**State of Alaska**
**Department of Labor & Workforce Development**
**Division of Business Partnerships**
**1016 West 6th Avenue, Suite 205**
**Anchorage, Alaska 99501**
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# Denali Training Fund
# Quarterly Progress Report

Funds for this project are provided by the Denali Commission and managed, in partnership, by the Alaska Department of Labor and Workforce Development.

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| Name of Organization: | AVTEC - Alaska's Institute of Technology |
| Name of Project: | AVTEC Seward Wind Turbine |
| Reporting Period: | April 1 – June 30, 2011 |
| Contact Names: | Amy Haddow, Grant Administrator |
| Contact Number: | (907) 224-6155 |
| Contact Email: | amy.haddow@avtec.edu |

Certification: I certify that the information in this report is current, correct and true and in accordance with the terms and conditions of the agreement.

Signed by: A. Haddow Dated July 20, 2011

The performance of this grant will be based upon the success achieved in relation to the goals established and approved by the Alaska Department of Labor and Workforce Development, and will be reported in the Grantee's quarterly progress reports. Specific goals and objectives for this project are:

AVTEC will procure and install one (1) 100 kW wind turbine on the state-owned AVTEC campus located in Seward, Alaska for the purpose of wind technician training. The completed project will be owned, operated and maintained by AVTEC and connected into the electrical distribution system at the school's industrial electricity facility.

**GOALS/OBJECTIVES ACCOMPLISHED TO DATE:**
The following measures will be used to evaluate project outcomes.

**Goal 1** Procurement, installation and connection of a 100kW wind turbine at AVTEC's industrial electricity facility.

**Objective 1.1**
Procure one (1) Northwind 100 wind turbine with 30M tower. Turbine to include all components (blade sets, tower sections and nacelle). This objective will include obtaining appropriate warranty on the procured equipment.

**Objective 1.2**
Contract for the supply and management of geotechnical analysis at the project site.

**Objective 1.3**
Contract for the supply and management of structural engineering for the wind turbine foundation.

**Objective 1.4**
Contract for the supply and management of any necessary permitting for the physical installation of the turbine. Permitting scope will not provide any of the necessary electrical interconnect agreements that may be required for full electrical integration.

**Objective 1.5**
Contract for the construction of spread foot concrete foundation per structural designs.

**Objective 1.6**
Contract for the installation and stand of the Northwind turbine.

**Objective 1.7**
Oversee the connection of the wind turbine to the distribution system at the AVTEC industrial electricity facility.

**NARRATIVE OF SERVICES:**
Provide a brief narrative of services provided this quarter by applicable Goal/Objective.

**Objective 1.1:** Completed prior to 10.1.2010

**Objective 1.2:** Completed prior to 10.1.2010

**Objective 1.3:** Completed prior to 10.1.2010

**Objective 1.4:** The Seward City Council added use of wind turbines to permitted uses under Planning and Zoning Codes, and issued a building permit for the wind turbine foundation (attached).

**Objective 1.5:** The contractor (STG) began excavation of the foundation site in mid-October 2010, and poured the concrete foundation on November 2.

**Objective 1.6:** Installation was completed and the Northwind 100 turbine was erected at the end of December 2010 (see attached photo).

**Objective 1.7:** In May, the AEA brought down temporary transformers to connect the turbine with AVTEC's power generation facility. Their technicians worked with AVTEC personnel to test the connections and make sure everything.
operated properly. A permanent transformer has been ordered and will be installed this summer. AVTEC is still working with the City of Seward and STG to connect the wind turbine Seward's power grid. The system has been certified and is ready to go upon approval.

**Provide a narrative of the activities in the curricula development:**

Kent Berklund, Dan Logan, and Peyton Sparks tested new curriculum with students in the 10-month Industrial Electricity program, a class of eleven Power Plant Operators recruited by AEA and/or AVEC who completed training in May 2011, and a class of three Advanced Power Plant operators who completed training in June (also recruited by AEA/AVEC).

**PLANNED ACTIVITIES FOR NEXT REPORTING PERIOD:**
Describe the grant activities you expect to complete during the next quarter.

- Completing the intertie connection between the wind turbine and AVTEC's power generation plant. The schedule of upcoming events includes:
  1. Install transformer.
  2. Submit design to AVTEC/Seward Utility/AEA for final approval
  3. AEA to complete the scope of work they would perform and secure necessary permits
  4. STG to support AVTEC as required to complete/execute utility interconnection agreement
- Hiring an instructor for the Wind Technician Training, sending the candidate for additional training as necessary, and completing curriculum development. (In the interim, AVTEC instructors will have a portion of their time repurposed to include teaching wind training curriculum.

Please identify any problems or changes that will affect the budget, scope or timeline of the project. What are the reasons for any difficulties or delays? Are you within your budget? If not, what is the cause? What is the solution? How can we help?

Working with the local utility, City of Seward, and other partners to connect the turbine to the electrical grid has proven much more complex than anticipated but we are progressing toward that objective. The project is within budget.

AVTEC has continued recruiting for the Wind Energy Instructor, and given the lack of qualified candidates, will focus on recruiting an Industrial Electricity instructor and sending him or her through training to gain the necessary subject matter expertise.