DISTRIBUTED GENERATION BOARD MEETING

November 17, 2014

4-5:30pm

Conference Room A

Department of Administration

Board Members Present: Ken Payne (Chair), Marion Gold, Charity Pennock, Hannah Morini, Bill Ferguson, Sam Bradner, Christine Malecki West, Sam Bradner, Sheila Dormody

Others Present: Chris Kearns, Sue AnderBois, Shauna Beland, Bob Grace, Paul Raducca, Seth Handy, Mark Nelson, Mark DePasquale, Raquel Webster, Corinne Abrahams, Scott Rowland, Josh Levine, Tony Callendrallo

1. Call to order: Chairman Payne called the meeting to order at 4:06pm

2. **National Grid Updates**:

National Grid has filed the proposed Renewable Energy Growth program, including the tariff and program rules on November 14th.

Chris has circulated these documents to the board and will forward them to all stakeholders later this week.

Regulatory process going forward: Difficult to estimate timing and steps because it's the first of its kind and different from the contracts program. In the coming weeks, the PUC will set a procedural conference to lay out a schedule for the docket (including discovery, deadlines for intervention, dates for submitting comments, hearing date, discovery, etc.). National Grid will update the Board as more things are known for certain.

Anyone who wants to be on the service list for this docket can do this through the Commission Clerk.

The Board will be intervening in the docket. DG Board Counsel will handle this for the board.

3. **Board Discussion on the 1rst draft of the ceiling prices from SEA:**

The Board took up issues that affect ceiling prices that vary by site. These include property tax rates, interconnection costs, and capacity factor.

Ken asked the board to use their experience and practical knowledge gained through the contracts program in helping to design the ceiling prices for the tariff-based program.

First Subject: Taxes/Property Taxes:

The board discussed how the site-specific information is included in the algorithm for the ceiling prices: is it a best case/worst case scenario or a representative sampling, is each item taken individually, or are they considered as a bundle?

There are inherent interplays among the factors, and they are taken together as a package instead of individually. Further, the prior years' philosophy has been to aim for projects in the bottom quartile of

cost. However, this philosophy could potentially be changing with the "Growth" program to encourage more renewable development, so the inputs will reflect the siting of an 'average' project.

This reflects the policy goal to increase renewables while continuing to steer them to the most reasonable and cost-effective sites.

Bill Ferguson raised the point that while the program is aiming to expand and reach more "average" projects, the increases in the program should lead to some economies of scale that can help the overall prices decrease. SEA responded that this was likely going to be the case, specifically for parts of the price that are relevant to RI-economies of scale. However, there are also portions of the cost that are unrelated to the market conditions in Rhode Island (ex. price of PV modules are a world market, not a local market).

Property Taxes:

There was interest from the board (Bill Ferguson) to determine and disseminate information on best practices for property taxes to encourage renewable energy development.

Ken Payne discussed the need for better understanding of the laws pertaining to local taxation and data of how property is currently valued across many tax rates (excise, property, and personal tax, among others).

Chris Kearns noted that there are things we can do short term v. longer term. For example, OER has reached out to the Office of Management and Budget to obtain a listing of tax rates across the state. OER will also be meeting with the RI Tax Assessors organization in mid-December.

There's a lot of variability across municipalities, so in general so far, the ceiling prices are looking at averages. Though, there is concern that we should also be doing sensitivity analysis on the spread of prices – not just the average. Further analysis is also needed to cross reference the tax rates where DG projects have been built. Further, do we want/need to make a distinction between the tax rate on the project and the average tax rate based on the nameplate capacity of the project? (For example, a large project in a low-tax municipality would skew the data one way v. a project in a higher tax jurisdiction).

The board then teed up a future policy discussion around taxes for future rounds of the DG program around the optimal structure of municipal tax rates to encourage renewable development without leaving ratepayers with significantly energy rates. Over the next year, the board can gather data on the effect of the current property taxes (and how they are built into the ceiling price) on project development.

SEA noted that Jason sent out a conceptual memo that lays out the goals we are trying to accomplish in this round and how we can design inputs to best reflect those goals: Conceptual memo sent around by Jason: (Please see Jason's memo). What are we trying to accomplish in this round, and how can we design the inputs to reach that goal?

Bill Ferguson requested information on the weight of taxes in the ceiling price. SEA will follow up via email with that information. The board agreed that if taxes could be the difference between project viability and not, it was important to delve into.

Interconnection:

Chris summarized that during the first four years of the program, there have been some issues with siting and interconnection costs (line upgrades, etc.). Interconnection costs can range depending on system size and location. OER has not systematically studied interconnection issues, but anecdotally have heard of a few projects that experienced concerns with the interconnection costs.

The ceiling prices currently use average prices for interconnection. The board had the same concern about incorporating sensitivity analysis on the prices, incorporating the range of prices, not just the average.

SEA had received data from National Grid on actual interconnection costs but was questioning whether it was a sampling from MA and RI, or just RI, and if it was a random or representative sampling. National Grid will follow up directly with SEA, though it was likely from both MA and RI. Bill Ferguson: This is a bigger issue for wind than solar?

The concerns about interconnection costs have so far primarily been for wind projects. But members of the board and the public cautioned that as the distributed generation program continues to grow, the issue will also likely to begin to affect solar. This has been the experience in MA. Further, the smaller projects have seen fewer issues with interconnection. While this may not affect the 2015 ceiling prices, this is something to discuss in 2015 for future programs.

Sheila Dormody asked whether we are likely to see continued problems siting near the coastline because of interconnection costs. Ken Payne responded that resistance to building wind power on the coasts, moreso than interconnection costs, is likely to affect siting on the coast.

Commission Marion Gold added to the discussion that distributed generation projects can also help to reduce load in constrained areas. She discussed the Demand Response and Renewable Energy pilot partnership in Little Compton and Tiverton. However, distributed generation can also tax antiquated systems. This is part of a larger conversation about how to value distributed generation and optimally integrate it onto the Grid.

The Board also discussed how interconnection costs can help drive where projects get built – but they should not be the only factor in determining optimal site location. An example is former landfills that dot the state, which are optimal for DG, but may not have the best interconnection prices.

Proposition from Ken Payne: The ceiling prices treat interconnection costs similarly to taxes. They will generally look at an average in each class – but will try to take into account distribution and the median (not just the mean). This also takes into account that some classes are difficult to average because there have been so few projects (hydro, anaerobic digestion, etc.).

Public Comment on Interconnection:

Mark from Clean Energy Collective: Emphasized that while solar hasn't had major interconnection projects yet in Rhode Island, that has mainly been because we haven't seen multiple large projects in close proximity. We should learn from MA's experience and perhaps have a way to see during the application period who is in the queue ahead of you and the implications those projects and yours will have on interconnection prices.

Another member of the public (did not identify himself) emphasized Marion Gold and Charity's point that as the program grows, we need to have the larger conversation about the value of distributed renewables on the grid. Who should be responsible for paying for grid upgrades if the system is old? If Grid is already paying every year to upgrade the grid, how can it be aligned with where renewable energy development is happening?

Capacity Factor:

SEA believes that the capacity factor and location are two of the biggest pieces of the costs (not necessarily size). How much wind does the RI energy plan want to see built, and what type of capacity factors are needed to meet those projections?

Bill Ferguson: What capacity factor we're using for wind in ceiling prices?

SEA: In the last round of the DG contracts program, the ceiling price included a 26 ½ % capacity factor. Current models use 23%. SEA circulated a memo last week with data points from MA and RI. If some MA locations were excluded because of the topography of RI, the capacity factor would be even lower (20% or low teens).

OER does not currently have comparisons between wind regime maps and project applications because we have not received many large wind applications. Ken recognized that while other technologies have been undersubscribed (anaerobic digestion, hydro), wind is the main class where there was a big discrepancy between expectations and reality (partly because of hostility to wind in coastal locations).

Given the low capacity factor and the difficulty siting wind, there was discussion among the board about a need for clarity of the policy goals for wind v. other technologies.

Ken Payne, Charity Pennock, and Christine agreed that there are set asides in the legislation for wind – that this is not only a solar program. However, given our need for inland wind resources – the capacity factor will be low because 1) the wind resource inland is less robust than on the coasts and 2) we are densely populated so the newer, larger, more efficient wind turbine technology cannot be used.

Bill Ferguson inquired what the effect of the lower capacity factor will have on the ceiling price.

Marion Gold added that she is comfortable this conversation about wind. She wants to ensure that we're looking at these issues from a systems perspective.

Charity Pennock added that these questions are about larger policy questions. Her opinion is that RI is a small state that needs to use its land resources efficiently – wind could play a part in this.

Public Comment:

Seth Handy: I really appreciate the level of the board's engagement and sophistication of board's discussionmaking. The methodology is sound. I agree that moving forward there will be opportunities to revisit these. His client is committed to being active and open book with what he is experiencing as he attempts to develop wind in RI. It's important to take what we see now and moving forward be ready to adjust as situation dictates. He also believes that there are opportunities for wind development 'at

scale', and that the 3MW allocation may be too small to achieve the economies of scale needed. He's been in conversations with the PUC about this issue.

Return to discussion of Interconnection:

Ken Payne inquired as about how interconnection costs and capacity can be incorporated best into the ceiling prices. SEA reminded the board that FERC and National Grid both have opinions and rulings about interconnection. Ken suggested that the board use an assessment of actual and projected experience – use calculated based on current law and precedent.

Bob from SEA explained a potentially relevant experience in MA's Long Term Contracts Program that dealt with FERC 41,000. However, National Grid informed the board that this was an irrelevant example because it is meant for transmission interconnected projects, whereas DG projects in Rhode Island are connected to the distribution feeder.

More Public Comment:

Seth Handy: They have put their comments in writing. Interconnection remains a significant policy concern. The cost of interconnection is directly related to who bears the responsibility (National Grid v. developers) to upgrade the grid. This directly impacts the viability of projects.

The board was reminded that the DG tariff program will be requiring an interconnection study, not just feasibility studies. This should help make the interconnection costs more transparent up front.

Member of the public (not identified): Strongly believes that developers should not be handling system upgrades from systems from the 1960's. If these costs are totally borne by RE programs, it artificially inflates the cost of renewable energy in RI. This would be different if the grid had been updated in the last 20 years, instead of 60.

Ken agreed that there's potentially a wider benefit that is being included in the renewable energy contracts, potentially making renewable energy projects seem costlier than they are. The optics of this could be important. These types of issues should be highlighted when the board presents to the Commission.

Marion Gold alerted the Board to the fact that these are the types of issues that OER (in partnership with Grid and others) have been spending a lot of time trying to figure out. National Grid is also continuing to upgrade the grid every year – how can we align the maps of their upgrades with potential DG projects?

Seth Handy reminded the board and public that the interconnection tariff is coming up for revision. The revised draft is due by early December. The PUC will be opening a docket proceeding.

Motion to adjourn by Charity Pennock, seconded by Christine.

Meeting adjourned at 5:51pm