The Wind-diesel Grant AEA # 2195377

This project started in 2008, with a round one Grant request to State of Alaska’s Alternate Energy Fund together with an in-kind of $162,500 from NANA Regional Corporation.

- 3 Communities with Wind potential was chosen, Buckland, Deering and Noorvik.

A Total of $ 10,758,928 was requested from AEA for wind-data collection, Feasibility studies, Conceptual design and Construction for the 3 communities.

Time line
- During 2009-2011, sufficient data from Buckland and Deering showed that adequate wind was available to proceed to conceptual design phase and possible construction.
- The Data from Noorvik did not show good enough wind, so 2 new sites was found to continue data collection.

Buckland:

Project complete...
At this time we are mopping up the last bills and adjusting the budget.
**Deering:**

*Project complete*

Pictures from Deering

- Installation of the tower at Hotham has been completed and the equipment is reporting wind conditions.
- Additionally the equipment at the lower “quarry” site has been replaced and is also reporting wind data.
- Contract for ongoing measurement has been executed with V3, Doug Vaught.
- The project of measure the wind at Hotham was going to go on for one year, however...

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**Noorvik:**

A project to measure wind strength at “Hot ham peak” has been initiated and approval has been obtained from the FAA and the Selawik Refuge management.

- Pic from “Hotham” April 2015
- Relative wind-strength, red-strongest wind
due to an “Icing” event the tower became inoperable in September 2015.

- A complete an updated CDR study has been generated to validate data collected from Hotham peak in comparison with the existing MET tower at the Quarry site.
- This will be used for a possible wind-diesel project in Noorvik, including feasibility and economics study for Kiana wind and Interconnect transmission line Kiana-Noorvik and a possible extension to Selawik.
- The report will be available on the NAB Website.

**Breakdown Cost of Wind Diesel Project**

**Buckland**
- Wind analysis: $97,000.00 including MET towers.
- Feasibility/CDR: $104,000.00
- Geotech: $107,946.00
- Permits: $28,000.00
- Final design: $342,000.00
- Construction: $5,956,000.00 including turbine cost.
- Total: $6,687,947.00

**Deering**
- Wind analysis: $97,000.00 including MET towers.
- Feasibility/CDR: $89,603.00
- Geotech: $107,946.00
- Permits: $15,473.00
- Final design: $377,320.00
- Construction: $2,989,135.00 including turbine cost.
- Total: $3,676,477.00

**Noorvik**
- Wind analysis: $97,000.00 including MET towers.
- Feasibility/CDR: $98,868.00
- Geotech: $107,946.00
- Permits: $18,588.00
- Final design: $100,594.00
- Construction: Estimated $5 Mil needed
- MET tower Hth.: $58,134.00
- Total: $481,130.00

**Total Production since Commissioning as of February 2016**

**Buckland July-2015**
- WTG 1: 66,646 Kwh
- WTG 2: 49,855 Kwh
- Total: 116,501 Kwh
  - Value @ 14 Kwh/Gallon = 8,322 gallons of Fuel saved

**Deering Nov-2015**
- WTG 1: 36,736 Kwh
  - Value @ 14 Kwh/gallon = 2,624 gallons of Fuel saved