

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



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

- 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

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