



September 6, 2022

**RE: Comments of the National Hydropower Association on the Request for Information #DE-FOA-0002762 on the Hydroelectric Incentives Programs**

The National Hydropower Association<sup>1, 2</sup> (NHA), Edison Electric Institute<sup>3,4</sup> (EEI), and American Public Power Association<sup>5,6</sup> (APPA) (collectively, “Associations”) appreciate this opportunity to respond to the Department of Energy (DOE) Grid Deployment Office (GDO) Request for Information (RFI) issued on June 30, 2022 on the Energy Policy Act of 2005 Sections 243 and 247 hydroelectric incentive programs (*Infrastructure Investment and Jobs Act* (IIJA) Sections 40332 and 40333). Also, we want to commend the consistent and sustained outreach to the industry at large by the staff of DOE’s GDO and the Water Power Technologies Office (WPTO) as implementation of incentives programs has begun. This comment is the byproduct of a collaboration by companies representing all sectors of the hydropower industry – investor-

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<sup>1</sup> NHA is the national non-profit trade association dedicated to advancing the interests of the U.S. hydropower industry, including conventional hydropower, 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 sustainable, clean, and secure electricity system in North America.

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<sup>3</sup> EEI is the association that represents all investor-owned electric companies in the United States. Our members provide electricity for more than 235 million Americans and operate in all fifty states and the District of Columbia. As a whole, the electric power industry supports more than seven million jobs in communities across the United States. EEI members are united in their commitment to get the energy they provide as clean as they can, as fast as they can, while keeping reliability and affordability front and center, as always, for the customers and communities they serve.

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<sup>5</sup> The American Public Power Association is the voice of not-for-profit, community-owned utilities that power 2,000 towns and cities nationwide. APPA represents public power before the federal government to protect the interests of the more than 49 million people that public power utilities serve, and the 96,000 people they employ. APPA advocates and advises on electricity policy, technology, trends, training, and operations.

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owned utilities, public power and rural cooperatives, independent power producers, project developers, equipment suppliers, and environmental, engineering, and legal consultants.

As the DOE noted in its 2016 Hydropower Vision report, “existing U.S. hydropower facilities have high value within the U.S. energy sector, providing low-cost, low-carbon, renewable energy as well as flexible grid support services.”<sup>7</sup> The Associations agree and believe existing hydropower has a significant role to play in achieving President Biden’s goals to reach 100 percent clean electricity by 2035 and net-zero emissions by 2050.

But as the Hydropower Vision report also notes, hydropower projects are some of the oldest electricity generating facilities in the country with the majority installed between 1950 and 1990, and with the majority of pumped storage facilities installed between 1960 and 1990.<sup>8</sup> At the beginning of 2011, hydropower plants comprised 24 of the 25 oldest operating power facilities in the United States, with 72 percent of facilities older than 60 years.<sup>9</sup> As such, the existing fleet has many capital investment needs to ensure these facilities remain in operation, performing to their maximum capability – for renewable power production, for environmental performance, and for safety. The Energy Policy Act of 2005 (EPA 2005) hydroelectric production incentives are a critical component to support the needed reinvestment at existing hydroelectric projects. This is particularly important in the current environment where federal, state, and regional clean energy and market policies have favored other generation resources, particularly other renewable resources, in what is a highly competitive energy marketplace.

The Associations are pleased to provide the following comments on the RFI. In addition to the summary of key positions and responses to specific questions below, we urge the DOE to move expeditiously on program implementation so that applications for funding can begin as soon as possible. Based on feedback that we have already received, interest in the incentive programs is high. Asset owners are already beginning to plan for the application process, which will inform their corporate capital budget planning and decision making. To ensure that these processes align, particularly as there is high internal competition for company capital investment dollars, greater clarity and certainty on program requirements is needed.

Lastly, the Associations also direct the DOE to the individual comment filings of our member companies. Our members have raised many company-specific and project-specific questions and comments during the development of this response. We have encouraged those members to raise those issues with the DOE directly as opposed to addressing them here.

### **Summary of Key Positions**

- 1. The Associations recommend all DOE-determined eligible improvements should receive funds and any prioritization by the Department is not needed.** The Associations believe

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<sup>7</sup> [Hydropower Vision: A New Chapter for America’s Renewable Electricity Source](#) issued October 2016. P. 2.

<sup>8</sup> Ibid. P. 18.

<sup>9</sup> Ibid. P. 81

that all capital improvements that meet the statutory eligibility requirements for the incentive programs, particularly for the new Section 247 program, should receive payment.

The Associations do not believe that additional prioritization or comparison of proposed projects across the categories (grid resilience, dam safety, and environmental improvements) or within eligible categories (e.g., water quality projects vs. fish passage projects) is appropriate. DOE should not make subjective value judgments about which improvements are more or less important. Nowhere in the statutory text did the Congress provide this authority to DOE or require the department to conduct a prioritization. Had Congress desired to have DOE prioritize one category of improvements, or activities within a category, it could have easily done so, but did not. Additionally, imposing a substantive review of the merits of each proposed improvement with a comparative analysis in order to determine funding appears administratively unrealistic. The Associations anticipate DOE will receive many applications, too many for DOE to substantively compare them all and still issue awards in a timely manner. Any delays, and the additional uncertainty that would come with a comparative analysis, would also negatively impact corporate capital budget planning and decision making, particularly as there is already high internal competition for capital investment dollars.

The Associations urge the DOE to design the Section 247 program to be as flexible and inclusive as possible in determining eligible improvements without creating a cumbersome competitive process that attempts to pick winners and losers among qualifying applications. The Associations also believe that the Section 243 and 247 programs should mirror the implementation of the Section 242 program, which has been operating successfully for several years.

- 2. The Associations recommend the DOE utilize two rounds of applications to disburse the \$553.6 million in Section 247 funding.** The Associations believe that of the two rounds of funding applications, half of the funds should be made available in the first round (\$276.8 million) with the remaining half available in the second round. Because we believe that all eligible improvements should receive payment, the Associations do not recommend establishing hard funding thresholds in each of the three individual categories. Instead, DOE should set minimum funding levels for the categories (e.g., 20 percent), but if applications for any individual category do not meet that level, the remaining funds in that particular category should be applied for activities in the other categories in that round of funding. The Associations believe the applications themselves will reflect the needs of the industry with applicants seeking funding for their highest priority activities.

For example, under a 20 percent categorical minimum funding scenario, the DOE would seek a first round of applications for \$276.8 million of funding in 2023 with \$55.36 million initially allocated to each category (grid resilience, dam safety, and environmental improvements). The total funding across categories would equal \$166.08 million, with the remaining 40 percent of the funding equaling \$110.72 million. The DOE would evaluate applications for each category to determine eligibility. The DOE would distribute to the

categories that exceed \$55.36 million in eligible applications both (1) the remaining fundings from any category where eligible applications total less than \$55.36 million and (2) the \$166.08 million not previously allocated. The redistribution of these funds should be made to these categories on a pro rata basis depending on the number and size of the applications received. Based on the application pool from the first round, DOE could adjust the minimum category funding levels for the second round of funding, presumably in 2024.

Because of the anticipated high level of response to the incentive programs both the Section 243 and 247 programs may be oversubscribed. Should DOE receive applications for projects in exceeding the amount of funding available in the first round, the Associations believe that the DOE should prorate awards, similar to what it has done in the implementation of the Section 242 program. From the industry's perspective, the benefits of funding certainty outweigh the potential reduction, allowing asset owners to move forward on project planning and financing.

- 3. The incentive programs should be open to proposed projects as well as projects completed after November 15, 2021, with funding disbursed to successful applicants upon completion of the capital improvement.** The IJA was signed into law by President Biden on November 15, 2021. The Associations recommend that DOE accept applications for projects that were completed after this date. For these already completed projects, award payments should be made as soon as possible after application approval, similar to the Section 242 program.

For proposed projects, award payments should be made upon completion of the project. However, once DOE has approved an application, it should preserve the funding amount for the applicant for disbursement at the later date. This would provide certainty to the owner at the time of the application decision of the payment amount due and that it will be available and released upon project completion. The Associations believe "payment upon completion" reduces the complexity of the incentive programs, minimizing the amount of post application monitoring and other compliance requirements by the DOE. At the same time, by allocating the funding to the successful applicant to be disbursed at a later date, the DOE would provide investment certainty to asset owners and other parties involved financing projects.

- 4. DOE should adopt a broad definition of eligible hydroelectric projects for both Section 243 and Section 247 programs.** According to the Section 243 statute, the DOE is required to "make incentive payments to the owners or operators of hydroelectric facilities at existing dams."<sup>10</sup> The text is broad and does not contain any restrictions related to jurisdiction under the Federal Energy Regulatory Commission (FERC) (e.g. FERC licenses) or by other agencies. As such, the Associations believe that projects that are FERC licensed, FERC exempt, qualifying conduits under the Hydropower Regulatory Efficiency Act of 2013

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<sup>10</sup> 42 USC §15882(a).

(HREA), and any non-FERC jurisdictional projects regardless of when they were built, are eligible for the program.

Under Section 247, the language states that a “qualified hydroelectric facility” is one that is “...licensed by the Federal Energy Regulatory Commission...” or “...constructed, operated, or maintained pursuant to a permit or valid existing right-of-way granted prior to June 10, 1920.”<sup>11</sup> The Associations recommend DOE interpret “license” in Section 247 to include projects that have received other types of FERC authorizations.<sup>12</sup> This includes FERC-issued exemptions as well as projects FERC has determined to be qualifying small conduit facilities under HREA. Holders of FERC small hydropower exemptions are subject to FERC dam safety oversight as well as environmental protections set by federal and state fish and wildlife agencies. In addition, Congress has determined that HREA-qualified small conduit projects do not need ongoing FERC oversight because the entire category has minimal, if any, environmental impacts, and FERC must affirmatively certify these projects meet the qualifying criteria, which includes opportunity for public comment on the application. As such, there is no good policy reason for limiting eligibility under Section 247 to only those projects that have received a FERC license versus these other authorizations.

## **Responses to Specific RFI Questions**

### **Category 1: General**

**Topic Area 1: Defining Capital Improvement:** DOE is considering the following definition of capital improvement: “The addition, improvement, modification, replacement, rearrangement, reinstallation, renovation, or alteration of tangible assets, such as real property, buildings (facilities), equipment, and intellectual property (including software) used in hydroelectric operations that have a useful life of more than one year, which are capitalized in accordance with generally accepted accounting principles within the Federal Energy Regulatory Commission (FERC) project boundary of a hydroelectric facility or the defined boundary pursuant to a permit or valid existing right-of-way granted prior to June 10, 1920.”

***Question 1:** Are there other terms, definitions, or alterations to the proposed definition of capital improvement that DOE should consider?<sup>13</sup>*

**Associations’ Response:** The Associations generally agree with this proposed definition of capital improvement, but once again encourage the DOE to be maximally flexible in its interpretation so as to be as inclusive as possible for investments made. The DOE also should provide additional detail on intellectual property (including software). The DOE

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<sup>11</sup> 42 USC §15883(a)(1) and (2).

<sup>12</sup> The Associations note that under the federal production tax credit (PTC) for incremental hydropower generation, adding generation to non-powered dams is eligible if, among other criteria, the project is “licensed by the Federal Energy Regulatory Commission.” 26 USC 45(c)(8)(C)(i). In its [Renewable Energy Tax Credit Guidance](#) (March 2021, p. 5) FERC indicates both license holders and exemption holders would be eligible for the credit.

<sup>13</sup> This response also addresses issues raised in Category 1 Questions 2.

should clarify that software as a service (SaaS) subscriptions are eligible as capital improvements in accordance with generally accepted accounting principles as many software companies offer subscription based services whereby customers may access IP, which in turn can be applied towards significant capital improvements.

The Associations also note that hydropower asset owners have undertaken capital improvements associated with their projects that fall outside the project boundary (hatcheries, for example). Other examples can be found particularly in the cases of water quality enhancements. The Associations believe such improvements, even if made outside the project boundary, but intended to address effects of the project, should be eligible under the incentive programs.<sup>14</sup> In addition, innovative new approaches such as basin-scale investments to address water quality or other issues, could be disincentivized if the DOE uses a strict adherence to the project boundary for determining a qualifying improvement.

### Topic Area 2: Timing of Funds

*Question 1: When in the project development process would the funding from these incentive programs be best applied? This could include preliminary engineering stage, detailed engineering stage, pre-equipment procurement, post-procurement, pre-construction, or post-construction.*

Associations' Response: As stated above, the Associations believe post construction awarding of funds is the simplest, least complicated method for confirming the completion of the capital improvement and distributing funding. The Associations reiterate that successful applicants, whatever stage of project development they are currently in at the time of application, should be given a commitment by DOE that the funds applied for will be received upon project completion.

### Topic Area 3: Collaboration with the Federal Energy Regulatory Commission

*Question 1: How should DOE collaborate with the FERC's dam safety and license compliance programs to implement the incentive programs?*

Associations' Response: The Associations believe that any capital improvement that is required as part of a FERC authorization (license or exemption) should automatically be deemed eligible, so long as it is consistent with the broad purposes of the Section 247 program. This sets a clear standard and will reduce the administrative burden on the DOE during the application review process. However, for other capital improvements that are not required under the terms of a license or exemption, it would be appropriate for DOE to consult with FERC's Division of Dam Safety and Inspections as well as the

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<sup>14</sup> The Associations note software improvements may also be made outside the boundary of a project, yet still should qualify.

Division of Compliance and Administration as part of the application review process in making an eligibility decision. Alternatively, DOE should allow capital improvements to qualify if the applicant demonstrates the capital improvement is consistent with federal and state dam safety regulations.

## **Category 2: Section 243 of the Energy Policy Act of 2005**

### **Topic Area A: Program Design**

Associations' General Comments: Regarding program design, the Associations reiterate their belief that hydroelectric projects, whether FERC-licensed or -exempt, or non-FERC jurisdictional, should be eligible to apply for funding through the Section 243 program.

The Associations also reiterate the importance of flexible approach to implementation of the Section 243 program to avoid needlessly excluding opportunities for efficiency improvements due to an overly prescribed program. As one example, the Associations recommend a broad definition of "facility" for purposes of the program. The Associations believe capital improvements should be deemed eligible if the proposed work provides a 3 percent efficiency gain by the hydropower project as a whole or if a 3 percent gain is achieved at a particular unit.<sup>15</sup>

Approving applications at a per-unit level, for example, is particularly helpful for large hydropower projects where there are few prospective individual efficiency improvements totaling 3 percent or more of the project's total capacity/generation. By contrast, there are a variety of investments at large projects that can be made that would achieve the percentage rate on a per-unit basis. As an example, some turbine upgrades, which can be accomplished with minor changes to the existing civil works, can improve operational efficiency by at least 3 percent. When a turbine upgrade is completed with a fish-safe turbine, then the plant can see additional improvements by eliminating head loss and energy loss associated with fine fish exclusion screens and nightly shutdowns or other operational curtailments associated with downstream fish passage mitigation measures.

The Associations believe flexibility in determining the 3 percent standard on a project-wide basis is needed. For example, DOE should allow applicants to aggregate multiple separate activities at a project under one application to achieve the overall 3 percent rate.

*Question 1: What type of capital improvements are needed to improve operational efficiency at existing facilities by at least 3%?*

Associations' Response: In addition to the general comments above, industry members have identified a variety of specific activities that result in efficiency improvements at hydropower projects. See Appendix A at the end of these comments for a list.

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<sup>15</sup> Responsive to Question 4 in this category.

*Question 2: How might DOE validate the efficiency improvements to ensure the capital improvements meet the 3% requirement?*

Associations' Response: There may be several ways in which the DOE could validate efficiency gains during the application review process. For the Section 243 program, one methodology that DOE should examine is the FERC certification process for incremental hydropower production under the Section 45 PTC. This certification process has been used to certify over 150 hydropower projects for eligibility under the PTC. However, the Associations note that there are differences between the PTC criteria and the Section 243 program criteria. DOE should be cognizant of this and, if the FERC certification is used as a basis, should make appropriate adjustments.

The Associations also encourage the DOE to reach out to technical organizations both in the United States and globally for guidance on best practices and standards. For example, the American Society of Mechanical Engineers (ASME) Power Test Code for Hydraulic Turbines and Pump-Turbines (PTC-18) or the International Electrotechnical Commission (IEC) International Code for the Field Acceptance Tests of Hydraulic Turbines (IEC 60041) may be useful. The Associations highlight that for these validation examples, rigorous testing is typical only for larger units when a runner is upgraded. In the case of many other component level improvements, a less rigorous test, even an index test (i.e. no absolute flow measurement) is much more practical and typical. Alternatively, or in conjunction with physical testing, 3D computational fluid dynamics analysis can be performed on as-built and upgraded turbines to evaluate efficiency upgrades. Depending on the extent of instrumentation on a unit, less rigorous but still valid testing may be possible using the normal suite of sensors available and simply logging and analyzing output appropriately.

In validating claims of efficiency improvements under Section 243, DOE need not require the most rigorous testing (PTC-18/IEC 60041), but could require results of tests guided by (if not strictly in compliance with) these standards that include appropriate quality assurance and estimates of uncertainty.

*Question 3: Should DOE limit eligibility for incentive payments to only efficiency improvements that include specific project components (e.g., turbines, generators, and intakes) typically associated with electricity generation?*

Associations' Response: The Associations believe the DOE should be as inclusive as possible in the types of improvements that are eligible. The intent of the Section 243 program was to provide support for reinvestment in the existing hydropower fleet. As such, the Associations encourage the DOE to be flexible in setting eligibility requirements. Doing so will not only incentivize traditional efficiency investments, but also allow for innovative new approaches while maximizing carbon free electricity generation benefits.



### **Category 3: Section 247 of the Energy Policy Act of 2005**

Associations' General Comments: Under the IIJA, the language of the Section 247 program delineates three specific categories of capital investments (grid resilience, dam safety, and environmental improvements). Under each of these categories, the statute intentionally uses the word "including" to outline examples. The Associations believe that the list of these examples in the IIJA text should be considered inclusive and not exclusive. There are many other grid resilience, dam safety, and environmental improvement activities not specifically listed that should also be considered eligible under the program. Congress did not intend this to be an exhaustive list and the DOE should be as flexible as possible as it interprets what activities are covered under each category.

#### **Topic Area A: Prioritization & Distribution of Funds**

*Question 1: What are some ways to prioritize the funding for the Section 247 incentive across the three categories of capital improvements (grid resiliency, dam safety, and environmental improvements)?*

Associations' Response: The Associations reiterate their comments above that DOE should not pick winners and losers among qualifying applicants or make value judgments on qualifying applications for capital improvements across categories or within categories.

*Question 2: On what basis might DOE prioritize specific incentives (e.g., type of investment, investment impact, first-in-line application, first-time applicant, geographic diversity, ownership type) within each category of the capital improvement?*

Associations' Response: As stated above, the Associations believe all eligible capital improvements should receive payment under the program. The Associations believe making comparisons between qualifying applications based on criteria such as project location, type of capital improvement, and impact would not serve the goals of the program and that DOE should not make these types of subjective value judgments (i.e., whether a fish passage project at a large hydropower project in the Northwest should receive higher or lower priority than a spillway improvement at a small project in the Midwest).

*Question 3: Other incentive programs offer guidelines, which when met, automatically qualify for incentive payments, as well as "custom" tracks for equipment, services, and/or other activities that require additional analysis to determine incentive payments. Which type of incentive model would be most appropriate to consider in designing hydroelectric incentive programs?*

Associations' Response: The Associations believe that there are certain capital improvements that the DOE could deem automatically qualified and thus reduce the administrative burden in reviewing applications. This would include capital improvements required to meet the terms and conditions of a FERC license or a FERC exemption. As mentioned above, as necessary, DOE could collaborate with FERC's Division of Dam Safety and Division of Hydropower Administration and Compliance to make these determinations, if needed.

*Question 4: Are there other considerations DOE should make in terms of distributing funding when designing the Section 247 program?*

Associations' Response: The Associations reiterate their comments in Key Position 2, above, recommending two rounds of applications with equal funding, minimum category levels, redistribution of underutilized category funds in the same application year, and proration.

The Associations also note that industry members are seeking clarity regarding whether a project owner can submit (and DOE will make awards for) multiple applications for investments at a single hydropower project. For example, several industry members have stated they have more than one environmental improvement planned at an individual project, or improvements in more than one category at a project (i.e. one under grid resilience and another under dam safety). Under the statute, the language states that “[n]ot more than 1 incentive payment may be made under this section with respect to capital improvements at a single qualified hydroelectric facility in any 1 fiscal year, the amount of which shall not exceed \$5,000,000.”<sup>16</sup> However, this language is silent on whether the DOE can allow multiple applications for a single facility and ultimately fund all such applications so long as the total award does not exceed the cap. As a means to incentivize maximum investment in the existing hydroelectric fleet, which is the intent of the program, the Associations recommends the DOE structure the application process to allow owners to submit applications for multiple eligible improvements at a single hydroelectric project with the limitation that any award made to the owner for that individual project cannot exceed the \$5,000,000 cap per fiscal year.

## **Topic B: Grid Resiliency Improvements**

*Question 1: What types of grid resiliency improvements should receive the highest priority under Section 247?*

Associations' Response: The Associations reiterate their previous comments on prioritization made above.

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<sup>16</sup> 42 USC §15883(c)(2)

## Topic C: Dam Safety Improvements

*Question 1: Are there any highly effective governmental or association-level dam safety programs that should be considered in developing the Section 247 program? What type of dam safety improvements are most likely to be submitted for consideration?*

Associations' Response: As mentioned above, the FERC Division of Dam Safety and Inspections is one program the DOE should consider. In addition, there are the state-level dam safety programs as well as the Association of State Dam Safety Officials (ASDSO) that can also serve as resources.

*Question 2: Section 247 includes the potential for "natural infrastructure restoration" for flood risk reduction as a type of dam safety activity. What types of activities might DOE consider as eligible under this part of the provision?*

Associations' Response: DOE should consider use of Engineered Log Jams (ELJs) and natural rock arches, which assist with flood risk by creating safer dam infrastructure. Rock arches extend over a long slope that eliminates the deadly eddy and undertow created at the foot of a dam. The sloped ramp may result in bumps and bruises, but is unlikely to kill a person who goes over the dam. ELJs also assist with erosion and debris control while creating habitat for animals. Flooding is better managed in a healthy channel that has a permeable water table. An example of a proposed grade control structure in the WPTO-funded Clark Fork example site is the use of ELJs that are strategically placed upstream of the impoundment area that naturally capture sediment flowing downstream, while also raising the water surface elevation to increase inundation of the adjacent floodplain.

Additionally, restoration of channel-floodplain connectivity upstream of a dam could lead to reduced peak flow volumes entering a reservoir during a large flood. While this may be dependent on the presence of low gradient, alluvial valleys upstream of the dam, pilot work in the Chehalis basin suggests that the low gradient is critical to flood peak attenuation, due to the physics of wave propagation. Even with slightly higher gradient valleys there may be some potential for flood peak reduction due to increased groundwater infiltration or desynchronization of multiple contributing tributaries.

*Question 4: Please indicate any recommendations associated with dam safety metrics or independently available tools that DOE should consider when establishing the program under this provision.*

Associations' Response: Dam safety can be improved with SaaS software subscription decision-support tools that provide operators with information about the size and timing of potential storms earlier and more accurately, such as inflow forecasts.

## Topic D: Environmental Improvements

*Question 1: How might DOE weigh capital investment under this provision with competing and mutually exclusive benefits such as an improvement that would improve environmental outcomes for one species, activity, or facility at the expense of another.*

Associations' Response: The Associations believe that for any activities or improvements that are required under a FERC license or exemption, DOE should not need to make any additional assessment of potential competing benefits or impacts.

*Question 2: How might DOE prioritize the following aspects of environmental improvements:*

- a. Acute environmental conditions or conditions that require immediate remediation by regulatory requirement.*
- b. Potential and anticipated effects of climate change.*

Associations' Response: Once again, the Associations believe that for all projects that can demonstrate that there will be an anticipated environmental benefit (near-term or long-term), they should be deemed eligible, and DOE should not provide a weighting factor for one set of beneficial activities over another.

*Question 4: What criteria is available to evaluate applications that address improving water quality?*

*Question 5: How might DOE evaluate, monitor, and/or measure the results of water quality improvements?*

Associations' Response to Questions 4 and 5: For water quality environmental improvements, DOE should rely on requirements included in a project's FERC license. If a hydropower project is meeting or exceeding state water quality requirements included in its FERC license, then there is no need for additional oversight.

## **Topic E: Other**

Associations' General Comments: The Associations have received many inquiries from hydropower owners regarding the implementation of prevailing wage, apprenticeship, diversity, equity and inclusion (DEI), and Buy America/domestic content requirements contained in the IJA and their application to the Section 243 and 247 incentive payment programs. The RFI did not discuss in-depth or include specific questions regarding the DOE's implementation of these provisions. Depending on how they are implemented, some of these new requirements, such as Buy America/domestic content, could have a significant impact on the cost of proposed work, particularly in the current market. The Associations believe industry member companies are seeking greater clarification and encourages the DOE to provide more

detail on implementation with respect to these issues for both programs as part of the draft guidance document, which will allow an opportunity for comment by industry members.

In addition to the prevailing wage, apprenticeship, Buy America, and DEI requirements, the Associations have heard from several member companies with questions about administration and compliance requirements should they successfully complete the application process. Companies, particularly those that have never received federal funding through the DOE, have expressed concerns that significant changes to their internal procurement, accounting, and other processes may be needed to ensure compliance with departmental regulations and policies to accept federal funds. Additional clarification and guidance on this issue is needed as soon as possible, either as part of the draft guidance document or earlier. Some companies report, based on preliminary analyses of what they currently believe may be required, that potential changes to their internal procedures could take 1-2 years to put into place. They also report concerns over the resources required and costs associated with making these changes, which could impact decisions to apply for the hydropower incentives at all. Greater clarity would help reduce these potential misconceptions and could increase the number of applications, furthering achievement of congressional intent for this program.

Once again, the Associations urges the DOE to maximize efficiency, flexibility, and simplicity in the administration of these programs recognizing that to get the benefits to some of the groups the IJA specifically targets (underserved communities, rural areas, etc.) funds will need to be awarded to smaller owners and operators who don't have as many resources to work through complex application and implementation processes.

#### **Category 4: Equity, Environmental, and Energy Justice (EEEJ) and Labor Priorities**

*Question 1: What strategies, policies, and practices can DOE deploy in the design of this program to support EEEJ goals (e.g., Justice40)? How should these be measured and evaluated for the hydroelectric incentive programs?*

Associations' Response: The eligibility criteria outlined by Congress in the creation of the Section 247 program already closely aligns with several of the policy priorities DOE has set out to guide the implementation of Justice40. Hydropower facilities are often located in underserved and/or rural areas with EEEJ concerns. By improving the safety of hydropower dams (which can protect surrounding communities) and environmental performance of hydropower facilities (which enhances the natural environment), the Section 247 program will promote more just outcomes in disadvantaged communities. Similarly, by supporting grid resiliency improvements at hydropower facilities, the Section 247 program will improve energy resilience and grid reliability in these communities.

*Question 2: What EEEJ concerns or priorities are most relevant for the hydroelectric incentive programs?*

Associations' Response: The following EEEJ priorities are most relevant for the hydroelectric incentive programs: (1) decrease energy burden; (2) decrease environmental exposure and burdens; (6) increase energy democracy; and (8) increase energy resilience.

The Section 243 and 247 hydroelectric incentive programs can decrease energy burdens by increasing efficiency at hydropower facilities, which in turn will make more low-cost hydropower available for powering homes and businesses. These programs will decrease environmental burdens by promoting environmental improvements at hydropower facilities. They will increase energy democracy by supporting environmental and safety improvements, which will enhance aquatic ecosystems and in turn directly benefit surrounding communities. Finally, by providing funding for efficiency upgrades and resiliency improvements, the Section 243 and 247 programs will increase energy resilience and system reliability.

*Question 3: What measures should applicants take to ensure that harm to communities with environmental justice concerns are mitigated in the capital improvements?*

Associations' Response: The improvements outlined in the Section 243 and 247 programs support upgrades that, by their nature, should improve efficiency, safety, and environmental impacts. As a result, these programs should enhance, rather than harm, environmental justice outcomes. For example, improving the efficiency of hydropower facilities as outlined in Section 243 will increase the availability of low-cost hydropower, which in turn should relieve energy burdens. The safety and environmental improvements supported by the Section 247 program will similarly promote more just outcomes in disadvantaged communities by ensuring more secure and safer operations, as well as enhancing the surrounding natural environment. As such the Section 243 and 247 programs are targeted on investments that are likely to alleviate burdens in environmental justice communities.

*Question 4: How can applicants ensure community-based stakeholders/organizations are engaged and included in the planning, decision-making, and implementation processes (e.g., including community-based organizations are advisory to the decision or directly benefit)?*

Associations' Response: Hydropower licensees have a proven track record of working with community-based stakeholders because of the ample opportunities for community engagement through the hydropower licensing and relicensing process and throughout the operational life of the project. DOE could encourage potential grant applicants to solicit feedback from the local community either unilaterally/voluntarily or collaboratively through formal consultation with local stakeholders during the hydropower licensing/relicensing process on safety, environmental, efficiency, or grid resiliency upgrades before filing their applications or alternatively identify who they

intend to partner within the community and their role in the planning, decision-making, and implementation processes.

*Question 6: How can DOE best support the creation and retention of high-quality jobs, and clear workforce training pathways into those jobs, through these programs?*

Associations' Response: See response to workforce development questions below. The Associations also note that reinvestment in the existing hydropower fleet will not only increase workforce opportunities in the hydropower sector itself, but that increasing the access to low-cost renewable hydropower generation also attracts other new economic opportunities to the locality/region. For example, generation from the Associations' member hydropower facilities has been cited as a reason for businesses to establish new manufacturing plants or server farms, creating new, high-quality jobs in communities that have hydropower facilities.

#### **Category 5: Expanding Union Jobs and Effective Workforce Development**

*Question 1: In what ways, if any, do you anticipate the capital improvements incentivized by this program could impact the workforce? For example:*

- a. *To what extent do you anticipate job creation, loss, or changes in job quality?*
- b. *To what extent do you anticipate the creation of construction jobs? Ongoing operations and maintenance jobs? Other jobs across the supply chain.*

Associations' Response: In addition to the comments below, the Associations also direct DOE to comments on workforce development submitted by the Hydropower Foundation (HF).

The Associations believe that increased investment in the existing hydropower fleet, as supported by the Section 243 and 247 incentive programs, will have a significant impact on the U.S. hydropower workforce. Currently, the industry employs approximately 66,500 workers.<sup>17</sup> And, in general, it employs a slightly higher percentage of military veterans and minorities than are found in the U.S. working age population, though is less diverse than the general U.S. workforce in terms of gender.<sup>18</sup> These workers are spread across a range of sectors including work in utilities, manufacturing, construction, professional services, trade and transportation, among others. They represent a variety of skill sets and skill levels from managers to operators, engineers (civil, environmental, mechanical, and electrical), electricians, to biologists, legal and human resources personnel, to general laborers, custodians, and more.

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<sup>17</sup> [Workforce Development for U.S. Hydropower: Key trends and Findings](#), National Renewable Energy Laboratory 2019 and [The 2019 U.S. Energy and Employment Report](#), National Association of State Energy Officials, 2019.

<sup>18</sup> NREL p. 8.

The Associations anticipate that the sectors, skillsets, and levels described above will see increases to meet the needs resulting from the significant reinvestment in the hydropower industry supported by the incentive programs. This creates opportunities to develop the next generation of the hydropower workforce, that could improve existing apprenticeship programs and create new apprenticeship programs, leading to good-paying, long-term jobs, including union jobs. The challenge the industry will face is developing and recruiting these new additions to the existing hydropower workforce. Almost all the Associations' members are reporting a difficulty hiring for positions across the sectors and skill levels. Training, educational programs, and other workforce development tools will be required to meet this demand. However, the Associations believe these challenges can be met. See the HF response for more details. Perhaps most importantly, by providing significant funding through the hydropower incentives programs, the United States is demonstrating to the hydropower workforce of tomorrow that the industry is a vibrant one with sustained job prospects and economic opportunities located in communities across the country. As a renewable energy resource that does not always receive as much attention as others, this sends a potent signal to the public and prospective workers that the industry is one in which they should enter.

## **Conclusion**

The Associations again express their appreciation for the opportunity to provide comment, feedback, and input on the Section 243 and 247 incentive payment programs in response to the RFI. We look forward to continuing our engagement with the Grid Deployment Office and the Water Power Technologies Office as the implementation process continues.

The Associations also reiterate the importance of these incentives for helping to preserve existing hydropower projects. With many existing projects coming up for relicensing soon while operating in highly competitive energy markets that lack policy and market support for existing hydropower, these incentive programs will play a critical role to ensure hydropower facilities' ongoing operation. To meet our nation's clean energy goals, support for the existing hydropower fleet is critical and decommissioning of any of these renewable resources only sets us further back from attaining them. As such, the Associations urge DOE to work expeditiously on program implementation so the first round of applications and distribution of funds can begin as soon as possible.



## **Appendix A**

List of potential efficiency improvements at hydropower projects including, but not limited to:

1. Turbine upgrades
2. Generator Upgrades
3. Improvements to intake design
4. Construction of/Utilization of seasonal trash racks
5. Installation of pneumatic flash
6. Installation of auto start/stop
7. Installation of impoundment management devices, digital governors (hydro units to automatically respond to increases in flow to reduce spill)
8. Trash rake improvement
9. Debris management (booms)
10. Ice management (fenders/booms/rack design improvements)
11. Minimum flow turbine installations
12. Fish friendly turbine installation (downstream passages)
13. Development of scheduling tools
14. Addition of generator to existing dams without generation capabilities
15. Repowering of end-of-life stations
16. Reservoir management improvements
17. Improved generator cooling (allow units to provide service during periods of high temperature)
18. Inflow forecasting
19. Improvements to water conveyance
20. flow measurement equipment and/or regular testing program to support efficient loading and dispatch setpoint