



January 13th, 2023

Ms. Holly Anderson, Clerk

Vermont Public Utilities Commission
112 State Street, 4th Floor
Montpelier, VT 05602

RE: 19-0855-RULE Proposed revisions to Vermont Public Utility Commission Rule 5.100

Dear Clerk Anderson,

Renewable Energy Vermont (“REV”) submits this comment in response to the Commission’s Order, dated December 2nd, 2022, requesting comments on the Commission’s proposed changes to Rule 5.100. The net-metering program has been and will continue to be critical to the state’s efforts to advance renewable energy development and meet its climate goals.

As REV articulated in our May filing, we believe that proposed changes to Rule 5.100 must be evaluated based on one criterion above all others: Will the change facilitate or impede the rapid and responsible deployment of new net-metered systems? Any proposed change which impedes the rapid deployment of renewable development faces a high burden of proof to demonstrate that it is addressing an issue that is comparably vital to the public interest and that cannot be addressed in a less burdensome manner.

REV believes that the December draft rule 5.100 contains many provisions that are inconsistent with facilitating the deployment of net-metered systems and do not provide other clear value for Vermonters. REV has revisited several issues with changes to the preferred siting criteria in light of the rationale expressed by the Commission for these changes in the December 2nd request for comments. In addition, REV notes, that the overall increase in filing requirements, across many system types, is inconsistent with the Legislative goals to have simplified permitting for net-metered projects.

1 Changes to the Preferred Site Definition Continue to Discourage Net-Metering Development

REV recognizes that Vermonters have a legitimate interest in balancing the benefits of new development of all types – residential, commercial, agricultural, and recreational as well as for new renewable generation – against the environmental and social impacts of that new development. The net-metering program’s preferred site framework is intended to steer renewable energy development towards locations that mitigate environmental and social impacts – previously developed and disturbed sites and sites supported by local planning entities. REV

believes that several of the proposed changes to the preferred site definition artificially exclude sites that would effectively mitigate development impacts.

1.1 Prohibition on Significant Forest Clearing

REV continues to have substantial concerns about the proposed prohibition on “significant forest clearing” on preferred sites. REV believes that the revised definition still fails to account for forest quality, habitat connectivity, or other factors that would speak to the balance between a project’s benefits and its impacts or the urgency of preserving a specific forested block.

The Commission’s primary justification for this prohibition appears to be that it “recognizes that forests play an important role as carbon sinks and habitat.” While forests do indeed play an important role as carbon sinks, solar is substantially more effective for reducing atmospheric CO₂ concentration than are forests. A 2021 analysis by Synapse Energy Economics has calculated that in New England converting an acre of forest to a solar array will result in 470 tons of CO₂ savings each year.¹ Other assessments point in the same direction.² REV is unaware of any scientifically grounded assessment that contests the fact that solar development is more beneficial than maintaining tree cover from a carbon perspective. The climate benefits from clearing a parcel with only 10% canopy coverage cannot be credibly contested. Additionally, habitat value is a function of many factors including, the diversity of species that are on a site, the presence or absence of water on the site, and the land use on surrounding parcels. REV is unaware of any scientific justification for using 10% canopy coverage as a proxy for habitat value. Thus the current definition of significant forest clearing appears to fail to address the rationale that the Commission provides for including this provision.

Further, REV echoes the concerns raised by VAPDA in its 1/12/2023 Public Comment that the 10% canopy coverage standard is significantly too low to accurately identify forested land. REV also supports VAPDA’s argument that any limitation on “significant forest clearing” should apply to all types of development equally rather than targeting net metering and therefore that this issue is best addressed legislatively.

Finally, REV notes that the proposed change significantly hampers the ability of local and regional planning entities to designate preferred sites. While the proposed rule includes exceptions for Village, Downtown, New Town, and Growth Centers as well as Neighborhood Development Areas, many towns are specifically looking to steer renewable development outside of these areas.

¹ Synapse Energy Economics (2021). “*Carbon Dioxide Emissions Tradeoffs: Forests or Solar Panels?*” <https://www.synapse-energy.com/carbon-dioxide-emissions-tradeoffs-forests-or-solar-panels>

² Eisenson, Matthew (2022) “*Solar Panels Reduce CO₂ Emissions More per Acre than Trees*” State of the Planet: News from the Columbia Climate School.

1.2 Preferred Site (2): Parking Lot Canopies

REV's May comments presented evidence that unpaved parking lots are substantially similar to paved parking lots in terms of their impact on stormwater volumes and may be worse from the perspective of nutrient run-off.³⁴ Consequently, REV concluded that there was little justification for excluding unpaved parking lots from preferred site eligibility. The Commission's concern that "unpaved parking lots" might potentially include "fields used for parking for fairs and festivals" does not contest the general environmental parallels between paved parking lots and lots that are functionally impervious because of soil compaction. Unpaved parking lots could readily be included as preferred sites with relatively straightforward qualifications that excluded fields used only for extremely episodic parking. REV would suggest that including the word regular in the siting criteria ("A parking lot canopy over a parking lot provided that the location remains in **regular** use as a parking lot") might be sufficient to address the Commission's concerns. Alternatively, the Commission could include language specifying the vegetative status of the parking lot as a means of excluding fields ("provided that the location does not support significant vegetation as a result of the parking activity and remains in use as a parking lot") or could provide a more technical definition based on soil compaction. REV is confident that the Commission could adopt any of these approaches to address its concerns about an excessively expansive definition of a parking lot and thereby expand the set of locations that are eligible for preferred siting with minimal if any environmental downside.

The Commission also rejected a suggestion for a separate siting adjustor for parking lot canopies, noting that no participants provided data to justify that parking lot canopies are more expensive than construction on other preferred sites. The construction costs for parking lot solar canopies are significantly higher than other traditional ground-mounted systems for the simple fact that the construction of the canopies themselves requires more material than is required in other settings. This fact is broadly documented including in publications by the Yale School of the Environment and CNET⁵ which estimates that a solar carport is approximately 40% more expensive than a comparable ground mounted system. REV would be more than happy to work with Commission to provide input on an appropriate siting adjustor for these types of projects in future biennial updates if that will help to facilitate the establishment of a siting adjustor for parking lot canopies.

³ Vermont Department of Environmental Conservation (2017). *Environmental Protection Rules, Chapter 18, Stormwater Management Rule* page 5.

⁴ Wemple, Beverly (2013), *Assessing the Effects of Unpaved Roads on Lake Champlain Water Quality* http://www.lcbp.org/wp-content/uploads/2013/07/74_Road-Study_revised_June2013.pdf

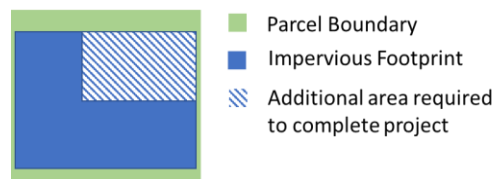
⁵ Conniff, Richard (November 2021). "Why Putting Solar Canopies on Parking Lots Is a Smart Green Move" Yale Environment 360. <https://e360.yale.edu/features/putting-solar-panels-atop-parking-lots-a-green-energy-solution>
Blok, Andrew (January 2023). "Why Isn't Every Parking Lot Covered With Solar Panels?" CNET: <https://www.cnet.com/home/energy-and-utilities/why-isnt-every-parking-lot-covered-with-solar-panels/>

1.3 Preferred Site (3)&(6): Previously Developed Tracts & Extraction Site

In response to REV's recommendation not to limit generation strictly to the footprint of the previous disturbances, the Commission stated that its "intent with the preferred-site section is to use rate incentives to encourage development of disturbed sites, not to encourage development of undisturbed areas." REV believes that, at the landscape level, these provisions are likely to lead to more rather less disturbances from renewable energy projects.

Consider a hypothetical business owner looking to commission a 75 kW net-metered system that would require approximately 3/4 an acre to build and who had identified a 1-acre parcel with a previously developed impervious surface covering 1/2 of an acre. Given the leeway to overlap the previously developed footprint, the full 75 kW project could be built on the site. Limited strictly to the 1/2 acre impervious surface, the business owner would only be able to commission a 50 kW system and would have to find a separate site to commission the additional 25 kW system needed to fully offset their electricity usage. This would result in more sites devoted to renewable generation, and more interconnecting infrastructure, to achieve the same renewable generation but likely would not be preserving land that was valuable for other applications.

Much as large lot size requirements for housing result in inefficient land use and residential sprawl, these restrictions will result in the inefficient use of previously disturbed sites, artificially reduced project size, and unnecessarily sprawling renewable energy development,



2 Registration and Application Processes and Other Recommendations

2.1 5.106 Applications for Ground-Mounted Photovoltaic Net-Metering Systems Greater Than 15 kW and up to and Including 500 kW and for Facilities Using Other Technologies up to and Including 500 kW

REV disagrees with Department's request for "comparative site plans" capturing other known net-metering facilities. In cases where other net-metering facilities are owned and developed by separate entities accessing the property to survey e.g. the distance between the system may be impractical. To the extent that Commission requires additional information about known systems, the process for doing so should be as simple as possible.

The Commission's proposed language in 5.106 (D)(12)(e) would add a new decommissioning requirement for systems *equal to or greater than* 150 kW. This is inconsistent with the size

thresholds used throughout the Rule which otherwise divide plants with a capacity *less than or equal to 150 kW* from those that are *greater than 150 kW*, see for example the Category II, III, and IV size thresholds and the setback requirement in Section 5.113. Using differing size thresholds creates unnecessary confusion and it is unclear what value is achieved by adding a decommissioning requirement for systems that are exactly 150 kW.

2.2 The Effect of Amendments on Net-Metering Compensation

Section 5.108 propose to limit the expansion of existing systems to 5% or 10 kW before triggering the application of the most recently adopted adjustors. REV believes that discouraging the expansion of net-metering systems at the same time we are asking Vermonters to increase their level of electrification is inconsistent with the state's climate goals and intent of the net-metering program. Further, these thresholds have very differential impacts on residential customers, who would be able to expand their system by as much as 66% if they had a 15 kW system, and commercial customers would be limited to a 5% system expansion. REV suggests the expansions trigger updated adjustors only if the expansion results in a system crossing a Category threshold.

2.3 Data Requirements

The Department has previously provided Vermont's electric companies with a data submission template but received highly variable use of that template. REV recommends that the rule require electric companies to use that template without modification.