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June 26, 2018

Mr. Darrell Nitschke  
Executive Director  
North Dakota Public Service Commission  
600 E. Boulevard Avenue, Dept. 408  
Bismarck, ND 58505-0480



RE: Glacier Ridge Wind, PU-16-539: Ten Year Plan 2018

Dear Mr. Nitschke,

In accordance with North Dakota Century Code § 49-22-04 and North Dakota Administrative Code (NDAC) Chapter 69-06-02-02, Glacier Ridge Wind Farm, LLC ("Glacier Ridge") submits **ten copies of** its Ten Year Plan for the Glacier Ridge Wind Farm Project.

Glacier Ridge has also submitted a copy of its Ten Year Plan for this facility to the county auditor of Barnes County, and has provided notice of the filing of its Ten Year Plan to the agencies and officers entitled to receive such notice under NDAC Chapter 69-06-01-05.

Sincerely,

Matt Boys  
Project Developer

**Glacier Ridge Wind Farm, LLC, PU-16-539**

**TEN YEAR PLAN: 2018 THROUGH 2028**

Pursuant to Section 49-22-04 of the North Dakota Century Code and Chapter 69-06-02 of the North Dakota Administrative Code, Glacier Ridge Wind Farm, LLC ("Glacier Ridge") submits to the North Dakota Public Service Commission the following Ten Year Plan for years 2018 through 2028 for the proposed Glacier Ridge Wind Farm Project ("Glacier Ridge Wind Farm" or "Project"). Glacier Ridge is Delaware limited liability company, authorized to do business in the State of North Dakota and a subsidiary of Renewable Energy Systems Americas Inc.

**§49-22-04 (1): A description of the general location, size, and type of all facilities to be owned or operated by the utility during the ensuing ten years, as well as those facilities to be removed from service during the ten year period.**

Glacier Ridge, as proposed, will operate a wind generation project up to 300.15 MW in nameplate capacity on land in Barnes County, North Dakota under private easement/lease agreements. Glacier Ridge Wind Farm began construction at the end of 2016 and is anticipated to be in commercial operation by the end of 2020, subject to obtaining a transmission line route permit and a power purchase agreement or asset sale agreement with a qualified utility or other off-take partner.

The proposed Project will consist of up to 87 wind turbines using Vestas V126 3.45 MW turbine generators. Additional facilities proposed include access roads, electrical collection and communication systems and cabling, meteorological (MET) towers (one temporary and up to four permanent), an operation and maintenance (O&M) building, and a substation. Glacier Ridge does not anticipate removal of facilities during the subject ten-year period.

**§49-22-04 (2): An identification of the location of the tentative preferred site for all energy conversion facilities and the tentative location of all transmission facilities on which construction is intended to be commenced with the ensuing five years and such other information as may be required by the commission. The site and corridor identification shall be made in compliance with the criteria published by the commission pursuant to section 49-22-05.1.**

The proposed Glacier Ridge Wind Farm will encompass an approximately 25,039-acre Project area approximately 5 miles northeast of Valley City, Barnes County, North Dakota. Glacier Ridge also plans to construct a 345 kilovolt (kV) overhead generator tie line extending between 16 and 20 miles to facilitate the Project's interconnection. Glacier Ridge plans on submitting a separate application for a Certificate of Corridor Compatibility and Route Permit for the gen-tie line in 2019.

**§49-22-04 (3): A description of the efforts by the utility to coordinate the plan with other utilities so as to provide a coordinated regional plan for meeting the utility needs of the region.**

As described further below, Glacier Ridge is in the process of negotiating potential off-take arrangements for the Project. If the power offtaker or Project purchaser is a utility, Glacier Ridge anticipates that such utility will integrate the Project into its resource planning process. In

addition, Glacier Ridge is in the Midcontinent Independent System Operator (MISO) interconnection study process after entering the queue in February 2017. The MISO study process is the primary way that independent power producers like Glacier Ridge coordinate with other utilities and grid operators to manage the Project's impact on the power grid and relationship to other generation resources and needs. The February 2017 DPP study group, which Glacier Ridge is a part of, is currently delayed but we anticipate that the process will take about two years from start to finish.

**§49-22-04 (4): A description of the efforts to involve environmental protection and land-use planning agencies in the planning process, as well as other efforts to identify and minimize environmental problems at the earliest possible stage in the planning process.**

Glacier Ridge utilized qualified environmental consultants to study and identify avoidance and exclusion areas within the Project area, in accordance with N.D.C.C. Chapter 49-22 and N.D.A.C. § 69.06.08. Glacier Ridge is continuing to work with a variety of stakeholders and local, state and federal government agencies to avoid and mitigate environmental impacts from the Project. In 2017, Glacier Ridge purchased all shares from Peak Wind Development, LLC, a North Dakota limited liability company wholly owned by the landowners within the Project area. Glacier Ridge is now wholly owned by Renewable Energy Systems. Glacier Ridge also sought input from local, state, and federal agencies regarding locations of wind turbines and access roads that would minimize land use disruptions and impacts on environmentally sensitive areas. Setbacks specified in the design of the Project are equal to or more restrictive than state or local requirements.

Glacier Ridge has conducted the following studies to assess any potential impacts: 1) Sound Modeling Assessment, 2) Shadow Flicker Report, 3) Microwave Study, 4) Wildlife Baseline Studies, 5) Eagle/Avian Use Surveys, 6) Raptor Nest Survey, 7) IPAC Trust Resources Report, 8) Habitat Mapping, 9) Obstruction Evaluation Analysis, 10) Cultural Resources Inventory, 11) Wetlands Survey, and 12) Bat Acoustic Study. Glacier Ridge has consulted with the U.S. Army Corps of Engineers to meet wetlands regulations, and obtained a stormwater runoff permit from the North Dakota Department of Health. Glacier Ridge will continue to work to avoid impacts to archeology sites, wetlands, grasslands, trees and shrubs during construction and operation of the Project. Glacier Ridge is also developing a voluntary Bird and Bat Conservation Strategy, which includes an adaptive management approach, so that information gathered and experience gained from post-construction monitoring can be used to inform future management decisions at the proposed Project.

Glacier Ridge will also continue to coordinate with federal, state and local agencies and governmental units regarding the Glacier Ridge Wind Farm and will obtain all required permits and approvals. Additional information on Glacier Ridge's efforts to identify, minimize and mitigate environmental impacts is available in Case No. PU-16-539 and will continue to be provided in that docket. Glacier Ridge has taken special care to avoid impacts to wildlife in designing the Project and is committed to environmental stewardship throughout the construction and operation of the Project.

**§49-22-04 (5): A statement of the projected demand for the service rendered by the utility for the ensuing ten years and the underlying assumptions for the project, with that information being as geographically specific as possible, and a description of the manner and extent to which the utility will meet the projected demands.**

Glacier Ridge plans to sell the energy produced by the Glacier Ridge Wind Farm to utilities in the region looking to meet future demand or comply with state or federal standards or objectives. Alternatively, Glacier Ridge may pursue offtake arrangements involving commercial or industrial corporations that desire renewable energy for purposes of meeting their corporate sustainability goals or objectives.

In its 2014 regional transmission planning process, the MISO recently included five future scenarios, with every scenario assuming over 12,000 MW of generation capacity retiring before 2028, and one scenario assuming over 22,000 MW of generation capacity retiring by 2028. On the new generation side, four of the five scenarios show need for 20,000 MW or more additional nameplate capacity between 2013 and 2028, with the "limited growth" scenario still showing need for 13,000 MW of additional generation capacity over the same time period (MISO 2014). Thus, MISO anticipates the need for significant additional generating capacity in the region even under the more conservative limited growth scenarios.

More specific to wind, a number of utilities in the region have recently released wind RFPs or are planning for significant increases in wind generating capacity as part of their resource planning. Minnesota Power, for example, just released an RFP for up to 300 MW of new wind capacity based on the Minnesota Public Utilities Commission direction to do so in their recent integrated resource planning process. Likewise, Xcel Energy's Minnesota Resource Plan is not yet final, but the company anticipates acquiring 800 MW of additional wind power before 2020 and 1,800 MW of additional wind power before 2030. Similarly, Great River Energy recently committed to a 50% renewable energy target by 2030, which includes a substantial portion from wind energy due to the environmental and economic attractiveness of the technology.

In addition, commercial and industrial customers are procuring increasing amounts of renewable energy throughout the country. The American Wind Energy Association reports that commercial and industrial buyers of energy invested in more than 3 gigawatts of new renewable energy capacity in 2015 alone.

Lastly wind generation is well positioned to meet future standards, regulations or objectives set by state or federal law with respect to carbon emissions or renewable energy generation. In light of the above, Glacier Ridge is well positioned to help meet significant demand for affordable renewable generation.