**STATE OF NEW YORK**
**PUBLIC SERVICE COMMISSION**

**Proceeding on a Motion of the Commission to Implement a Large-Scale Renewable Program and a Clean Energy Standard**
Case 15-E-0302

*****Comments Submitted Following June 5 Roundtable Forum on Existing Renewable Generation Facilities*****

Submitted by
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St Regis Falls, NY
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## Introduction

Azure Mountain Power (AMP) appreciates the opportunity to submit comments following the June 5 round table, in which AMP participated from the audience. We found the discussion to be robust and productive and thank DPS for hosting it, and for giving attention to the need to proactively retain legacy renewables in New York. AMP strongly supports broad and inclusive support for legacy renewables. A s Staff pointed out in the forum, the most market-efficient solution would be one that advantages all renewables resources equally over emitting resources, recognizing that they all provide the same comparative value. We believe those principles of parity and value should be adhered to as closely as possible. Strong arguments in favor of a reinstitution of Tier 2A or a similar program were made by multiple parties at the Forum, and no doubt will be reiterated in Comments. We are in support of this effort. To avoid redundancy, AMP will focus its comments on the Maintenance Tier, and the potential for voluntary market solutions. We must also emphasize, however, that these efforts will only prove viable for a very small subset of legacy renewable generators and must not be seen as the alternative to a larger solution.

## Opportunities and Challenges in the Voluntary Market

Azure Mountain Power very much appreciated the innovative ideas presented to the Forum by the Adirondack North Country Association (ANCA). We believe that there are opportunities for

voluntary compliance purchases to support a subset of legacy renewables, and look forward to working with DPS and ANCA to develop them. A voluntary purchase of legacy renewable RECs by a local user creates an ideal outcome for the customer, the generator, the local economy, regulators, and ratepayers. We believe distributed hydro has a critical role to play in a cleaner energy grid, which must have a mix of different technologies with different operating parameters. AMP has sought local opportunities to monetize its environmental attributes, speaking to universities, farms, yogurt factories, municipal governments, and others. Many large energy users simply have no interest in renewable power. Among those that do, the most common options they pursue are either low-cost RECs from out-of-state, or the development of customer-sited solar[1]. We participated in the development of PSL 66-J and have explored opportunities for remote-net-metering. Unfortunately, locational restrictions made this very difficult for us[2]. More recently we have participated in the Value of Distributed Energy Resources (VDER) proceeding, attending conferences and submitting comments. As of yet we have been unsuccessful at finding a customer, but have learned a great deal in the process. We would like to take this opportunity to share what we have learned, and to make some suggestions for how DPS can remove barriers and encourage non-mandated solutions for small hydro. Taking inspiration from ANCA, we approach these comments with the understanding that creative thinking is encouraged.

**Establish Greater Parity in VDER**

ANCA referred to Community Distributed Generation (CDG) and other VDER programs as a potential way to connect local users with legacy hydro. These energy crediting programs are ideal, as they circumvent the complexity of the ESCO market and provide incentives to the customer. Many small hydro facilities feed into the grid at distribution voltage. Hydro was included in PSL 66-J with no restrictions on vintage. Remote-net-metering under the monetary crediting system allowed many hydro facilities to monetize their environmental attributes

[1] "Status and Trends in the U.S. Voluntary Green Power Market (2015 Data)", Eric O'Shaughnessy, Chang Liu, and Jenny Heeter. National Renewable Energy Laboratory http://www.nrel.gov/docs/fy17osti/67147.pdf

[2] This was articulated in our comments in the VDER proceeding submitted 12/5/2016. PSL 66-J requires that both the generator and off-take site be located within the same utility territory and load zone. AMP is in a small slice of National Grid territory on the Western edge of Zone D, restricting our potential off takers to a few small towns in the Adirondack foothills. We have spoken to all the facilities in this area large enough to accommodate our output. We requested a loosening of load zone restrictions in the VDER Order. This request was restated but not addressed in the Order. The locational restriction remains a significant barrier.

through arrangements with local users. There are several facilities in New York which were saved through this program between 2011-2014. We fully support the move to VDER, recognizing it as a necessary step in the development of more distributed renewables. However, the Value Stack developed in the DER Order places vintage hydro at a substantial disadvantage compared to new renewables. This is on top of the existing disadvantages under NEM, such as the NYSERDA grants and 30% ITC available to solar projects. Taking steps to establish greater parity in the Value Stack could allow hydro to participate in VDER programs such as CDG[3].

***Environmental Value***

At the VDER Technical Conference on April 5, Staff clarified that the E value would only be given to projects which meet the eligibility requirements for Tier 1 of the CES[4]. The reason given was that the E value payment is tied to the Tier 1 REC price and results in a reduction in the LSE Tier 1 compliance obligation[5]. DPS has been very innovative in structuring the intersection of VDER and Tier 1 such that voluntary expenditures for solar development reduce the compliance obligations of LSEs, saving ratepayers money. Substituting the MT or Tier 2 for Tier 1, a similar system could be devised which would allow the E value payment for a legacy hydro CDG to flow back to the LSE in a similar way.

In the case of facilities which currently receive Maintenance Tier payments, there should be an opportunity for an E value payment to take the place of the MT payment. This would allow the RECs to remain local and the facility to transition off of the Maintenance Tier and into the voluntary market. An additional credit on top of the Tier 2/MT payment could incentivize hydro facilities to find their own customers rather than relying on the MT. However, unlike the Tier 1 purchase obligation, it is not clear what currently happens to MT RECs and how such a transition would affect LSEs and ratepayers. During the NYGATS stakeholder meeting, it was stated that NYSERDA does not have a program for LSE purchase of MT RECs and they simply accumulate. The Joint Utilities have suggested MT costs be collected through the Supply portion

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[3] AMP also suggests a review of Comments submitted by AMP in the VDER Proceeding on December 5, 2016.

[4] Staff subsequently pointed to page 106 of the VDER Order, which states: "Hourly metered injections to the distribution system from eligible facilities receiving Value Stack compensation should receive compensation for Environmental Value . . . ."

[5] During the NYGATS stakeholder meeting, Staff clarified that this is not a 1-to-1 reduction, but the exact terms of the relationship are unclear and it has not been fully articulated in the record. The DER Order states at page 104: "The energy exported by eligible DER can provide Environmental Value to LSEs by offsetting the LSE obligation to purchase Tier 1 RECs from NYSERDA or other large-scale generators. The value of that reduction will be equal to the cost of one REC per MWh…"

of a ratepayer's bill[6]. Completion of this program would be a necessary component of a system where voluntary purchase of RECs from MT facilities reduces LSE compliance obligations. Regardless, the RECs should not simply accumulate; if they are not needed by NYSERDA they should be returned to the facility of origin with the stipulation that they can be sold to users within New York as an additional source of revenue[7].

***Locational System Relief Value***

The Utilities were asked to examine load forecasts and look for areas where upcoming infrastructure upgrades could be avoided by the location of distributed renewables. These calculations led to Locational System Relief Values (LSRV) in some areas. This is an intelligent calculation but suffers from the same focus on newness that the CES exhibits. By focusing only on future need, it does not account for the values which existing DG facilities are already providing. If the retirement of  a small hydro facility would create a new LSRV area, should not the state first look to support that facility if it can be done for less than the cost of its replacement?

AMP suggests that existing facilities interested in VDER be able to apply for an LSRV credit by requesting the Utility do a site-specific analysis to calculate the potential cost to the grid of retirement.

***Clarification of DRV eligibility***

Legacy hydro is eligible for VDER crediting under PSL 66-J. However, the proceeding is focused on new development. It can be difficult to determine what value credits a legacy hydro VDER would qualify for.

AMP request clarification that a legacy hydro VDER would be eligible to receive DRV value.

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[6] "Comments on the June 5, 2017 Technical Conference in Cases 15-E-0302 et al. – Proceeding on Motion of the Commission to Implement a Large-Scale Renewable Program and a Clean Energy Standard ('CES')" Joint Utilities, June 12 2017

[7] This mirrors suggestions made by the Coalition of On-site Renewable Energy Users (CORE) in the VDER proceeding regarding the treatment of RECs from customer-sited solar facilities.

**Encourage Voluntary Purchases of Renewable Energy Certificates**

In its presentation to the Roundtable, ANCA pointed out that the exchange of RECs offers a clean and simple means of selling renewable power to a customer without the cost or complexity of an ESCO, through unbundled sales or voluntary PPAs. In such transactions, there are no additional costs to the customer. Structuring such agreements on a contract-for-differences basis serves to fix the long-term price for both parties. The challenge is that any such agreement requires that the customer pay significantly more in total than the cost of standard mixed power alone. AMP's experience shows that very few customers are willing to do this. In order to make a real difference to a small hydro plant, the REC value would need to be $20/MWh or more, while Green-e certified wind RECs can be purchased for $0.45/MWh.[8] Developing a solar array under VDER provides credits that ultimately allow users to "go green" without any net additional expenditure. Pinched between these options, it is difficult for hydro to compete, offering a high price with no state incentive. AMP requests Staff to look for ways to encourage the purchase of in-state RECs by New York energy users.

***Incentivize the purchase of in-state RECs for voluntary compliance***

NYGATS is set to track the movement of all RECs created in New York as well as those imported and exported. RECs can move in two different ways, through bundled delivery of power and through unbundled contact-path transactions. Many RECs imported to NY for voluntary compliance are unbundled RECs originating from Texas and the Midwest. The National Renewable Energy Laboratory (NREL) reports that voluntary purchases of unbundled RECs have been increasing due to the precipitously falling price of RECs from these areas, from $1.13/MWh in 2014 to $0.89/MWh in 2015 and $0.34/MWh in 2016.[9] It is worth noting that the economics of wind in these areas are such that REC revenues are insignificant to project finance, meaning that the purchase of those RECs does nothing to drive clean energy development[10].

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[8] Adirondack North Country Association Presentation at June 5 Roundtable

[9] "Status and Trends in the U.S. Voluntary Green Power Market (2015 Data)", Eric O'Shaughnessy, Chang Liu, and Jenny Heeter. National Renewable Energy Laboratory http://www.nrel.gov/docs/fy17osti/67147.pdf

[10] "The Role of Renewable Energy Certificates in Developing New Renewable Energy Projects" Edward Holt Ed Holt & Associates, Inc. Jenny Sumner and Lori Bird, National Renewable Energy Laboratory

During the NYGATS stakeholder meeting, Staff clarified that unbundled imported RECs would not affect LSE mandates or the CES goal[11], yet they compete with in-state suppliers. NYSERDA and the PSC should look for ways to encourage those who purchase unbundled RECs to first look to local suppliers, possibly restricting the green claims entities who purchase unbundled imported RECS can make. At a minimum, no state program should reward the purchase of unbundled, imported RECs since they return no value to ratepayers or taxpayers.

***Encourage CCAs to purchase in-state renewable power***

ANCA addressed the potential of sales to a CCA from an ESCO, and rightly concluded it was not likely that a CCA would purchase the higher-priced product of an in-state renewable ESCO. However, the possibility of selling RECs to a CCA through a PPA exists. NYSERDA's Clean Energy Communities Program encourages CCAs and other clean energy initiatives such as Solarize and LED streetlights, rewarding them with grant opportunities. Currently, to qualify as a "High Impact Action" a CCA must purchase Green-e certified RECs, with no deliverability requirement. Sustainable Westchester, New York's largest CCA, currently offers a 100% renewable power product option to its customers. This product consists of unbundled RECs primarily sourced from out-of-state[12]. This purchase does not encourage renewable development and has no impact on state clean energy goals, a missed opportunity to support in-state renewables.

AMP suggests that in order to be considered "High Impact" a REC purchase must either originate from a facility within New York or be bundled with energy delivered into the state.

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[11] NYGATS Stakeholder Meeting hosted by NYSERDA, April 5, 2017. Web submitted question and verbal answer (paraphrase):
Q: Will RECs from out of state purchased by users in NY for the purpose of green claims flow through NYGATS? Will they be counted towards the CES 50/30 goal?
A: No. Imported RECs can be counted towards CES Tier 1 but only if they meet delivery and eligibility requirements and bid though CES Tier 1 procurements.

[12] Constellation Energy, supplier to Sustainable Westchester, refers to this product as "new mix wind." It consists of unbundled Green-e certified RECs, the typical price for which from Constellation ranges from $.45-$.70/MWh. While "New mix wind" may contain RECs from multiple states, it is unlikely that much if any would be from New York. Nearly all of the wind development in NY was done under the RPS, in which case the RECs are claimed by NYSERDA. Post-RPS wind RECs would not qualify for Green-e certification since such a project would have outlived its development contract. (Phone consult with representatives from Sustainable Westchester, Joule Assets, and Constellation Energy; and "Fact Sheet: Green-e Energy Certification Program" Center for Resource Solutions)

***Develop a marketing platform for in-state or local RECs***

Legacy renewable producers have no experience with marketing, having developed with a wholesale business model. RECs are viewed skeptically by many customers. It is difficult to sell an intangible attribute. The construction of a new solar array in partnership with a sales-oriented developer backed up by state subsidy programs and local non-profit outreach is often more attractive. Assistance is needed to help legacy renewables transition from a wholesale to a retail business model. AMP appreciates ANCA's experience in the local food movement and optimism about a similar "buy local" effect in clean energy. Certainly, if customers were willing to pay higher prices for local renewable power in similar proportion to the cost of rainbow-colored local organic carrots over supermarket carrots, our troubles would be ended (without forgetting that only a comparatively small number of shoppers are willing to pay the premium). The assistance of an entity like ANCA in the realm of customer acquisition would be very helpful.

AMP suggests that the DPS and NYSERDA consider development of a program to market local RECs to in-state consumers, potentially working in concert with local economic developers such as ANCA.

***Distributed hydro and the new REV power grid — thinking big***

New York has over 1300 MW of small and medium-sized hydro plants scattered throughout the state[13]. Whether feeding in at distribution or transmission level, these resources represent a resilient, distributed, renewable energy source of the kind that will be critical to the new grid envisioned by REV. Smart metering and updated interconnection controls could make such facilities more valuable to system operators. Energy storage has the potential to transform the economics of small hydro, and its value to the grid. Locating electric vehicle charging on-site behind hydro plant production meters could offer an extremely low-cost charge, changing the economics of EVs in rural areas. Many hydro facilities are black-start capable, but have never developed the protocols. Located in the center of small towns, hydro is ideal for rural micro-grids. There are many opportunities.

AMP suggests that NYSERDA work with hydro to think about how these resources could be best utilized and what technology or infrastructure upgrades would allow the most powerful integration into the new REV power grid. We further suggest that development grants and incentive programs be created to help in the deployment of these technologies.

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[13] NYISO Table III-1: Existing Generating Facilities Codes and Abbreviations, Nameplate Generation Capacities (MW)

**Comments on the Maintenance Tier**

Azure Mountain Power is currently a recipient of Maintenance Tier payments. We appreciate the opportunity to share comments and will address the questions posed in the Agenda. The first and most important question is found in the Agenda under 3(B) and asks whether a showing of financial need should be necessary for support under Tier 2. AMP reiterates the opinion that compensation should be based on parity, value, and the imminent danger of losing RECs from legacy renewables to export. We therefore disagree with the financial need threshold, but will leave further exploration of this to others.

**Eligibility**

AMP supports the expansion of eligibility to include all those eligible for the RPS. We also support the expansion to include larger hydroelectric facilities. There may be a size threshold at which hydro facilities need less or no support, but if an MT award is based on facility-by-facility analysis we see no reason to restrict the eligibility of any renewable resource. However it may be more efficient to substitute a categorical analysis for the facility-by-facility method. AMP would support a finding of eligibility for a given value-based MT award to a class of generators, such as hydro up to a certain size, with the option of applying for a supplemental award through financial analysis. This second option could be open to all renewable generators, whether or not eligible by class for the value-based payment.

AMP is also aware of one hydro facility developed under the RPS which is in distress. With no PTC, ITC, or NYSERDA development grant, this facility relies solely on the RPS payment and the wholesale price, the latter of which has fallen by 70% since the facility was developed. If an RPS resource is danger of retiring, it too should be able to apply for the Maintenance Tier so that NY-PSC has an opportunity to save it.

**Expansion Beyond "To Go" Costs**

Item 3(C) of the Agenda asks if the Commission should consider compensation beyond "to go" costs as currently administered. AMP is currently unable to cover its costs despite receiving Maintenance Tier payments. Despite what Staff refers to as a "negative cash-flow situation", AMP is not eligible for an increase in the award based on the current parameters. We therefore strongly support the expansion of of eligible costs.

***Allow service of existing long-term debt, where prudent***

During the roundtable discussion, Staff stated that the Maintenance Tier is currently restricted to "to go" costs and does not include "sunk costs", defined (paraphrased) as "any costs which would be wiped out by a bankruptcy". It is unclear why such costs, mostly the service of long-term debt, are unsupported and why Staff prefer bankruptcy and retirement regardless of the cost of avoiding it. The economics of hydro require large up-front capital expenditures and long-term debt service. The fact that a hydro plant still carries debt from decades before does not mean that the investment was imprudent, when the facility has many decades of useful service in front of it. The cost of keeping that facility operational, including the debt service, is in most cases still less than the cost of developing new resources. The service of AMP's remaining long-term debt from initial construction equates to approximately $0.01/kWh in an average production year. In this circumstance that existing debt service should be supported as a standard cost of the technology.

***Include borrowing costs in support of new capital investment***

Staff stated that the Maintenance Tier will support "any necessary future capital costs"[14]. This is only true to a limited extent. Such expenses are included in the calculation of revenue need by the use of a depreciation schedule. This does not allow for the cost of borrowing. A facility applying for a Maintenance Tier award is not likely to have sufficient cash-on-hand to undertake a large capital project. AMP has recently experienced the impossibility of borrowing based on future revenue from the volatile and downward-trending wholesale energy market. Borrowing based on the MT award alone yields far less than is actually necessary to complete a given project. AMP recently replaced its dam, borrowing against the Maintenance Tier award. The failure to support borrowing costs meant that we had to make up for the shortfall with our own uncompensated labor and ingenuity. We realize that the service of debt provides a profit stream to an investor, however, practicality demands that reasonable borrowing costs be supported if the intent is to actually allow Maintenance Tier facilities to undertake capital upgrades. Perhaps a program could be developed in concert with the New York Green Bank to allow that profit to flow back to the state.

***Grant longer-term Maintenance Tier awards***

AMP received a MT award to allow us to replace our dam. The award was granted for ten years, whereas the dam is likely to last for 50 years or more. This led to a much shorter financing schedule than necessary. AMP is currently facing higher than necessary debt service as a result.

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[14] NY-PSC Notice of Agenda for the Roundtable Forum on Existing Renewable Generating Facilities CASE 15-E-0302 (Issued May 30, 2017)

***Streamline award adjustments***

In granting the initial MT award, DPS stated a minimum per-kWh revenue need to support our facility following analysis of AMP financial documents. The award was calculated to make up the difference between the average LBMP wholesale price for the previous year and the revenue need. In the three years since, the average LBMP has fallen to less than half what it was at that time. AMP applied for an increase in the MT award in 2016. We were granted a new financial review, which was conducted through the same exhaustive process as the first. We were ultimately denied an increase. AMP understands the outcome of DPS analysis but not the inconsistency between the 2013 review and the 2016 review. If the MT is to be effective, it must have the capacity to reliably adjust to changes in the wholesale market.

AMP suggests that the MT award be granted for a given period of time based on a determination of the revenue need of the facility, and that over the course of the contract periodic adjustments be made to close the gap between wholesale revenues and the revenue need. These adjustments should be based on the initial analysis of revenue need, and not trigger an entirely new, months-long review.

***Allow for Profit***

It should be self-evident that a private business cannot be operated sustainably at break-even. Operation of a hydroelectric dam carries risks and responsibilities, and with no opportunity for profit there is no incentive to undertake the operation. In the case of owner-operated facilities who may have already taken on the responsibility of maintaining an impoundment and do not wish to export the risks of its failure onto the community, this amounts to exploitation. A reasonable level of profit to the owner must be included. AMP suggests a fair return on the value of the facility production, consistent with industry profit margins. Allowance for profit in the calculation of an MT award does not guarantee that there will be profit, as the operation still carries risk.

**The Myth of "Windfall Profits"**

There seems to be a common perception among regulators that legacy renewable facilities "have already been paid for" and thus are not entitled to further ratepayer support. There is an argument to be made to this effect in regard to RPS facilities, and possibly to facilities developed by Utilities prior to "deregulation". But this is simply inaccurate regarding independent power plants developed under PURPA. AMP and other PURPA facilities were offered long-term contracts at the projected avoided-cost rate, with no intention that ratepayers would pay more for

renewable power than for any other source. The fact that these projections turned out to be wrong and for a time PURPA facilities received a higher rate than the actual avoided cost does not equate to a subsidy. If the projections had been right or had turned out to be less than actual avoided cost, there would be no such perception. In fact many PURPA facilities such as AMP have struggled as a result of these inaccurate forecasts and had difficulty meeting their debt service in an electricity market which no one predicted. The presence of "sunk costs" on the ledger of a facility applying for a Maintenance Tier award torpedoes any claim that ratepayers "already paid" for the facility. When the wholesale rate of electricity is 1/3 of what it was when the project was developed and less than 1/6 of what projections at the time held that it would be, it is hard to understand where the fear of "windfall profits" comes from.

## Defining the Problem

There have been many concerns raised in the record regarding RECs and the accounting of the 41.3 million MWh "Renewable Baseline" which have still not been addressed. It is unclear how the baseline will be calculated and there is significant concern over the possibility of double counting. This lack of transparency undermines any discussion about the retention of legacy renewable generator attributes in New York.

### NYGATS

The NYGATS system is intended to be the authoritative accounting platform for determining the renewable energy mix of the state, but it is not clear how it will do so. The CES states that RECs will be the basis for accounting progress toward the CES Tier 1 goal. It should likewise be the exclusive basis for counting the baseline; each MWh counted toward the baseline should be associated with a REC which is propagated in NYGATS and retired on behalf of a New York customer or LSE. In the NYGATS stakeholder meeting, Staff stated that with regard to NYPA and HQ power, there are no RECs created but the "source attributes" are recorded and this is used to include that power in the baseline[15]. It seems likely this is also true for independent hydro facilities which have not registered with NYGATS, in which case no REC is recorded. It is unclear how these facilities are counted. Several facilities export RECs but are not registered

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15 Hydro Quebec has stated that none of its New York state contracts contain bundled RECs, and it has protested being counted as part of the state renewable portfolio. "HQUS has not sold to any New York customer, and is not obligated in the future to sell, any environmental attributes that are or may in the future be associated with its baseline energy sales into the State." page 16, "Petition for Rehearing of HQUS Energy Services, Inc" CASE 15-E-0302, August 30, 2016

with NYGATS. With no REC procurement mandate, the use of two different sets of accounts — RECs and "source attributes"— creates the possibility of double counting.

AMP suggests that RECs be the exclusive method used to determine, at least, the portion of the renewable baseline which comes from independent producers. To be included in the baseline, each MWh from an independent facility should be associated with a REC propagated in NYGATS and retired on behalf of a New York customer or LSE.

**Conclusion**

It was instructive to hear Staff refer to carbon pricing as the most efficient (though unattainable) solution, and to share that in the development of the RPS no-one expected that wholesale rates would be unable to support the continued operation of renewables at this point. We share many of the same frustrations, and this is promising for collaborative problem solving. The fact is that the deregulated marketplace is failing to support the energy diversity that NewYork needs. In the absence of carbon pricing, the least-cost producer controls the wholesale price and has driven it below the operating threshold of nearly every other producer. The injection of new, subsidized renewable resources exceeding both demand growth and transmission capacity has driven wholesale prices down further in some areas. The final proof is the subsidizing of nuclear power. The free market is, at this point, a mythology, and this undermines many of the PSC's basic assumptions. The frame of this discussion needs to shift. State programs have intruded deeply into a marketplace which was already low and volatile and made that situation worse. This intrusion creates a responsibility to rectify its ill impacts and work proactively for every resource the State wishes to retain. This is true both at wholesale and in the voluntary market. Azure Mountain Power produces clean energy at a higher capacity factor than wind or solar, and our machinery will easily outlast those technologies. In the absence of subsidies, development grants, tax credits, non-profit assistance, etc. ours is some of the cheapest renewable power available. Yet our LBMP is driven to negative territory by RPS wind, and we are outflanked in the voluntary market by State-sponsored solar. The independent people who restored hydro plants under PURPA through hard work and ingenuity are not accustomed to seeking handouts or requesting aid. However, as staff pointed out, when you arm too many players in a conflict, you must eventually arm them all. We appreciate the difficulty in balancing the State's limited resources to find the second-most efficient solution. We very much hope to be part of that effort.