

**STATE OF VERMONT
PUBLIC UTILITY COMMISSION**

Petition of Green Mountain Power for a)
Certificate of Public Good pursuant to 30 V.S.A.)
§ 248(j), authorizing the installation and operation) Case No. 17-2813-PET
of a battery storage system on the GMPSolar Panton)
Project site located in Panton, Vermont, to be known)
as the “GMP Panton Battery Storage Project”)

AFFIDAVIT OF PAUL NADEAU

1. My name is Paul Nadeau, and I am Senior Engineer at Green Mountain Power. My business address is 163 Acorn Lane Colchester, VT 05446.
2. I have 14 years of experience in engineering, design and analysis of transmission, distribution and generation substations as well as the interconnection of distributed generation facilities to the distribution and transmission system.
3. I am part of the GMP project team working on adding islanding capability to the GMP Panton Battery Project (“Project”) and have helped design and analyze the interconnection of the proposed new equipment in order to facilitate the potential to island a portion of the Town of Panton in an outage.
4. The new equipment installed at the Project will consist of a 1500 kVA transformer and a pad-mounted recloser containing new microelectronic relays and communication devices required for the protection and control of the islanded portion of the feeder. In addition, three new line reclosers, also containing microelectronic relays and communication equipment, will be installed on existing GMP power poles along Panton Road and Jersey Street to assist with the sectionalizing of the islanded portion of the circuit as well as enhanced protection of the circuit when connected to the grid. Finally, communication

equipment will be installed in the existing relay cabinet at the Panton Battery Project to assist with microgrid control and protection.

5. The proposed Project changes do not require any upgrades to the transmission system. As a result, there is no potential for impact on the Project's ability to be served economically by existing transmission facilities without undue adverse effect on GMP or its customers.
6. In addition, the introduction of the new equipment and resulting islanding capability will not result in any potential for significant impact on GMP's system stability or reliability. GMP worked with Schweitzer Engineering Laboratories ("SEL") and TESLA to determine what interconnection equipment was needed, and how to safely interconnect and operate the islanding equipment. Through this process, GMP has confirmed that there will be no undue adverse impacts on the GMP distribution system as a result of adding this additional equipment to the Battery Project.
7. Rather, for much of the time, system stability and reliability will be improved due to the fact that this system will only operate in the event the grid suffers an outage. More specifically, under normal operation where the proposed islanded area is connected to the bulk power system, system reliability is improved due to the addition of new protective devices which will result in better fault clearing. This is in addition to all the protection and reliability improvements required for the installation of the Panton Solar and Battery facilities.
8. Following completion of the microgrid project, for any disturbance that would result in the loss of the normal grid connection to the microgrid area, the addition of the islanding equipment will allow customers in the islanded area to ride through this event with no interruption to their service. Stability of the island when disconnected from the power system will be achieved by the addition of a grounding transformer near the project. This grounding transformer will be connected to the system during both normal and islanded

configuration and will have no negative effects on power quality. The grounding transformer provides a ground source when the islanded area is disconnected from the rest of the grid, and this in turn assures the island remains stable and reliable while being served from only the battery and solar systems.

9. Based on the above, the proposed changes to the Project will not result in any potential for significant impact under either the (b)(2) System Stability and Reliability or (b)(10) Transmission Facilities criteria under Section 248.

I declare that the above statement is true and accurate to the best of my knowledge and belief. I understand that if the above statement is false, I may be subject to sanctions by the Commission for contempt.

Dated at Colchester, Vermont this 15 day of July, 2020.

Respondent Signature

By:


Paul Nadeau