2022

Ms. Holly Porter
Associate Chief Counsel (Passthroughs and Special Industries)
U.S. Internal Revenue Service
CC:PA:LPD:PR (Notice 2022-51)
Room 5203, P.O. Box 7604, Ben Franklin Station
Washington, DC 20044

Re: Comments of the National Hydropower Association on Prevailing Wage, Apprenticeship, Domestic Content, and Energy Communities Requirements Under the Act Commonly Known as the Inflation Reduction Act of 2022 (Notice 2022-51)

Dear Ms. Porter:

The National Hydropower Association ("NHA") is a non-profit national association dedicated to securing hydropower as a clean, carbon-free, renewable, and reliable energy source that provides power to an estimated 30 million Americans. Its membership consists of more than 300 organizations, including public and investor-owned utilities, independent power producers, equipment manufacturers, and professional organizations that provide legal, environmental, and engineering services to the hydropower industry.

NHA promotes innovation and investment in all waterpower technologies, including conventional hydropower, marine and hydrokinetic power systems, and pumped storage hydropower to integrate other clean power sources, such as wind and solar. NHA appreciates the opportunity to submit the following comments in response to this notice.

Background on Hydropower

NHA's members own and roughly 85% of the U.S. hydropower generating capacity, which includes over 100 Gigawatts ("GW") of hydropower and pumped storage capacity.

The nation's existing hydropower infrastructure, combined with new project deployment opportunities, are critical resources for achieving the Administration's climate policy goals that underly the Inflation Reduction Act's[1] ("IRA") clean energy tax package. Hydropower is a clean, flexible, and reliable energy source that supports an estimated 72,000 well-paying jobs in the United States.[2] The sector also generates more than 6 percent of the country's utility-scale

[1] Public Law 117-169, 136 Stat. 1818 (August 16, 2022).
[2] U.S. Department of Energy, U.S. Hydropower Workforce: Challenges and Opportunities (October 2022). https://www.energy.gov/eere/water/articles/new-report-highlights-hydropower-industrys-demand-new-diverse-talent

electricity and nearly one third of all utility-scale renewable power. In addition, pumped storage, which is a long duration energy storage asset, provides over 90 percent of energy storage on the grid.

Approximately one-third (281) of U.S. Federal Energy Regulatory Commission ("FERC") hydropower operating licenses are scheduled to expire by 2030 and almost half by 2035 (459).[3] These 459 licenses include over 9,000 megawatts of hydropower capacity, which translates into 22 million metric tons of carbon dioxide emissions avoided per year, electricity for 4.8 million homes and avoiding the emissions of nearly 5 million cars annually.[4] The licenses also include nearly 8,400 megawatts of pumped storage capacity, which accounts for 38 percent of the nation's total energy storage capacity, which is 400 percent more energy storage capacity than that of all battery installations constructed from 2010 to 2020.[5]

The hydropower provisions under the IRA clean energy tax package are critical to supporting these existing hydropower resources. Many hydropower assets, particularly smaller projects, are struggling to remain economic, with some projects considering decommissioning. They are unable to compete with other renewable resources that receive more favorable treatment (e.g., under state renewable portfolio standards ("RPS")) and are not always valued and fully compensated in the regional markets for the grid services they provide. The loss of any renewable generation only sets back the goal of the IRA to increase renewable deployment and reduce carbon emissions. As such, implementation of the hydropower provisions is key for the industry and the nation's decarbonization goals.

NHA also wants to emphasize that there is significant growth opportunity that remains in the hydropower industry. It is a myth that hydropower is an industry that is "tapped out." For example, for pumped storage alone, there are over 50,000 MW of proposed projects at FERC. Other development opportunities include capacity additions and efficiency improvements at existing facilities, adding generation to non-powered dams, new greenfield small hydropower projects, as well as marine energy projects. The transition from technology-specific tax credits to the technology-neutral clean energy credits should support additional project deployments across the hydropower sector, some of which are not currently eligible under the existing language of the hydropower tax credits. For these reasons, NHA encourages the IRS to implement the clean energy credits as broadly as possible to be consistent with congressional intent, and that technologies and facilities are not unintentionally excluded.

It is important for the IRS to note that hydropower and pumped storage projects are unique among renewable technologies because they are inherently intertwined with local geographic features, and as such, may require different considerations under any guidance or rules to realize the full growth potential. For example, hydropower projects involve highly customized,

[3] National Hydropower Association, *17 GWs of Hydropower at Risk* Fact Sheet.
[4] *Id.*
[5] *Id.*

engineering-intensive manufacturing built to maximize local conditions. Each hydropower project is unique in how it is sited, constructed, and operated, which is different from other technologies that utilize more "off-the shelf" equipment.

Finally, the IRA's clean energy tax package represents the largest investment by the U.S. to support the development of hydropower and other renewable projects, which will also support growth in the associated supply chains. To meet the promise though, the hydropower industry needs further guidance and regulations that are simple and clear and provide as much certainty and predictability as possible, as soon as possible.

The National Hydropower Association (NHA) submits the following comments on Prevailing Wage, Apprenticeship, Domestic Content, and Energy Communities Requirements Under the Act Commonly Known as the Inflation Reduction Act of 2022 ("IRA").[6]

1. Prevailing Wage Requirement

NHA's members source employees and apprentices from the surrounding regions where possible. Employees that work in the Hydropower industry tend to be specialized, well-paid, and well-trained. NHA requests that the IRS act deliberately and within the constructs of the Administrative Procedures Act ("APA"). The APA's noticing requirements will give companies the time to react to new Prevailing Wage requirements, so they have a best opportunity to utilize the step up in credits available to them in the IRA.

2. Domestic Content Bonus

The IRA provides for a 10% bonus based on meeting domestic content requirement for manufactured products. As stated above, the IRA is meant to unlock the potential growth in locally sourced clean electricity production and support the US manufacturing sector. The right set of policy changes can assist bringing more of the hydropower supply chain back to the United States.

2.1 The hydropower supply chain

The US hydroelectric power equipment manufacturing sector is poised to meet the demands and increase our nation's energy security. However, structural changes are required. Over the last 50 years, this manufacturing sector has followed the national trend of moving manufacturing overseas. Currently, most of the hydropower supply chain relies on imports. Certain countries also have extensive hydroengineering expertise to support these production capabilities. Due to the supply chain tensions exacerbated by the Coronavirus Pandemic and the Russian invasion in Ukraine, the IRA is a timely piece of legislation that could assist in expanding the hydropower supply chain in the United States.

Since each hydropower facility is unique, the equipment is customized for that facility. The

[6] Internal Revenue Service. (2022). Prevailing Wage, Apprenticeship, Domestic Content, and Energy Communities Requirements Under the Act Commonly Known as the Inflation Reduction Act of 2022 (Notice 2022-51).

asset owner typically owns all the civil infrastructure such as the dams and spillways in addition to all the power generating equipment (i.e., turbine/auxiliaries, generator, electrical balance of plant, etc.). Anecdotally, NHA members have indicated that the general cost breakdown for power generating equipment for a project is:

Turbine and Auxiliaries:	40%
Generator:	25%
Electrical Balance of Plant:	25%
Embedded Parts:	10%

To reiterate, these costs are in addition to other costs borne by asset owners (such as initial construction and ongoing maintenance and repair of the dam, spillways, floodgates, penstocks, tunnels, etc.). NHA would suggest to IRS that the IRA is meant to be inclusive of these investments and costs asset owners take on to operate safely. In addition, NHA also suggests that all the on-site assembly and fabrication activities be included in the domestic content determination as these are an inherent part of the hydropower manufacturing process. As stated in a report published by the Department of Energy entitled Hydropower Industry Supply Chain Deep Dive Assessment ("DOE Supply Chain Assessment"), much of the civil infrastructure investments are met by companies in the United States.[7]

The DOE Supply Chain Assessment, as one data point, provides other findings where there are opportunities for expanding domestic manufacturing:

- Turbines. Castings and Runners—For US-based production companies, it is difficult to procure large (>10 tons) steel castings/forgings for runners and other components from domestic foundries.
- Generators. Generator components are manufactured by partnering companies or subcontractors abroad, i.e., windings for large unit generators (>10 MW) are very difficult to procure domestically or at a cost which makes projects not competitive; even smaller U.S. made generators are not competitive with what is being used in the market.
- Suppliers/Consolidation. Ongoing consolidation in the turbine manufacturing industry has resulted in decreased supplier diversity.
- Electronics Shortages. Shortage of material/components for electronics (microchips and digital components, primarily produced in Asia), has affected multiple hydropower subcomponents.
- Long Lead Times. Some non-hydropower specific components that are nonetheless critical to plant operations come with risky supply chains, e.g., step-up transformers have long lead times (1–2 years) with few options for domestic sourcing.

[7] U.S. Department of Energy. Hydropower Supply Chain Deep Dive Assessment (February 24, 2022). https://www.energy.gov/sites/default/files/2022-02/Hydropower Supply Chain Report - Final.pdf

Existing conditions indicate that US hydro facilities' developers and owners currently have hurdles to clear in sourcing its equipment domestically. However, the DOE Supply Chain Assessment discusses that manufacturers are looking for ways to increase their domestic production.[8]

To assist in the transition to a stronger US-based supply chain without delaying the near-term development and growth of the American hydroelectric sector, NHA and its members request that the IRS' implementing guidance and regulations for the IRA be clear and predictable. Asset owners (i.e., generators) and developers will need to prepare and work closely with their suppliers to take advantage of this bonus. As such, suppliers and manufacturers need clear guidance to respond.

2.2 New construction considerations for domestic content bonus

As stated in NHA's response to Notice 2022-49,[9] NHA believes that the FERC license is useful. The contours of the FERC license define the project description. Each project is unique and is subject to FERC oversight. The IRS could also utilize the FERC license when determining what portion of the energy property is able to benefit from the domestic content bonus, and by extension the tax credits generally. FERC licensees receive an "Authorization to Begin Construction." NHA suggests that is the right metric for hydropower owners to begin receiving credits.

2.3 Section 45 qualified facilities that make an election under Section 48(a)(5) to claim the ITC are eligible for the domestic content bonus credit

As stated above, there is incredible interest to expand domestically sourced hydropower components. There are also tens of thousands of nonpowered dams ("NPD"), currently operating dams that have the option to add incremental capacity, and increasing interest in developing marine and hydrokinetic projects. The IRS should confirm that these incremental hydropower resources that qualify under Section 45 that elect Section 48(a)(5) treatment to claim the ITC are eligible for the domestic content bonus credit. Congress has made it clear that the spirt of the IRA is to provide incentives for numerous fuel types to domestically source and generate clean power. Clarifying this treatment in guidance would be very beneficial to the hydropower industry and the renewable industry writ large.

2.4 Steel, iron, and manufactured products considerations for hydropower

To qualify for the domestic content bonus, the taxpayer must certify that any steel, iron, or any manufactured product that is a *component* of the facility was produced in the United States. NHA interprets this provision as referring to steel, iron, and manufactured components of the facility as those needed for the structural and/or load bearing (such as rebar used to reinforce concrete). This requirement, however, does *not* apply to steel or iron that are subcomponents or

[8] Id at p. 43.
[9] Internal Revenue Service. (2022). Request for Comments on Certain Energy Generation Incentives (Notice 2022-49).

components of manufactured products. NHA requests the IRS confirm in guidance the above reading of the IRA.

Manufactured products are subject to the adjusted percentage language in the IRA. One such example would be the gates that control the flow of water into the penstocks and tunnels, spillways, and outlets. Although not load-bearing, gates are important to the safe operation of the facility. The guidance should confirm that, in the example of the gates, the hydraulic hoisting systems, mechanical rope, or chain hoists that are made of steel or iron are non-structural in nature and/or subcomponents of manufactured products and therefore are not subject to any steel or iron requirements. This guidance should also expand to more typical items such as nuts, bolts, screws, flanges, etc. are not subject to any steel or iron requirements.

Finally, NHA understands that the adjusted percentage of all manufactured components of American origin compares to the all-in costs of manufactured components from US or foreign suppliers. NHA argues that the IRA does not require allocating costs at the component or subcomponent level but on the basis of the manufactured products that are a component of the whole facility. NHA requests that this reading be confirmed in guidance.

3. Energy Community Requirement

The IRA offers up to an additional 10 percent bonus if a project is in an Energy Community. Loosely speaking, these communities have been impacted by brownfield sites or significant impacts from loss of fossil fuel investments that have impacted the economic and tax base of those communities. For new generators to take advantage of this credit they must be cited in or near these communities.

3.1 Dams could exist between census tracts

NHA would like to point to a unique issue for the hydropower industry. There are approximately 80,000 dams in the United States and approximately 3% generate electricity.[10] This means that there is large, untapped resource of clean power by powering NPDs. Since census tracts are often be separated by streams and rivers, an NPD could exist *between* census tracts because they're separated by a water body. If one of those census tracts is *adjacent* to an energy community, it would make sense under the spirit of the IRA for investments into that NPD to count for the purposes of the Energy Community bonus. NHA requests that the IRS provide guidance for NPDs that could be located on the edges or in between census tracts.

3.2 Considerations for marine technologies

Just as NPDs can exist between and on the edges of census tracts, marine technologies can as well. Marine energy technologies are defined as those that are powered by currents, tides, and

[10] National Hydropower Association, *Converting Non-Powered Dams.* https://www.hydro.org/waterpower/converting-non-powered-dams/

waves.[11] Like NPDs, riverine technologies can exist between census tracts while ocean/wave/tidal resources can exist on the edge. Although a developing industry, a recent DOE study analyzed the technical and theoretical potential of marine energy in the United States.[12] The report found that there is a technical potential of upwards of 2,300 Terawatt-hours of potential for marine energy (approximately 57% of electricity generated in the United States in 2019).[13] NHA requests that the IRS provide guidance for resources located in our oceans or other waterbodies that may not be located in a specific census tract.

Thank you very much for considering these comments. NHA would welcome the opportunity to discuss these issues further with IRS.

Sincerely,

/s/ Michael Purdie

Michael Purdie
Director of Regulatory Affairs and Markets

[11] Marine energy is defined in the Energy Act of 2020 as energy from waves, tides, ocean currents, free-flowing rivers and man-made channels, as well as from differentials in salinity, temperature, and pressure.
[12] U.S. Department of Energy. Marine Energy in the United States: An Overview of Opportunities (February 2021). https://www.energy.gov/sites/prod/files/2021/02/f82/78773_3.pdf.
[13] Id. at vii.