

Kake to Petersburg Planning Study
Quarterly Progress Report
January 1, 2005 – March 31, 2005

Project Overview:

The Kake – Petersburg transmission line will interconnect the community of Kake on Kupreanof Island to the interconnected electric systems of Petersburg and Wrangell. Petersburg and Wrangell are connected to and purchase most of respective power supplies from the Lake Tye hydroelectric project owned by the Four Dam Pool Power Agency. The planned interconnection will be used to transmit surplus hydroelectric power purchased from the Four Dam Pool to Inside Passage Electric Cooperative's (IPEC) electric system in Kake, thereby offsetting diesel generation in Kake.

The Planning Study underway under this Denali Commission financial assistance award includes planning, alternative route evaluation and selection, economic analyses and preliminary permitting activities. This study was awarded through a competitive process to D. Hittle & Associates.

This Quarterly Report will provide an update on work accomplished during this reporting period and will also include descriptive photos from the completed field work investigations.

Progress Report:

The following are the significant activities accomplished during the January 1, 2005 – March 31, 2005 reporting period:

- Detailed definitions of the segment lengths, construction conditions, marine crossings, and available road access for each of the six alternative routes have been developed.
- Preliminary screening-level cost estimates have been developed for the alternative routes. These cost estimates are based on a relatively detailed assessment of required labor units, materials, clearing, access roads, etc.
- The route definition and screening level cost estimates were presented to the Kake – Petersburg Steering Committee which has representatives from the Four Dam Pool, Thomas Bay Power Authority, Inside Passage Electric Cooperative, the Organized Village of Kake as well as the Mayors of Petersburg and Kake. As a result of the presentation and subsequent group discussion, the number of routes for continued evaluation were reduced to three.
- Detailed mapping has been completed

- Plot-profile drawings showing the detailed layout for the Center-South route have been completed. These drawings are part of the output of the PLS-Cadd system analysis used to preliminarily design the transmission line, define material requirements and plot the route.
- Detailed cost estimates are being prepared for the three selected routes.
- Load flow studies have been completed. These studies are being used to define various technical characteristics of the line alternatives and the interconnection facilities.
- Written descriptions of the routes, line characteristics and other information are being prepared.
- Basic data has been obtained from IPEC regarding historical and current power requirements and energy sales revenue in Kake.
- A formal request was submitted to the Four Dam Pool with regard to factors involved in potential purchases. Basic information has been received.
- The economic analysis and assessment of permitting/environmental issues are currently underway.

The Planning Study remains within budget. A draft report is due to Southeast Conference from D. Hittle & Associates by May 1, 2005. The Kake – Petersburg Steering Committee will be meeting to review the study findings with the goal of selecting a preferred alternate for the transmission line route.

The following are photos taken during the field investigation phase of the project. Using fixed-wing aircraft, helicopter and trucks, all the potential routes were evaluated from the air and the ground.

Photos from Field Investigation



Photo 1 – Testing the muskeg depth along Forest Service road near Portage Bay



Photo 2 – Potential submarine cable crossing across Wrangell Narrows



Photo 3 – Transmission line would follow existing Forest Service roads wherever possible. Second submarine cable crossing under Duncan Canal may be required depending on final route selected.



Photo 4 – Forest Service roads are in place about 75% of the distance between Petersburg and Kake. The geography is relatively benign.



Photo 5 – Forest Service road near Kake on Kupreanof Island. The transmission line would parallel these roads.



Photo 6 – Petersburg and Wrangell Narrows looking south. Petersburg receives its power from the Four Dam Pool – owned Lake Tyee hydroelectric project. Wrangell and Petersburg are currently only utilizing around 40% of Tyee's capacity and the surplus could be sold to Kake displacing fossil fuel generation.