Kingdom Community Wind
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July 29, 2022

Via ePUC

Holly Anderson, Clerk
Vermont Public Utility Commission
112 State Street, 4th Floor
Montpelier, VT 05620-2701

Re: Case No. 20-1951-PET – Green Mountain Power Corporation request for a non-substantial change determination, or in the alternative amend the CPG issued to the Lowell Mountain Kingdom Community Wind Project in Docket 7628
GMP Response to Public Comment on ADLS Report

Dear Ms. Anderson:

I am writing to respond to the inquiry sent by Representative Katherine Sims as set forth in the July 22, 2022 Order of the Public Utility Commission. The lighting presently in place at KCW—eight tower-mounted lights along the site—is as required and approved by the FAA. GMP has been and remains committed to implementing an automatic lighting mitigation strategy at Kingdom Community Wind ("KCW") that complies with Federal Aviation Administration ("FAA") requirements while allowing the lighting to remain off except as needed for aviation safety. Condition 34 of the KCW project's Certificate of Public Good[1] requires GMP to take all reasonable steps to apply for an Obstacle Collision Avoidance System ("OCAS"), which was in development at the time of the Commission's proceeding regarding KCW, and to develop and propose an alternative lighting mitigation plan within three months should such a system be denied by the FAA.

[1] Legacy Docket 7628, PUC Order of May 31, 2011.

During the approval process, no lighting mitigation systems for use at windfarms had yet been approved by the FAA. At that time, OCAS was the only product potentially available for KCW's site actively under development and was therefore the focus of the FAA's review. It was expected that once OCAS was approved by the FAA for general use, GMP would then request OCAS be approved by the FAA for use at the KCW site specifically.

The FAA approval process experienced significant delays and during that time several other new products were developed that broadened the FAA's review. Ultimately, in December 2015, the FAA approved general technical standards for Aircraft Detection Lighting Systems ("ADLS") to be used throughout the United States. Once the FAA standards were released, GMP developed a multifaceted and proactive approach to finding an ADLS system implementable at KCW.

Ultimately, OCAS was not commercially viable because it did not meet the standards set by the FAA. It never became available for GMP to apply for approval or actually use onsite. Since 2015, as alternate solutions have emerged that did meet FAA requirements, GMP has investigated and analyzed each one for feasibility at the KCW site. Prior to 2018, GMP provided intermittent written updates to the Commission on our progress with Condition 34. Since the spring of 2018, the effort to review and evaluate alternatives to OCAS has been detailed in status report filings to the Commission made every six months. These efforts include:

- Upon approval of ADLS, vetting a product manufactured by Laufer Wind and in 2016 applying to the FAA for permits for an ADLS system designed using the Laufer Wind product;
- While waiting for FAA approval, securing the real estate rights required for the Laufer Wind solution and engaging consultants to conduct an environmental resource assessment of the property;
- Meeting with several representatives of the Agency of Natural Resources ("ANR") to discuss the project, including the details of the ADLS technology, siting and installation options, and the environmental resource assessments of the property, which was followed up by a site visit with ANR in June 2017;
- Receiving FAA permit approvals for the Laufer Wind solution in June 2017 while nearly simultaneously: 1) being encouraged by ANR to look for ADLS alternatives that would result in fewer environmental impacts than the Laufer Wind solution because that solution would have required significant clearing of Montane Spruce-Fir Forest on another ridge without existing access (see April 14, 2018, ANR filing in Case No. 18-0756-INV), and 2) learning that Laufer Wind was terminating its ADLS program;
- Thereafter renewing efforts to find alternative FAA-approved solutions and reviewing one manufactured by Terma, which GMP ultimately determined was not a viable alternative because 1) its single Doppler radar unit would have environmental impacts similar to Laufer Wind that was of concern to ANR and to GMP, and 2) it would

require an off grid power source for the remote location that would have resulted in lights on for long periods especially during winter months due to the significant power consumption of the Terma product;

- Analyzing a new product from Vestas that received preliminary FAA approval in 2017, which had the potential to work at KCW without the use of the remote off-project location required by the Laufer Wind solution, according to GMP's initial technical review of the product;
- Selecting Vestas' product in 2018, working with Vestas on design solutions, and negotiating a long-term lease with AT&T for the colocation of one Vestas radar on an AT&T cell tower located in the town of Eden; and
- During 2019, seeking an FAA permit amendment to use the Vestas system while coordinating with Vestas on final testing.

By late 2019, GMP expected to pursue and receive FAA approval, seek a required license from the Federal Communications Commission, and present the Vestas solution to the Commission for its approval in 2020. However, in December 2019, Vestas notified GMP that the system designed for KCW would not meet the FAA-required radar standards because the radar would have a smaller than anticipated range. In January 2020, GMP filed an early status report to update the Commission on these dramatically changed circumstances.

Since January 2020, GMP has been in contact with the FAA and others in the industry about any new ADLS products that are in the FAA application and review process. Only one ADLS product, made by Detect, has been identified as FAA-approved. After further investigation, the Detect solution operates similarly to the Terma product, requiring significant offsite impacts, and so is not a viable option. GMP has continued to search for alternatives and has updated the Commission every six months on these efforts. To find a solution, GMP has even investigated and raised with the FAA Light Intensity Dimming System ("LIDS") technology that is used on wind generation sites in Canada and in other jurisdictions but not yet approved for use at wind generation sites by the FAA. At this point, the product has undergone some review by the FAA but the manufacturer Technostrobe reports progress stalled during the pandemic; we have contacts with both Technostrobe and the FAA so that we can be updated if that should change. GMP is not aware of any other FAA-approved solution on the market that has not already been reviewed.

GMP acknowledges and agrees with concerns surrounding this FAA process and remains committed to meeting the Condition 34 obligation of an ADLS solution that allows the lighting at KCW to operate only when needed for aviation safety. Although GMP had FAA permits for the Laufer Wind product, this solution was never presented to the Commission before Laufer Wind went out of business. Since then, no technically viable solution has yet emerged for GMP to file an application to the FAA for approval as an alternative to the tower-mounted lights. GMP has been consistently looking for, evaluating, and regularly reporting on the status of developing an alternative solution to the originally proposed OCAS product. GMP will continue this process

until a satisfactory technical solution is found for KCW that can be pursued through application and installation.

If we can answer additional questions or provide more information, please contact me.

Sincerely,

Preston Gregory

cc: Service List (via ePUC)