

Alaska Energy Cost Reduction Program Progress Report

Grantee: Alaska Power & Telephone Company (AP&T)

Grant Contact # UAF 10-0054

Period of Report: Fourth Quarter 2010 (October 1 through December 31, 2010)

Project Name: Yukon River Hydrokinetic Project

Quarterly project activities completed:

BioSonics of Seattle, WA continues evaluating the data collected from their sonar system that was deployed to monitor the region in the river upstream of the hydrokinetic turbine. Their data evaluation and report should be completed early in the first quarter of 2011. The BioSonics data will be compared to data collected by UAF biologists.

The University of Alaska – Fairbanks biology team has been evaluating their data collected during the 2010 ice free season. Their data evaluation and report should be completed in the first quarter of 2011.

AP&T engineering and operational personnel working with the New Energy Corp engineering team discussed river debris mitigation approaches and debris handling solutions. The identified solution is to deploy a multiple purpose float upstream of the turbine that would deflect the majority of the surface debris while providing a platform for personnel to reach and remove larger subsurface debris that becomes entangled in the mooring lines and collects on the turbine barge during debris movement periods. In addition to the new float lines will be added to the turbine barge to guide tangled subsurface debris to the surface upstream of the turbine barge to reduce the effort in its collection and removal.

In addition to the technology that will be deployed to mitigate the debris problem at the turbine barge, different methods for routing and connecting the power/control cables are being considered in an effort to reduce the exposure of the cable to potential harm from subsurface debris moving down the river.

AP&T engineering has been in the process of design of the new technology and equipment associated with the issues discussed above and will proceed to manufacturing in the first quarter of 2011.

Project existing or potential problems:

The project equipment is now in winter storage and/or is in the process of inspection and repair at the suppliers facilities. There are no additional problems to report at this time.

Activities Targeted for Next Reporting Period, First Quarter 2011:

- Completion of 2010 data analysis and reporting by the UAF biologic survey team
- Completion of 2010 data analysis and reporting by the BioSonics sonar team
- Completion of engineering and design of debris management technology