

STATE OF VERMONT
PUBLIC UTILITY COMMISSION

Case No. 17-2571-INV

Investigation pursuant to 30 V.S.A. Sections 30 and 209 into whether Georgia Mountain Community Wind, LLC, operated its wind electric generation facility in Georgia, Vermont, during icing conditions on January 3, 2017	
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Order entered: 03/26/2020

ORDER APPROVING TRIAL PERIOD FOR WINTER OPERATING PROTOCOL

On December 10, 2019, Georgia Mountain Community Wind, LLC (“GMCW”) filed proposed revisions to its approved winter operating protocol that GMCW contends will make more accurate determinations on when to shut down its turbines under icing conditions.

Since that time, several comment deadlines were set and extended at the request of GMCW, the Department of Public Service, and Scott and Melodie McLane. The extensions were requested to allow the parties an opportunity to work through a variety of issues associated with the revised protocol. The final deadline for comments on the revised protocol was March 23, 2020.

On March 20, 2020, GMCW filed a new proposal to implement a trial period for the revised protocol to determine its effectiveness in detecting icing and shutting down GMCW’s turbines. The trial-period protocol included the following elements:

- Monitoring and review of six distinct icing events over a period of four weeks.
- At least four of the icing events must occur between the hours of 5:00 P.M. and 5:00 A.M.
- Notification to the McLanes by e-mail when the turbines enter a stop mode or are manually shut down.
- Monitoring of the turbines using a combination of indicators, depending on time of day and site conditions, including SCADA data, on-site video equipment, on-site personnel, and on-site meteorological equipment.
- In the event the protocol software is not working as expected, the system operator will manually shut down the turbines when:

- The ambient temperature is below 5 degrees; and
- The wind speed is greater than 5 m/s; and
- The turbines' active power level is below 55% of the expected power level; and
- The system operator visually detects ice accretion on the blades.
- Once stopped, the turbines will restart only under specified conditions.
- Filing of a post-trial period report on the effectiveness of the revised protocol.

On March 20, 2020, the McLanes filed comments on GMCW's proposal. The McLanes expressed three concerns. First, the McLanes were concerned that the trial period was limited to four weeks in which GMCW would collect data on no more than six icing events. The McLanes recommended that the trial period be based solely on the number of events without a time limitation. Second, the McLanes were concerned that the turbines will not be placed in stop mode until a turbine's power production falls to 55% of the production level expected based on climatic conditions at a given time. Third, the McLanes recommended that the number of times they register a complaint about increased sound levels from icing be documented and made part of the proposed report on the results of the trial period.

On March 23, 2020, the Department filed comments on GMCW's proposed trial period. The Department recommended that two issues be accounted for in the analysis of the results of the trial period: first, whether turbine sound levels at surrounding residences during the trial period were different than would normally be experienced and expected, and if so, whether such levels raised the potential for non-compliance with applicable sound limits; and second, whether ice throw occurred onto adjacent properties that posed a threat to public health and safety.

On March 23, 2020, GMCW filed revisions to its proposed trial period in response to the comments filed by the McLanes and the Department.

In response to the McLanes' concern about the length of the trial period, GMCW clarified that its intent was to have the period run as long as needed to collect data on six icing events without a time-based limit.

GMCW's clarification is important if the trial period is to produce reliable results. However, the Commission believes that further refinement of the language in GMCW's proposal

is needed to make clear that the trial period will run until six separate events are recorded.¹ Specifically, the first sentence in “Section A Purpose” of the proposed methodology shall be revised as follows:

Georgia Mountain Community Wind, LLC (“GMCW”) proposes a short-term test in the early spring 2020 and fall 2020/early winter 2020-21 ~~and include no more than~~ **that will consist of** six distinct icing events (the Trial Period) to assess the efficacy of its proposed 2nd Revised Winter Operating Protocol.

GMCW did not specifically address the McLanes’ concern regarding the 55% power production level and increased sound levels that may be experienced if icing occurs before power production drops to 55% of what is expected at a given time. However, GMCW has represented that the turbine manufacturer, Goldwind, uses the same software proposed for the trial period on all other Goldwind turbines operating in cold climates and has determined that 55% of the expected power level reliably represents the point at which ice accretion occurs.

Given that GMCW is proposing a trial period, the Commission will rely on GMCW’s representation that the 55% level corresponds to the accumulation of ice on turbine blades. If this turns out to not be the case and icing on the blades occurs at higher production levels, then GMCW will need to rethink the parameters for any proposed revisions to its current winter operating protocol. Based on the McLanes’ comments, it appears that the current protocol has been effective in preventing turbine operation under icing conditions and the associated increase in sound levels. While the Commission agrees that an operating protocol that avoids unnecessary shutdowns is desirable, a protocol that fails to stop the turbines when needed is not an appropriate substitute for the current protocol.

GMCW’s March 23 filing appropriately incorporates the number of times, if any, that the McLanes report increased sound levels from icing during the trial period and includes that information in the report to be filed after the trial period ends.

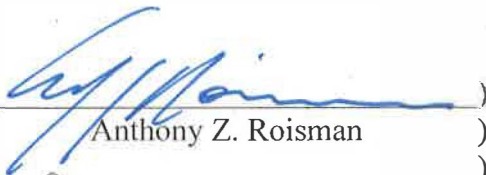
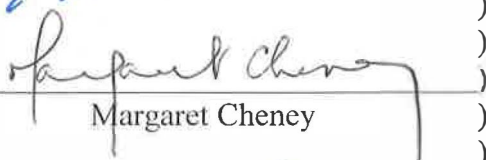
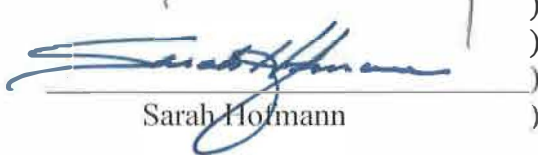
With respect to the Department’s comments, GMCW states that it will track and report any information it receives on increased sound levels and ice throws that may occur during the trial period and will include that information in the final report as well.

¹ At least four of the six events must occur between the hours of 5:00 P.M. and 5:00 A.M. to capture times when project neighbors are likely to be at home.

With the revisions submitted by GMCW on March 23, 2010, and the revision described above, the Commission approves the implementation of the trial period to test the effectiveness of the proposed revisions to GMCW's winter operating protocol. In approving the trial period, the Commission emphasizes that six separate icing events, with at least four of those events occurring between 5:00 P.M. and 5:00 A.M., must be captured before the trial period is completed. GMCW has expressed a goal of instituting the trial period as soon as possible. If GMCW does not record any icing events this spring because of the change in seasons, the full six-event requirement remains in place until those events occur when icing conditions begin again in the coming late fall or early winter. In addition to the report that GMCW will file after the trial period ends, GMCW shall file no later than June 1, 2020, a report informing the Commission and the parties of the number of icing events it was able to record this spring, if any. GMCW shall also file a revised version of the trial period protocol incorporating the changes described in this order before it begins the trial period.

SO ORDERED.

Dated at Montpelier, Vermont, this 26th day of March, 2020

	)	
Anthony Z. Roisman	)	PUBLIC UTILITY
	)	
	)	
Margaret Cheney	)	COMMISSION
	)	
	)	
Sarah Hofmann	)	OF VERMONT

OFFICE OF THE CLERK

Filed: March 26, 2020

Attest. 
Clerk of the Commission

Notice to Readers: This decision is subject to revision of technical errors. Readers are requested to notify the Clerk of the Commission (by e-mail, telephone, or in writing) of any apparent errors, in order that any necessary corrections may be made. (E-mail address: puc.clerk@vermont.gov)

Appeal of this decision to the Supreme Court of Vermont must be filed with the Clerk of the Commission within 30 days. Appeal will not stay the effect of this Order, absent further order by this Commission or appropriate action by the Supreme Court of Vermont. Motions for reconsideration or stay, if any, must be filed with the Clerk of the Commission within 28 days of the date of this decision and Order.

PUC Case No. 17-2571-INV - SERVICE LIST

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