Pope Energy

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Mark D. Marini, Secretary
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D.P.U. 19-55

Pope Energy Comment Letter – Cost Causation
Submitted by Doug Pope, President

Dear Secretary Marini:

We appreciate the Department of Public Utilities exploring the use of working group sessions to engage developers, utilities and public policy stakeholders in deliberative discussions of how to facilitate installation of increasing levels of solar PV and energy storage to achieve GWSA goals in Massachusetts.

In a utility centric, pre-Global Warming Solutions Act condition, if a third party wanted to connect to and participate in grid generation operations, and if costs were incurred to make interconnection to the grid, the upgrade cost was borne by the party causing those costs to be incurred. The post-GWSA conditions we are in today, where EOEEA is to set "economy-wide" greenhouse gas (GHG) emission reduction goals for Massachusetts, demands a broader approach to transition to renewables.

Given that the ratepayers pay for the cost and receive the benefits of interconnected renewables, assigning a value of cost apportionment incurred by a new system encouraged by state energy policy is never going to be philosophically perfect. Costs are going to need to be assigned based upon reasonable, equitable assumptions.

Currently, in a residential application, if a number of solar projects are interconnected at no cost, but the last home to request interconnection trips the requirement for a new transformer, that homeowner bears the entire expense. Somehow with the GHG reduction goals targeted through 2050, this policy does not seem fair and equitable.

In commercial and utility scale projects, regardless of the age of the utility interconnecting system, lack of maintenance, or congestion on the circuit or substation, the applicant project bears all of the cost, unless other projects are being interconnected concurrently. With GHG reduction goals through 2050, this antiquated policy overlooks the overall goals of EOEEA to transform the building, transportation and electrical sectors and power those sectors with renewable energy.

Increasing levels of renewable distributed generation are going to be required to meet the RPS and GWSA obligations by 2030. The obligations are in ten years' time.

Achieving those goals are functions of having: 1) policy in place to attract investment and the building of businesses to provide execution to commercial operation; and 2) charging the utilities with a sense of urgency to make the transition to having large amounts of distributed generation on their systems. Given the GWSA path set by the legislature, congested lines and substations are not an excuse to delay the transition to renewable distributed generation.

The EDCs are going to need to be charged by D.P.U. to lower the interconnection tariff timeline both at the DG level and at the transmission level. The concept of allowing the EDCs to dictate that large projects and smaller, less than 1 MW projects stuck behind larger projects, will take one to two years in the interconnection queue is against public policy. In Stat. 2016 c. 75 (11), the legislature directed DOER to "develop a statewide incentive program to encourage the continued development of solar renewable energy generating resources by residential, commercial, governmental and industrial electricity customers throughout the commonwealth." It is time that D.P.U and DOER coordinate policy, regulations, system planning and tariffs to provide for uninterrupted development and execution through final commercial operations for 10 years. The continued on-again, off-again availability of solar program capacity or ability to interconnect does not constitute the intent of the legislature to encourage "the continued development… throughout the commonwealth."

How do larger policy concerns have anything to do with Cost Causation?

The occurrence cost of interconnection to the grid needs to be met with a system ready to service the obligations of a transition to renewables. Those improvements and benefits have been determined by the legislature to meet the best interest of Massachusetts residents. These societal improvements, under current construct, are rate-based capital cost improvements.

As the SMART program was being developed, Sustainable Energy Advantage (SEA) consultants to DOER issued a survey that both solicited from and presented information to stakeholders who were interested in the yet-to-be-developed solar program.[1] Within that Cost Data presentation, SEA used $0.11 per watt as the starting point for interconnection cost, with the Low End of the Range being $0.13 for systems 25 kW – 1MW, $0.18 for greater than 1 MW with a High End Range of $0.25 for all size systems generally. The solar industry is not privy to the final amount that was calculated for interconnection in the cost modeling for SMART. Whatever that amount was, it was made meaningless in light of the Cluster Study delays and lack of program capacity in National Grid and the in-series review of interconnection applications in Eversource.

Currently, cost of interconnection is unknown until 9 months to nearly 2 years after the date of interconnection application. Does it seem right that Massachusetts's potential solar residential customers, farmers, commercial business and large corporations need to wait 9 months to 2 years to discover if their project is feasible? Does it seem reasonable to run a company, large or small, where there is only revenue 1-2 years from the date where the project was first contracted? No solar project should take longer than

[1] Sustainable Energy Advantage, LLC (SEA) Cost_Data_Entry_040416_VFinal

6 months to receive an ISA, regardless of size. D.P.U needs to demand this kind of performance.

The SMART program design with a declining block does not work with interconnection queues greater than a defined timeline. What is needed is time and price certainty relative to interconnection of DER's. We need DOER and D.P.U. to have matching policy objectives. The compliance obligations are in legislation, regulation and case law which are sending market signals that renewable companies should be investing in Massachusetts. But choppy policy implementation does not allow for companies to grow and stay in business; for evidence, just look at the loss of solar jobs and the hollowing out of Massachusetts solar firms' employment numbers due to the inability to interconnect and lack of solar program size.

Cost Causation Assignment of Cost Recommendation: Everyone Pays

This proposal considers interconnection to be a regulatory entitlement that allows access to revenue that exists today and may exist in the future for the monetary benefit of the interconnected party. Interconnection is a real property asset.

Residential and Commercial Under 25 kW:

There will be a debate whether the interconnection fee should be $0.10 per watt AC or $0.20 per watt AC and whether such increased cost will affect the economic feasibility of behind-the-meter installation of renewable energy systems. Public policy may be to continue to incentivize the installation of residential solar systems, perhaps with storage because of growing grid benefits. Within this framework, the last person in the neighborhood to make application to interconnect would be able to do so because public policy recognizes that transitioning the transportation, building (thermal) and electrical sectors are a system-wide societal benefit.

Solar Systems Greater than 25 kW – 500 kW:

Behind-the-Meter and Building-Mounted Systems: Not to exceed $0.20 if required (building-mounted may or may not be behind-the-meter systems)

Standalone Systems:

All-in Interconnection Cost: $0.20 per watt AC flat fee including transformers if required. This is a sector that is difficult to sell into and yet is a desirable target-sector from a policy prospective.

Solar Systems Greater than 500 kW – 1.5 MW AC:

Behind-the-Meter and Building-Mounted Systems: Not to exceed $0.20 per watt AC if required

Standalone Systems: (500 kW – 1.5 MW AC cont.)

All-in interconnection cost not to exceed itemized cost of $0.20 per watt AC if required + transformer cost. This will encourage developers to seek out lower cost interconnection locations.

Solar Systems Greater than 1.5 MW – 5 MW AC:

Behind-the-Meter and Building-Mounted Systems: Not to exceed itemized cost of $0.20 per watt AC plus all Point of Common Coupling costs.(PCC)

Standalone Systems: 1.5 MW – 5 MW AC

Not to exceed $0.20 per watt AC plus all Point of Common Coupling (PCC) costs and conductor upgrade cost to three-phase within one mile. This will encourage developers to seek lower cost interconnection locations.

Reconciled Costs:

Interconnection fees paid by solar and DER developers should be applied and reconciled to the total cost of making grid modernization improvements.

Given existing legislation and Governor Baker's net-zero emissions goal by 2050, all other circuit, substation and transmission upgrades would be rate-based improvements.

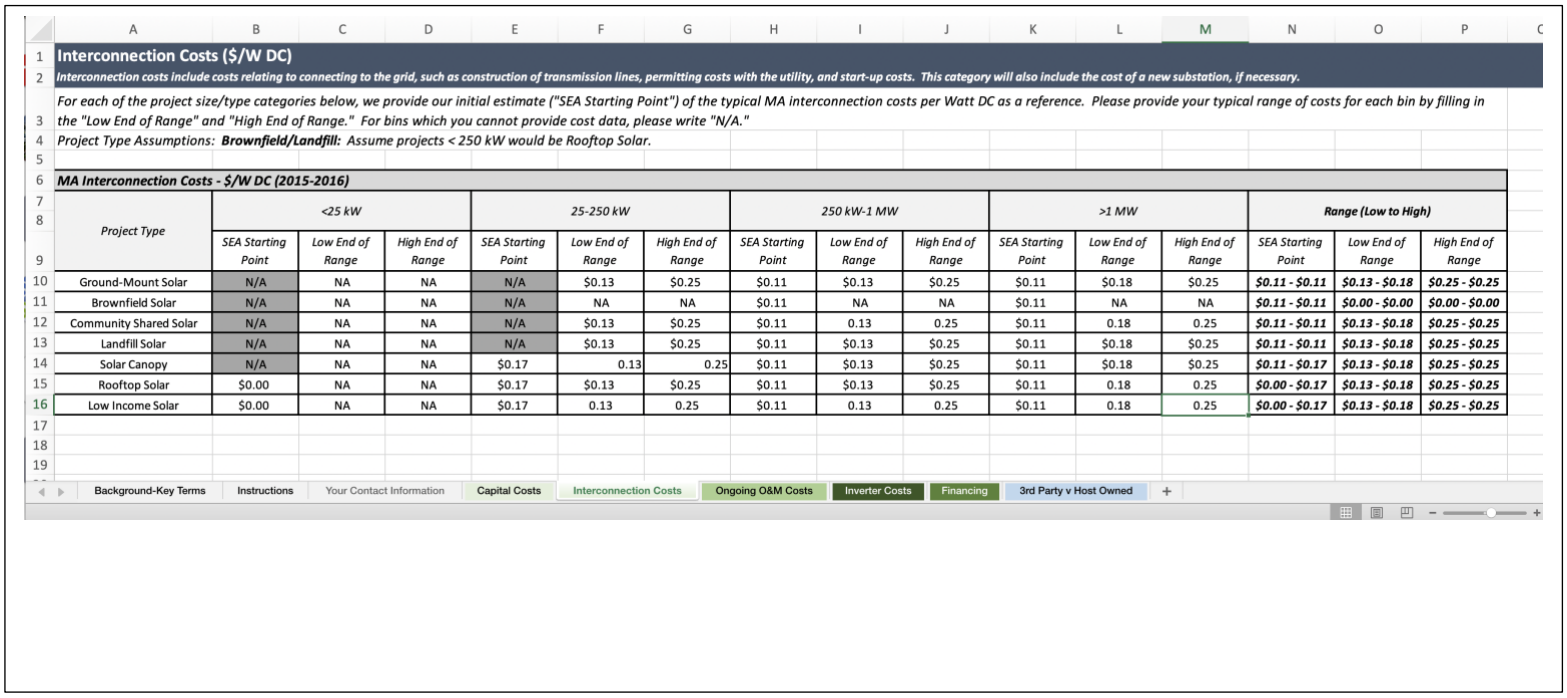
D.P.U. needs to direct the EDCs to address system wide upgrades concurrently with the installation of renewable resources. As the EDCs have said in the 19-55 working group sessions, they are waiting for direction. Since rate-based, system-wide improvements align the interest of the EDC stockholders, the direction from D.P.U should be bold and demanding with annual deductions on ROI for not meeting a demanding transition to renewables.

Cost causation should not rest solely with the interconnecting party. A modernized grid should have the ability to service the greenhouse gas reductions of the electrical, building, and transportation sectors – and those costs should be borne by everyone.

Best Regards,

Doug Pope
President

Cost_Data_Entry_040416, Sustainable Energy Advantage as part of a consulting engagement with DOER.



Interconnection Costs ($/W DC)

Interconnection costs include costs relating to connecting to the grid, such as construction of transmission lines, permitting costs with the utility, and start-up costs. This category will also include the cost of a new substation, if necessary.

For each of the project size/type categories below, we provide our initial estimate ("SEA Starting Point") of the typical MA interconnection costs per Watt DC as a reference. Please provide your typical range of costs for each bin by filling in the "Low End of Range" and "High End of Range." For bins which you cannot provide cost data, please write "N/A."

Project Type Assumptions: ***Brownfield/Landfill:*** *Assume projects < 250 kW would be Rooftop Solar.*

MA Interconnection Costs - $/W DC (2015-2016)

Project Type	*<25 kW*			*25-250 kW*			*250 kW-1 MW*			*>1 MW*			***Range (Low to High)***		
	SEA Starting Point	*Low End of Range*	*High End of Range*	*SEA Starting Point*	*Low End of Range*	*High End of Range*	*SEA Starting Point*	*Low End of Range*	*High End of Range*	*SEA Starting Point*	*Low End of Range*	*High End of Range*	*SEA Starting Point*	*Low End of Range*	*High End of Range*
Ground-Mount Solar	N/A	NA	NA	N/A	$0.13	$0.25	$0.11	$0.13	$0.25	$0.11	$0.18	$0.25	***$0.11 - $0.11***	***$0.13 - $0.18***	***$0.25 - $0.25***
Brownfield Solar	N/A	NA	NA	N/A	NA	NA	$0.11	NA	NA	$0.11	NA	NA	***$0.11 - $0.11***	***$0.00 - $0.00***	***$0.00 - $0.00***
Community Shared Solar	N/A	NA	NA	N/A	$0.13	$0.25	$0.11	0.13	0.25	$0.11	0.18	0.25	***$0.11 - $0.11***	***$0.13 - $0.18***	***$0.25 - $0.25***
Landfill Solar	N/A	NA	NA	N/A	$0.13	$0.25	$0.11	$0.13	$0.25	$0.11	$0.18	$0.25	***$0.11 - $0.11***	***$0.13 - $0.18***	***$0.25 - $0.25***
Solar Canopy	N/A	NA	NA	$0.17	0.13	0.25	$0.11	$0.13	$0.25	$0.11	$0.18	$0.25	***$0.11 - $0.17***	***$0.13 - $0.18***	***$0.25 - $0.25***
Rooftop Solar	$0.00	NA	NA	$0.17	$0.13	$0.25	$0.11	$0.13	$0.25	$0.11	0.18	0.25	***$0.00 - $0.17***	***$0.13 - $0.18***	***$0.25 - $0.25***
Low Income Solar	$0.00	NA	NA	$0.17	0.13	0.25	$0.11	0.13	0.25	$0.11	0.18	0.25	***$0.00 - $0.17***	***$0.13 - $0.18***	***$0.25 - $0.25***

Background-Key Terms | Instructions | Your Contact Information | Capital Costs | Interconnection Costs | Ongoing O&M Costs | Inverter Costs | Financing | 3rd Party v Host Owned