



# Memorandum

October 1, 2013

To: Jay Sweeney, Interim Municipal Administrator  
From: Christopher Brewton, Utility Director  
Subject: **Memorandum of Agreement – Alaska Energy Authority – Wind Energy Resource Assessment Program**

## **Request**

This is to request Assembly approval to authorize the Utility Director to negotiate and enter into a Memorandum of Agreement (MOA) with the Alaska Energy Authority (AEA) - Wind Program, for the installation of meteorological tower(s) to provide site specific assessments of the potential for future utility-grade wind turbine installations.

## **Analysis:**

To quote the description of the program; “The AEA Anemometer Loan Program is aimed at communities with the potential for utility grade wind energy projects. This program supplies meteorological (met) towers, data logging equipment, and technical support to utilities interested in wind power production. Wind resource potential is quantified by collecting wind speed and direction data, as well as temperature for air density calculations. Such onsite met data allows for more precise modeling and feasibility studies. Funding for this program is from the Denali Commission and U.S. Department of Energy.”

Although the general analysis completed to date for the Sitka area indicates wind potential as fair to poor<sup>1</sup>, this is an opportunity to evaluate specific sites that may yield favorable results. In particular, evaluation of sites near our existing electric transmission facilities would be of great benefit. This basic information is necessary to determine if future incremental utility-grade wind generation is a viable supplement to our hydroelectric resources.

Should the Assembly approve this request, we would begin the project by hosting a public meeting to solicit input on the project and the potential impacts. Although these towers are relatively small, there will be aesthetic impacts, and more importantly the possibility for future utility-grade wind turbines to be located at these sites. Many factors enter into the decision to install wind turbines including; aesthetics, raptor impacts, noise, land use & rights of way, location of transmission lines, cost, system integration, constructability, access, and many other issues. Public input into the process will be important.

Once installed, the met towers are usually in place for 12-18 months to ensure adequate data collection in year round conditions. Once sufficient data is collected, the met towers will be decommissioned and returned to AEA. Should a site yield promising initial data we would follow up with a funding request to AEA or other source for a full scale wind assessment and feasibility study.

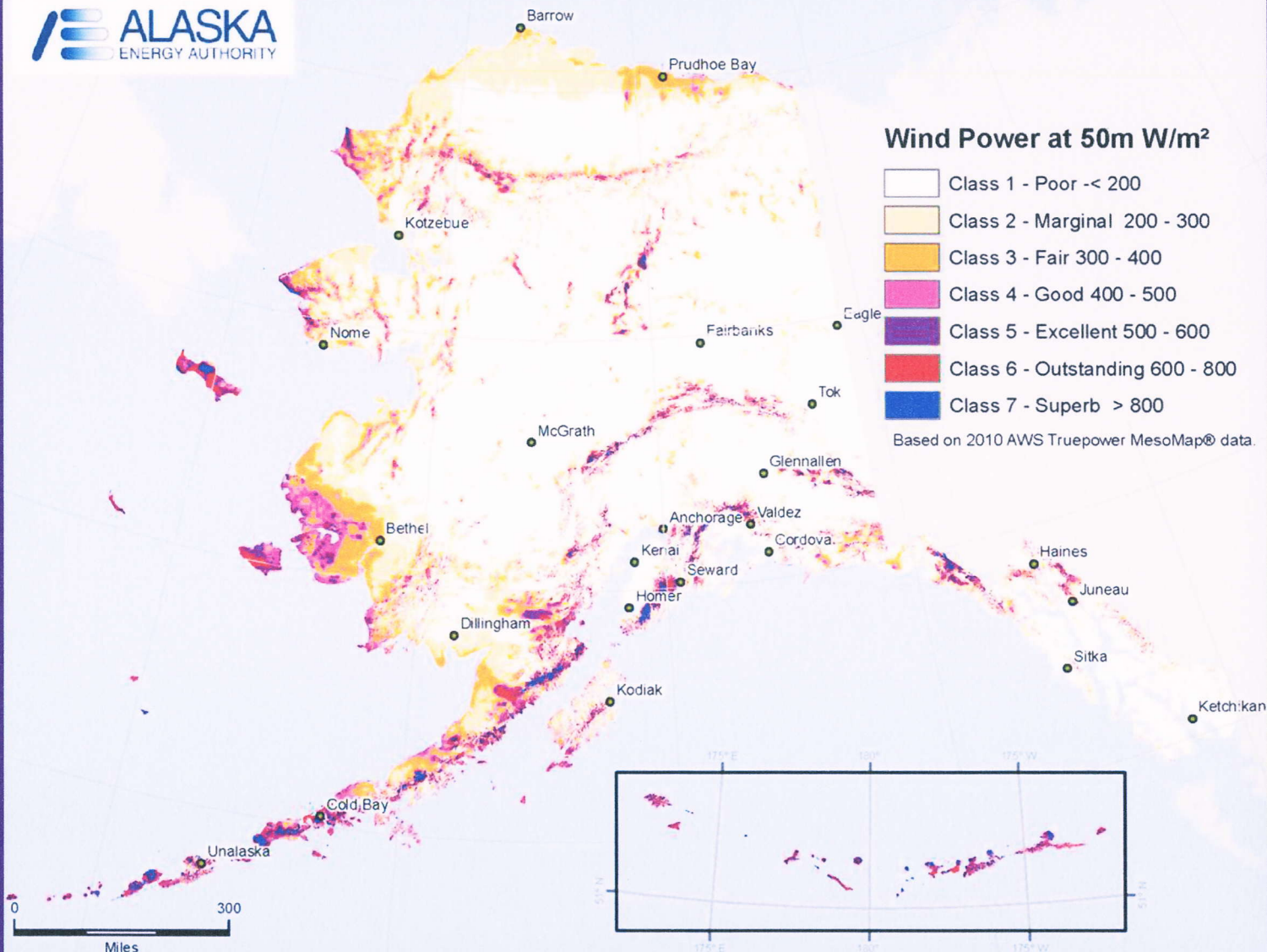
## **Fiscal Note:**

The AEA will provide the equipment and technical expertise to install the met tower(s). The Department would be responsible for providing initial labor to help install the 30-meter tower, and monthly download of data and transmittal of the data to AEA. These are very limited expenses and can be covered under our existing operations budget.

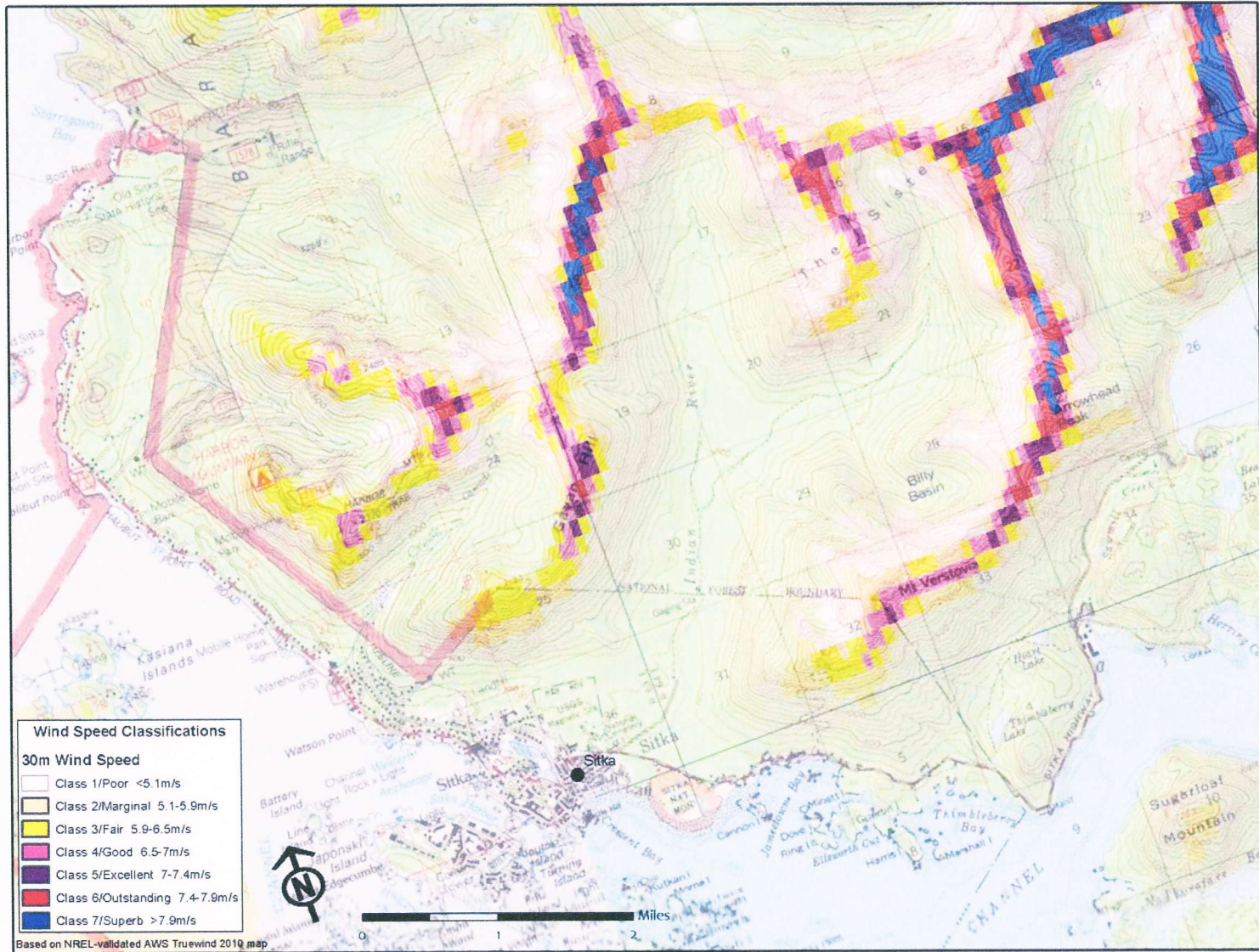
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<sup>1</sup> AEA – Alaska Wind Speed Map - Sitka

# Alaska Wind Map



**AEA - Alaska Wind Speed Map**  
**SITKA**



# Typical 30-meter MET Tower Installation

Anemometer measures wind speed at potential wind turbine hub height of 30-meters.



Extra anemometer serves as a back up and also ensures accurate readings from all wind directions.



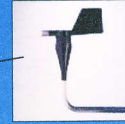
Anemometer at 20-meter level allows us to calculate change in wind speed with height.



Temperature sensor is used to calculate air density.



Wind vane measures wind direction.



Bird diverters make the guy wires more visible to birds.



Data logger records measurements every 10 minutes.

