

ReWild Renewables, LLC
47 Bow St
Portsmouth, NH 03801



State of New Hampshire
Department of Energy
21 S. Fruit St, Suite 10,
Concord, NH 03301-2429
Proceedings@energy.nh.gov

February 1, 2023

**Re: ReWild Renewables, LLC comments on IP 2022-01 - Investigative Proceeding
Relative to Customer-Generator Interconnection**

To whom it may concern,

ReWild Renewables, LLC (“ReWild”) is a commercial solar and energy storage developer based in Portsmouth, New Hampshire. We have been based in New Hampshire since we started developing projects nearly 10 years ago and we’re excited by the opportunity to work with New Hampshire’s utilities, the Department of Energy (the “Department”), distributed generation (“DG”) developers, and the many other energy stakeholders to review and collectively improve the state’s interconnection procedures. We appreciate the opportunity to provide comments on IP 2022-01, an Investigative Proceeding Relative to Customer-Generator Interconnection (the “Investigative Proceeding”) and we welcome any questions on our comments.

Request for Comments — Set 1

1. How to create transparent, consistent, and reasonable engineering standards for interconnection, with special consideration given to established best practices used by other states as set forth in the Interstate Renewable Energy Council’s (IREC) 2019 Model Interconnection Procedures.
 - a. Please identify the applicable existing, and pending, interconnection codes, statutes, standards, and procedures that apply to the interconnection kW thresholds for various Distributed Energy Resource (DER) technologies (Battery, Wind, Solar, etc.). Include Federal, State, and Local requirements.
 - b. Please provide feedback on the IREC 2019 Model Interconnection Procedures. Include responses to the following questions:
 - i. Have any entities adopted this model?
 - ii. Is there interest in adopting this model in the future?
 - iii. If there is interest, are there any procedures that need to be addressed to respond to directives or goals of SB 262?

- iv. Are there other preferred model interconnection procedures and, if so, what are they?

1.a. & 1.b. Response: ReWild does recommend that the IREC 2019 Model Interconnection Procedures be used as a starting place, but we also believe this issue should be a topic for discussion during a New Hampshire interconnection working group meeting (see 5.a. Response).

2. How to ensure timely, consistent, and reasonably-priced interconnection studies.
a. Please identify issues, concerns, and impediments to completing timely interconnection evaluations/studies.

2.a. Response: Interconnections studies must be completed in a consistent timeframe for all applicants of similar systems, the utility must be fairly compensated for the study work to ensure that speculative applications are not being studied, and the results of the study must be presented to the interconnecting customer following the completion of the study.

To ensure interconnection studies are completed in a timely, consistent, and reasonably-priced manner, we recommend the following measures:

- **Duration:** Standardized study durations for the utilities to complete the interconnection studies. We recommend 45 business days for a System Impact Study of a project in the Standard Process. This means that the utility may complete the study sooner than 45 business days but absolutely shall complete it no later than this duration. This ensures fairness of study durations for all DG projects and interconnecting customers. If another study is required after a System Impact Study, for example a Facilities Study or Dynamic Study, we recommend that study last no longer than 30 business days. Additionally, the utility should notify the interconnecting customer that the additional study may be required as soon as practicable and if possible, during the initial System Impact Study.
- **Cost:** Prior to the study commencing, an interconnecting customer should either 1) pay for the estimated study cost (reasonably estimated by the utility) with a true-up completed at the end of the study to determine how actual cost differed from estimated, or 2) pay a fair study deposit (for example, \$1,500) and then pay the balance of actual study costs incurred by the utility following the study. This measure ensures that the utility is being fairly compensated for their study efforts and the interconnecting customer is aware of the actual study costs. We also do recommend that there be a maximum cost for System Impact Studies. The precise amount would need to be determined during an interconnection working group meeting (see 5.a. Response) so that the utilities can be involved in determining the amount. A maximum would ensure that costs for interconnecting customers can be budgeted and predictable.
- **Study Results:** Following completion of the interconnection study, the utility must deliver a study report to the applicant detailing the results of each phase of the study, how the results impact necessary distribution upgrades, and a detailed cost estimate (+/-25%) for

those upgrades. The utility should offer to schedule a results meeting with the interconnecting customer to discuss the study results and provide the customer with an opportunity to ask clarifying questions about the study. This ensures that the customer clearly understands the results of the impact study and the information in the study report so they can make an informed decision on their DG project.

b. To the extent possible, please identify the issues and kW thresholds that impact the level of effort, and therefore the schedule and cost of completing interconnection evaluations/studies.

2.b. Response: Distributed generation projects, which are 5 MW AC or less, commonly go through the System Impact Study process in 45 business days or less. We do believe that utilities should be able to complete a standard study for a DG project within 45 business days. We do understand that there are situations where more analysis is required. For example, if there is the potential for a risk of islanding or transient over-voltage situation then it may require further analysis in the form of a Dynamic Study. This is typically identified by the utility during the initial System Impact Study. If this is such a requirement, the utility should notify the interconnecting customer of the situation as soon as they can and, if the Interconnecting Customer intends to move forward, then the utility should complete the Dynamic Study within 30 business days of the customer signing a new agreement and paying the fee or deposit for this specific study. This allows additional time to complete the analysis for a project when there is a unique engineering challenge that prevents the utility from completing the study within a typical 45 business days. Dynamic Studies will require an additional cost and the interconnecting customer should be presented with and pay for that cost (or a deposit) and sign a Dynamic Study agreement before the utility moves forward with the Dynamic Study analysis.

Should the utility identify major upgrades, like a substation transformer replacement or any sort of line reconductoring, we recommend that the utility identify the kW AC threshold that the DG project will need to stay below if they wish to avoid such major upgrades. For example, if a 2 MW project were to trigger a substation transformer replacement but reducing the DG project's capacity from 2 MW to 1.8 MW would avoid such an upgrade then the utility should inform the customer of this in the System impact Study results. This will ensure that DG projects are built more efficiently as major upgrades can take years to complete and avoiding them with logical reductions to AC capacity will bring more distributed generation onto the grid to serve customers in a faster and more efficient manner.

3. How to ensure just and reasonable pricing of grid modernization upgrades mandated by the distribution utility for interconnection of distributed energy resources, including transparency and consistency in pricing guidelines and appropriate cost-sharing among parties benefitting from such upgrades.

a. Please identify issues and concerns, if any, regarding the transparency of interconnection cost estimates and schedules.

3.a. Response: To ensure transparency of interconnection cost estimates and schedules we recommend first that utilities conduct System Impact Study results meetings with the customer following the study completion. Prior to the results meeting, the utility should deliver the study results so the customer has time to review the detailed results and prepare any clarifying questions. The study results should detail the cost estimates for distribution upgrades (+/-25%) and should explain how the total estimates were calculated. For example, if one mile of distribution line needs to be upgraded from single phase to three phase, the study results should estimate how many poles need to be replaced in that one mile and the estimated cost per pole replacement. It should also explain what type of wire will be installed during the reconductoring and the estimated cost of that wire for the one mile, what protection equipment (reclosers, air-break switches) will be required and their cost, the cost for overhead and project management, etc. Delivering as much information as possible on how the distribution upgrade estimates were calculated is a good process to follow when transparency on interconnection cost estimates is the goal.

We further recommend that the utilities provide **estimated** construction schedules in their system impact study reports for the identified upgrades. DG customers do understand that the estimated schedules will need to be adjusted once payment is made by the customer for the upgrades, but some form of schedule for the upgrades is absolutely necessary for the customer to make an informed decision on whether to move forward with an interconnection services agreement (ISA). If the customer is aware, for example, that the upgrades are likely to be built within 12 months of making all their ISA payments, then that makes it likely they will move forward. If the estimated schedule is not provided, they cannot know if the upgrades could be done in 12, 24, 36 months or more. And with the customer making such large payments for interconnection upgrades, they should be made aware of how much time that capital will be out.

Finally, once an ISA has been signed between the utility and customer, the utility should assign a construction project manager to the DG project and schedule at least monthly meetings between the customer and utility project manager. This creates an open dialogue post-ISA execution for both the DG project schedule and the utility upgrade schedule. The customer can explain their intended timeline for making their payments, their permitting timeline, when they intend to build their project, and when they would like to be placed in-service. And the utility can communicate their lead times for major equipment, availability of construction crews, and request certain easements and other key documents that may be needed from the customer.

We do believe there needs to be standard timelines for interconnecting customers to make ISA payments and we recommended that the first payment be 25% of the ISA cost and it be paid within 90 business days of the executed ISA. The second payment should be the remaining 75%

and paid within another 90 business days of the first payment's due date. It is typical that the first payment of 25% triggers the utility to start design of the upgrades and the second payment of 75% would move the ISA upgrades into construction. This ensures the utility is being paid prior to completing design work (25% payment) and is being paid the full balance prior to ordering equipment and hiring contractors to complete the work (75% payment). We also know from experience that this payment schedule can be challenging for ISAs with higher costs and so we recommend that there be a negotiated payment schedule for ISA upgrades greater than \$250,000. The negotiated payment schedule could be proposed by either the utility or the interconnecting customer and should be agreed upon by both parties before the ISA is executed.

b. Please identify options for appropriate cost-sharing as well as issues and concerns

3.b. Response: Cost sharing is a necessary and fair means of allocating costs for distribution upgrades to all DG projects that utilize a specific upgrade. New Hampshire can and should adopt a cost sharing process so that a DG project triggering an upgrade will fairly recoup some of the cost from other DG projects that later interconnect to the distribution system and utilize that same upgrade. The utility should identify where there are Contingent Upgrades on the distribution system when a new DG project is going through the study process. Contingent Upgrades could be defined as upgrades that are required to accommodate an earlier queued DG project but a more robust definition could be determined during a working group session between utilities, interconnecting customers, and other stakeholders. To use an example for this potential definition, if Project A is studied, is found to trigger a substation transformer upgrade, and signs and ISA, and then Project B is later studied and will connect to the same transformer, then that upgrade shall be a Contingent Upgrade and one eligible for Cost Sharing between Projects A and B. Next, the share of the costs paid by each DG project should be calculated as the ratio of the total upgrade cost to the total AC capacity that the Contingent Upgrade serves. To continue the example, if the substation transformer upgrade costs \$1,000,000 and Project A is 5,000 kW AC and project B is 3,000 kW AC then the upgrades services 8,000 kW AC (Project A capacity plus Project B capacity) and Project A will be assigned \$625,000 of the \$1,000,000 and Project B will be assigned \$375,000. This fairly and appropriately shares the cost of the Contingent Upgrade based upon the capacity of each project utilizing the upgrade. Cost sharing should also be used for reconductoring when it creates a Contingent Upgrade between two or more DG projects, where the distance of the line work utilized by each project is taken into consideration when allocating cost for the Contingent Upgrade.

A main issue around cost sharing is the payments made between the DG project triggering the upgrade, the utility, and the later queued DG projects that will share in the cost of the Contingent Upgrade. To ensure that the utility always has the funds necessary to build the upgrades it will be important for this topic to be discussed during an interconnection working group session.

4. How to ensure distribution system upgrades paid for by customer-generators are not claimed as part of the utility rate-base.

a. Identify methods for ensuring transparency of how system upgrade costs are applied.

4.a. Response: ReWild does not have experience in identifying such methods. We do recommend this topic be openly discussed during an interconnection working group meeting (see 5.a. Response).

5. Whether it is appropriate to establish an “Interconnection Working Group” convened at the Department to regularly assess if interconnection standards need modification.

a. Identify potential benefits, issues, and concerns on the concept of an Interconnection Working Group.

5.a. Response: Yes, it is appropriate and highly recommended to establish an Interconnection Working Group as it will allow stakeholders to regularly discuss and if necessary, modify the New Hampshire interconnection standards. Working groups have been established in many other states and have created a space where utilities, interconnection customers, DG developers, and other key stakeholders can collaboratively improve the interconnection process. There are numerous benefits to establishing an Interconnection Working Group. They include, providing an opportunity for stakeholders to share constructive feedback on interconnection topics and issues, ensuring there is open dialogue between the various stakeholders (utilities, customers, developers, EPCs) that administer and utilize the standards, and creating a means of modifying the standards when necessary. New Hampshire’s interconnection standards should reflect the state’s unique grid and interconnection goals and accomplishing that will not occur with one meeting or comment period. Therefore, the regularity of working group meetings is important and we propose establishing an Interconnection Working Group immediately and scheduling monthly meetings. The sooner this group begins to meet the smoother the interconnection process will be as situations can be dealt with before small issues become big issues and pile up alongside other issues. This meeting cadence will ensure there is meaningful progress on reviewing the current standards as a group and making necessary modifications to improve those standards.

Conclusion

Thank you for the opportunity to provide comments on this Investigative Proceeding. We look forward to discussing this matter further with the Department and the many interconnection stakeholders in New Hampshire.

Thank you,

A handwritten signature in black ink that reads "Matt" followed by a stylized, cursive "D" with a long horizontal stroke extending to the right.

Matt Doubleday
Director of Interconnection
ReWild Renewables, LLC