

Alaska Energy Cost Reduction Program Progress Report

Grantee: Alaska Power & Telephone Company

Grant # 313-07

Period of Report: Fourth Quarter 2009 (October 1 through December 31, 2009)

Project Name: Eagle Hydrokinetic River Turbine Project

Quarterly project activities completed:

Flood Damage Remediation and Site Visit

In early October rebuilding activities slowed and/or came to a stop for this year with the low temperatures and winter weather. The town remains without visitor accommodations or mercantile facilities. For the project this means that accommodations will have to be provided for all personnel that will be participating in the construction of the project after ice-out this year.

Turbine Equipment Selection

The design submittal from ABS Alaskan (ABS), for the turbine generator equipment has been delayed but is expected in early January. ABS is integrating the hydrokinetic turbine generator from New Energy Corporation (NEC) and other elements of the power conversion components into site ready equipment including the turbine barge and landside power module. ABS is coordinating the interconnection of the new hydrokinetic power plant into the local electrical system with AP&T engineers.

Anchoring System

The design of the anchor system is complete. AP&T will manufacture the anchors in their shop facilities in Tok, AK. Material quotes are currently being evaluated.

Deployment System

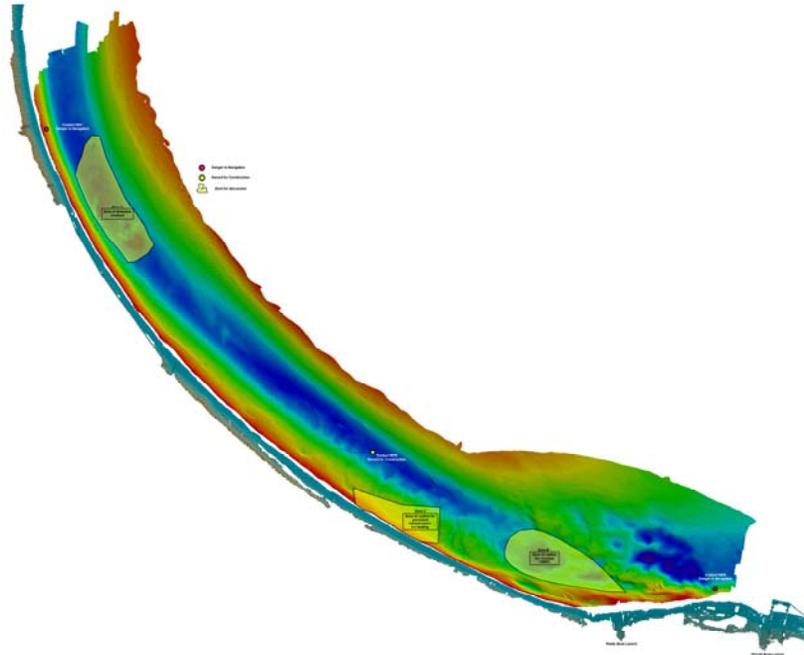
Several plans have been considered for deploying the project equipment into the river. It has been decided to utilize a land based winch located at the town's boat launch facilities. Winch and line size have been determined and a search for a supplier of the necessary equipment is underway.

Fishery Studies

AP&T has been consulting with BioSonics and the University of Alaska Fairbanks (UAF) to develop the in-stream fishery studies plan to determine the impact of the hydrokinetic turbine on the migratory salmon and resident fish populations. Biosonics provided a study proposal using acoustic monitoring equipment. In 2008, Biosonics' split beam sonar system was used to track the movements of fish in the region of the turbine site. The study results provided information on the number and size of fish at the site. The Latest study proposal for post turbine installation uses the 2008 sonar system joined by a Didson camera system installed on the turbine barge. The camera will provide high resolution imagery of the fish in the vicinity of the turbine. The combination of the sonar and camera data should provide an understanding of turbine effects fish behavior. In addition to the technologic studies, live catchment studies will determine if turbine operation caused physical trauma to the fish. AP&T will be submitting a fish studies plan during first quarter of 2010.

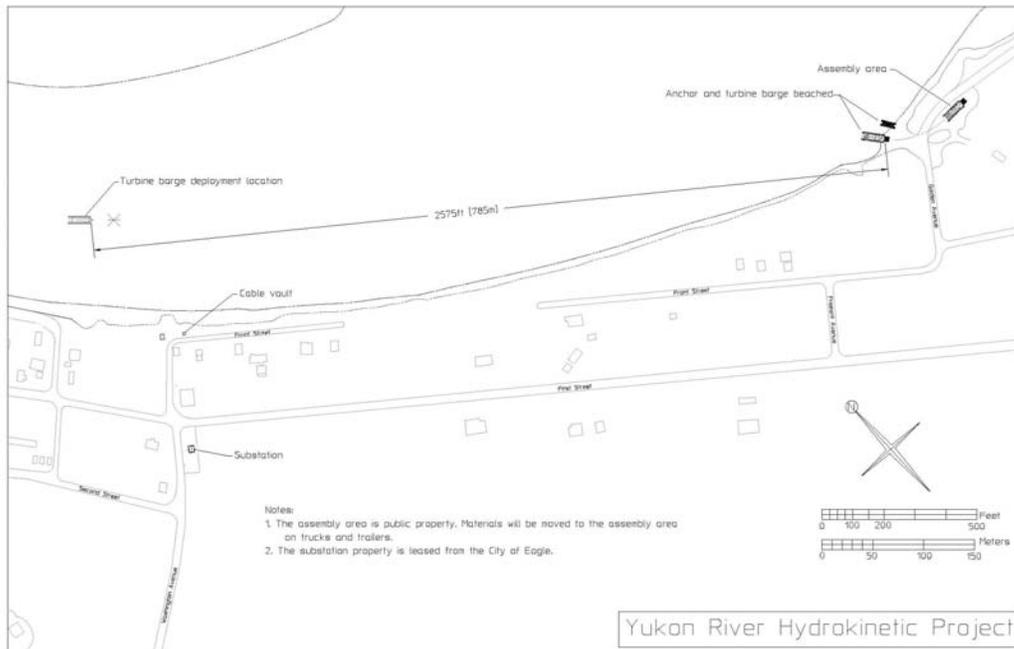
River Studies

TerraSond submitted a draft of the report of their 2009 bathymetric study. This study was commissioned by AP&T in order to define the river bottom conditions to reveal potential hazards to deployment and operation of the hydrokinetic turbine. The image below is an example of the sonar data collected with preliminary remarks from the reviewer.



The image below is a composite of the bathymetric and satellite image. This more clearly defines the area that was surveyed. The drawing below is an earlier sketch that is included to indicate the turbine location which will be off of Washington Street in near the center of the thalweg.





Obstructions have been identified but at this time we do not believe they will have a great impact on the planned deployment or operation of the turbine equipment.

Project existing or potential problems:

No problems are identified at this time.

Activities Targeted for Next Reporting Period, First Quarter 2010:

- Review of turbine equipment submittal
- Review of survey submittals
- Engineering, design, and manufacturing of the turbine equipment
- Engineering and design of mooring anchor
- Engineering and design, and manufacturing of the electrical system