

**UNITED STATES OF AMERICA  
BEFORE THE  
FEDERAL ENERGY REGULATORY COMMISSION**

**Implementation Issue Under the Public Utility ) Docket No. AD16-6-000  
Regulatory Policies Act of 1978 )**

**COMMENTS OF THE  
NEW ENGLAND SMALL HYDROPOWER COALITION**

**REPRESENTING  
GRANITE STATE HYDROPOWER ASSOCIATION  
BAY STATE HYDROPOWER ASSOCIATION  
VERMONT INDEPENDENT POWER PRODUCERS ASSOCIATION  
CONNECTICUT SMALL POWER PRODUCERS ASSOCIATION**

The New England Small Hydro Coalition (“NESHC”) hereby files these comments in connection with the Federal Energy Regulatory Commission’s (“Commission’s”) Notice of Technical Conference, as supplemented. The Commission seeks to focus on two areas: (1) the mandatory purchase obligation under PURPA; and (2) the determination of avoided costs for the purchases made under PURPA. NESHC will be speaking on the avoided cost panel, yet these Comments address both issues.

The New England Small Hydro Coalition consists of the Connecticut Small Power Producers Association, the Bay State Hydropower Association (MA), the Granite State Hydropower Association, and the Vermont Independent Power Producers Association. NESHC represents more than 140 small hydro facilities located in its four New England states with a total installed capacity of more than 183 MW. All of the NESHC member projects are Qualifying Small Power Production Facilities (“QFs”), have installed capacities of less than 20 megawatts. Each of the above-mentioned groups that form NESHC exist because individual small hydroelectric projects simply do not have the resources to participate in the legislative and regulatory processes at the state and federal level that determine how QFs will be regulated and paid. Each organization participates in the applicable state’s regulatory proceedings seeking to protect the rights of small hydroelectric QFs to continue to participate in electric markets.

NESHC appreciates the opportunity to speak on the importance of the protections of PURPA in today’s environment, including the existence of the mandatory purchase obligation and the availability of avoided cost rates for QF purchases, especially for existing small hydropower QFs. Unlike some entities participating in the Technical Conference, the NESHC is principally concerned with PURPA and the Commission’s regulations implementing PURPA as they apply to existing projects, not to new construction. The vast majority of NESHC facilities were constructed in the 1980s and early 1990s and have operated under long-term contracts that have recently expired. NESHC’s projects operate pursuant to either hydroelectric licenses issued

by the Commission or under Commission-issued exemptions. Most of them are required by their licenses or exemptions to operate in run-of-river mode. This means that the project cannot store water in the reservoir for generation later. Either the projects produce energy or water spills over the dam and is wasted. Many of these hydroelectric projects are located in remote locations and, as described in more detail below, continue to provide significant and reliable benefits to the region.

NESHHC supports continuation of the mandatory purchase obligation, especially for small projects without access to competitive wholesale markets. Without the mandatory purchase obligation, many of the hydroelectric generators in NESHHC would have no means to sell their project power. These projects do not have access to ISO-NE markets, and even if they could, the costs and related operational requirements are additional and significant impediments.

With respect to avoided cost rates, the purpose of this afternoon's panel, NESHHC supports the continued availability of a calculated avoided cost rate available to QFs on a long-term basis.

Since many of these projects were built, there have been major changes in the New England energy markets, principally driven by the creation of ISO-New England ("ISO-NE"), which provides transmission service and operates day-ahead and real-time energy markets as a Regional Transmission Organization ("RTO"). In addition, many utilities in New England divested their generation. Both factors have created complications and uncertainty in calculating avoided cost rates for purchases of power from QFs.

NESHHC member projects operating in New England are increasingly concerned that utilities and regulatory bodies are seeking to erode QF PURPA rights. In order to protect their PURPA rights, small QFs have been forced to participate in protracted costly state regulatory proceedings. The combination of the ISO-NE operating model and the efforts of utilities and regulatory bodies to impede QF sales has created an environment in which PURPA is needed now more than ever.

In the "old days" prior to establishment of RTO markets, the calculation of avoided cost was a relatively straight forward calculation. Of course, there were often disputes about the components of the rate, but there was utility data available. Today, utilities that have divested their generation may make capacity and energy purchases in the day-ahead RTO market and purchase energy and capacity pursuant to bi-lateral contracts pursuant to RFPs or other purchasing strategies. Many state commissions in RTO states, including Connecticut, New Hampshire and Massachusetts, have determined that the avoided cost rate is the hourly real-time LMP. While there are varying ways to calculate an appropriate avoided cost rate, the hourly real-time LMP is an inappropriate proxy for avoided cost because it does not reflect the true avoided cost to the utility under the Commission's regulations and PURPA.

First, utilities purchasing energy in the RTO markets purchase nearly all of their power in the day-ahead market at the day-ahead LMP. Second, the LMP rate does not take into account any long-term or seasonal purchases made from third parties or affiliates. Third, the day-ahead

or real-time LMP rates do not include many cost components for which RTO markets provide compensation and that small QFs without access to RTO markets cannot provide. Finally, a small QF must be able to enter into a long-term contract with price certainty at a rate fixed at the time of that legally enforceable obligation arises so that the QF may have price certainty and the ability to continue to operate and maintain its project in accordance with the Commission-issued license or exemption.

NESHC respectfully submits that not only should PURPA be sustained but that the Commission should take a more active role in its implementation prospectively. Without renewed support of PURPA and an updated definition of *avoided cost*, the ongoing viability of existing small QFs is threatened and 38 years of good work may be undone.

In summary, NESHC believes the Commission must:

1. Update the definition of avoided cost to reflect a utility's true avoided cost of energy, above and beyond the locational marginal price of the RTO market. Maintain and enforce the mandatory purchase obligation, and retain the rebuttable presumption;
2. Reaffirm the rights of a QF to enter into a long-term power purchase agreement at an avoided cost rate established at the time the legally enforceable obligation is incurred; and
3. More vigorously enforce PURPA.

I look forward to responding to questions and providing additional information as a member of this panel. The following comments apply to specific issues relating to the June 29, 2016 Technical Session.

NESHC is hopeful that the Commission will reaffirm PURPA following the June 29 conference; however, even more importantly, NESHC hopes that the Commission, in light of the continued hostility of state commissions and utilities, similar to that which was encountered in the initial days of PURPA implementation, will take a more active role in enforcing QF PURPA rights.

**The definition of avoided cost must be updated to reflect a utilities true avoided cost of energy. A real-time LMP is not an avoided cost rate.**

PURPA defines "avoided costs" to mean the "incremental costs to an electric utility of electric energy or capacity or both which, *but for* the purchase from the qualifying facility or qualifying facilities, such utility would generate itself or purchase from another source".<sup>1</sup>

To date, every New England state except Vermont has determined that the avoided cost rate is ISO-NE Real-Time Locational Marginal Price (the "RT LMP"). The RT LMP is the clearing price for energy in the real-time energy market. In ISO-NE approximately 5 percent or

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<sup>1</sup> See 18 CFR § 292.101(b)(6).

less of all the daily energy use is settled in the RT LMP market. Moreover, the ISO-NE RT LMP has averaged 3 -5% less than the ISO-NE Day-Ahead LMP price.

The RT LMP price simply does not reflect a utility’s avoided cost. Not only does the RT LMP not reflect the way in which utilities acquire energy, it does not reflect the ultimate price a utility pays for its portfolio of energy needed to serve load over a reasonable utility planning horizon. The LMP is, at most, a short-term rate that does not reflect a utility’s incremental costs as that term is used in PURPA. A full avoided cost rate must take into account the incremental cost of the utility to generate or purchase energy over the relevant utility’s planning horizon, not a rate that reflects an hour or shorter interval’s purchase. The full avoided cost rate must factor in both capital cost and operating cost components.

In New England there are two types of utilities: those utilities that continue to own generation, and those who have divested their generation assets. Integrated utilities that continue to own and operate generation, prepare and abide by state commission-required integrated energy plans that, as relevant here, consider energy prices on a longer term, not at the hourly RT LMP price. Integrated utilities base their decision on capacity additions or purchase contracts based on these integrated plans, which factor in capital costs and operating costs of generation. As has always been the case in determining avoided costs, it is these capacity additions and purchase contracts that represent an integrated utility’s avoided costs.

Utilities that have divested their generation generally contract for energy to meet default energy loads over periods ranging from 6 months to 3 years. For these utilities, it is their average default energy rate that best reflects the real full avoided cost for utilities. These contracts and purchase arrangements set the terms and rate for every kilowatt hour (“kWh”) of energy provided to the utilities’ default energy customers. Hence, under the terms of PURPA, the next incremental purchase of power is set by the terms of the contract. Put another way, the RT LMP bears little relation to the actual cost of energy for the utility.

For example, the default energy rate for National Grid electric customers in Massachusetts for the period January to April 2016 was 13 cents/kWh yet QFs selling energy pursuant to PURPA have been paid an average of 2.67 cents/kWh during that same period. The table below shows the rate divergence in Massachusetts, New Hampshire and Connecticut.<sup>2</sup>

	Utility Rate	Wholesale Rate
Vermont - GMP	15.542	2.608
Massachusetts - National Grid	13.038	2.677
New Hampshire - Eversource	9.900	2.614
Connecticut - Eversource	9.555	3.439

*All numbers are cents per kilowatt hour*

<sup>2</sup> Note the average wholesale rate is made up of the day ahead and real time LMP. Roughly 95% of the energy markets settle in the day ahead market. In ISO-NE over the past year, the day ahead rate has been three to five percent higher than the real time rate; hence, QFs are being paid three to five percent lower than what is shown in the wholesale rate column.

Use of the RT LMP as the avoided costs of a utility is particularly inappropriate when one realizes that ISO-NE operating decisions are not based solely upon the theory of a perfectly competitive wholesale “free market”. ISO-NE’s role as a RTO are threefold: 1) Manage comprehensive regional power system planning; 2) Oversee the day-to-day reliable operation of New England’s electric power generation and transmission system and; 3) Develop and administer the region’s competitive wholesale electricity markets. ISO-NE has crafted a complicated multi-tier set of market rules that has created markets that are so complicated that many utility, regulatory and independent power producers struggle to understand. ISO-NE’s uplift and out of merit generation costs are substantial and reflect a market that is not truly competitive.

In fact, no utility executive would consider adding incremental generation based solely on the fluctuating RT LMP price. She would most certainly also factor in the ancillary payments the asset would receive from ISO-NE. To pay QF’s an avoided cost that does not reflect the true avoided cost of a utility is inconsistent with PURPA.

### **What the avoided cost should be under PURPA**

There are a number of ways to calculate a proper avoided cost rate. NESHC believes that a number of methodologies could be utilized so long as the methodology considers the full avoided cost over an appropriate planning horizon. For utilities that own generating assets, as is the case in Vermont, the avoided cost rate should be based upon the cost of the utility’s next planned generation addition or, if there is no generation planned, the cost of the most recent generation addition with the same characteristics to its existing generation portfolio.

For utilities that have divested their generation assets and that obtain electricity through RFPs or auctions, the QF rate should be based upon the winning bid(s) in the auction or RFP, since that establishes their incremental cost of energy and such utilities do not make any incremental purchases in the market. The rate should take into account a utility’s planning horizon.

In addition, in order to truly reflect the avoided costs of a utility, the terms offered to a QF should be reflective of the same long term planning a utility makes when designing its own energy portfolio. These utilities often strive to balance the mix of power they offer between long and short-term tranches. As such, QFs should be entitled to the same long and short-term contract terms as offered to their affiliates or are permitted to incorporate in their rates.

### **The Mandatory Purchase Obligation must be maintained and enforced**

As is clear from the panelists participating in the Technical Conference, many utilities have been and remain resistant to QFs. The reasons for the resistance may be different today than they were when PURPA was enacted, but the fact remains that many utilities continue to resist purchasing power from QFs. Small hydroelectric QFs like the members of NESHC cannot access wholesale markets, cannot afford to participate in ISO-NE, cannot afford the costs to

participate in RTO-related stakeholder proceedings, post and maintain financial security and may have operating limitations in their hydroelectric licenses or exemptions that limit their abilities to fluctuate generation levels (even if the small hydro had manned projects at every site, which they do not). It is efficient and appropriate for QFs to sell their power to the utilities that have the resources, both personnel and financial, to participate in the RTO markets.

### **Maintain the 20MW Rebuttable Presumption Standard for small QFs**

As mentioned above, individual small QFs do not have the resources to effectively participate in extended regulatory review processes or effectively follow and participate in the ISO-NE stakeholder process. In an effort to overcome these limitations small hydro projects have formed statewide associations like those that make up NESHC. Yet, even then, resources are strained. The Commission's rebuttable presumption that projects 20 MW or less do not have access to competitive wholesale markets strikes an appropriate balance and should be maintained. It is true that the vast majority of NESHC's projects do not have access to competitive wholesale markets. They are interconnected at distribution level, are located in remote locations and are not manned 24 hours a day.

For small QFs with limited or no regulatory staff support, it is simply impossible to follow, much less attend the various ISO-NE meetings that influence/set ISO-NE operating procedures that directly affect QFs that are receiving the RT LMP for their power. The small QF hydro industry in New England is being adversely affected by negative pricing, those hours when generating assets are incented to curtail or stop generating due to low system loading. Small QFs were unable to effectively participate in the stakeholder processes that developed the negative pricing scheme in ISO-NE. As noted above, small hydroelectric QFs typically are unmanned and do not maintain 24/7 response capability. As a result, small hydro plants receiving as the avoided cost rate the RT LMP rate are penalized during negative pricing hours. An extreme example occurred on June 6, 2016. ISO-NE predicted its system load and conducted its day ahead bid on a higher assumed load level than actually occurred. Coal generating plants were placed on line in anticipation of the system load. However, due to a lower than forecast load, negative pricing occurred for 6 hours during the nighttime hours. Negative pricing ranged from \$108/MWh to \$3.7/MWh (an average of \$50.52/MWh), but the ISO-NE hourly real time rates for non-negative pricing hours averaged only \$17.23. The end result was that a hydro plant needed to generate for the remaining 18 hours of June 6 just to make up for the penalty assessed during negative hours, much less cover operating costs. It takes a lot of low priced generation to offset one high priced negative pricing hour, especially with a maximum limit of -\$150/MWh with ISO-NE RT rates for the last 12 months averaging about \$26/MWh. The negative pricing problem will be further compounded for small QFs since ISO-NE shortly will begin monitoring negative pricing every 5 minutes as compared to every hour. Due to its limited resources, the various member groups of NESHC have been unable to work with ISO-NE to improve small hydro generation procedures to mitigate negative pricing instances. Of course, the short-term nature of the RT LMP is another example as to why the RT LMP is *not* a proper avoided cost rate.

## **The Inherent Conflict for Utility Owned Generation Remains**

Certain utilities continue to own generating assets and construct new regulated assets, including renewables. This reality creates an environment where the utility either has an economic incentive to ensure full utilization of its assets, and to increase the number of owned assets, thereby increasing their rate base to maximize return to their shareholders. As a result of this incentive, these utilities have been increasingly resistant to allowing QF's to exercise their rights under PURPA thereby competing with utilities' portfolios of assets. Utilities have proceeded to develop assets owned directly or through affiliates by signing long term contracts that are not available to QFs and at rates higher than those offered to QFs. At a minimum, the avoided cost rate should consider the cost of all of these utility contracts.

### **FERC must reaffirm PURPA and enforce it**

The Commission should not only maintain the mandatory purchase obligation and sales at full avoided cost rates, it should actively enforce these obligations. Under the current PURPA rules, when a QF establishes a legally enforceable obligation, there is a rebuttable presumption for projects with capacity of 20 MW or less that the QF does not have access to competitive markets and, as a result, a utility must purchase the power from the QF. See, 18 CFR §§ 292.309-10; 292.303(a). The mandatory purchase obligation and establishment of full avoided costs as the appropriate rate was upheld by the United States Supreme Court in *American Paper Institute, Inc. v. American Electric Power Service Corp.*, 461 U.S. 402 (1983).

The Commission's establishment of the rebuttable presumption strikes a reasonable balance between small QFs inability to reach a competitive market and the utilities' ability to cease purchases if there are competitive alternatives for QF power sales. The availability of a full avoided cost rate is a critical component to fulfilling the goals of PURPA. These methodologies must remain in place and the Commission should more actively enforce them. In recent years, the Commission has generally declined to step in and enforce the rights against state commissions, leaving the right to sue up to the QF. The Commission should take a more active role in ruling on the disputes between QFs and purchasers. The Commission possesses the expertise to rule on such matters.

### **Conclusion**

NESHC is encouraged by the Commission's recognition that PURPA must be reexamined in light of the changes in the power market over the past decades; PURPA was established to reduce our nation's dependence on fossil fuels and promote independent power generation using renewable resources. Those goals have not changed in the ensuing 38 years. In fact, with the current focus on climate change, PURPA is more important than ever. However, as NESHC has noted above, small QFs today are confronted with many of the same problems as existed before PURPA was enacted. This review should not be used by utilities to lessen or extinguish the requirements of PURPA. Many of the members of NESHC still remember the fights they endured with utilities in the early days of QF development. If the Commission fails

to act to maintain and enforce PURPA the viability of the nation's existing small QF resource will be threatened.

Respectfully submitted,

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