

# Kake - Petersburg Intertie Study Update

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## Project Status

Wrangell  
Narrows  
looking north  
at Petersburg.



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March 9, 2011

D. Hittle & Associates, Inc.

### Introduction

- × Provide update on work that has been conducted since last September
- × Present updated cost estimates
- × Indicate activities that are expected to be conducted over the next few months

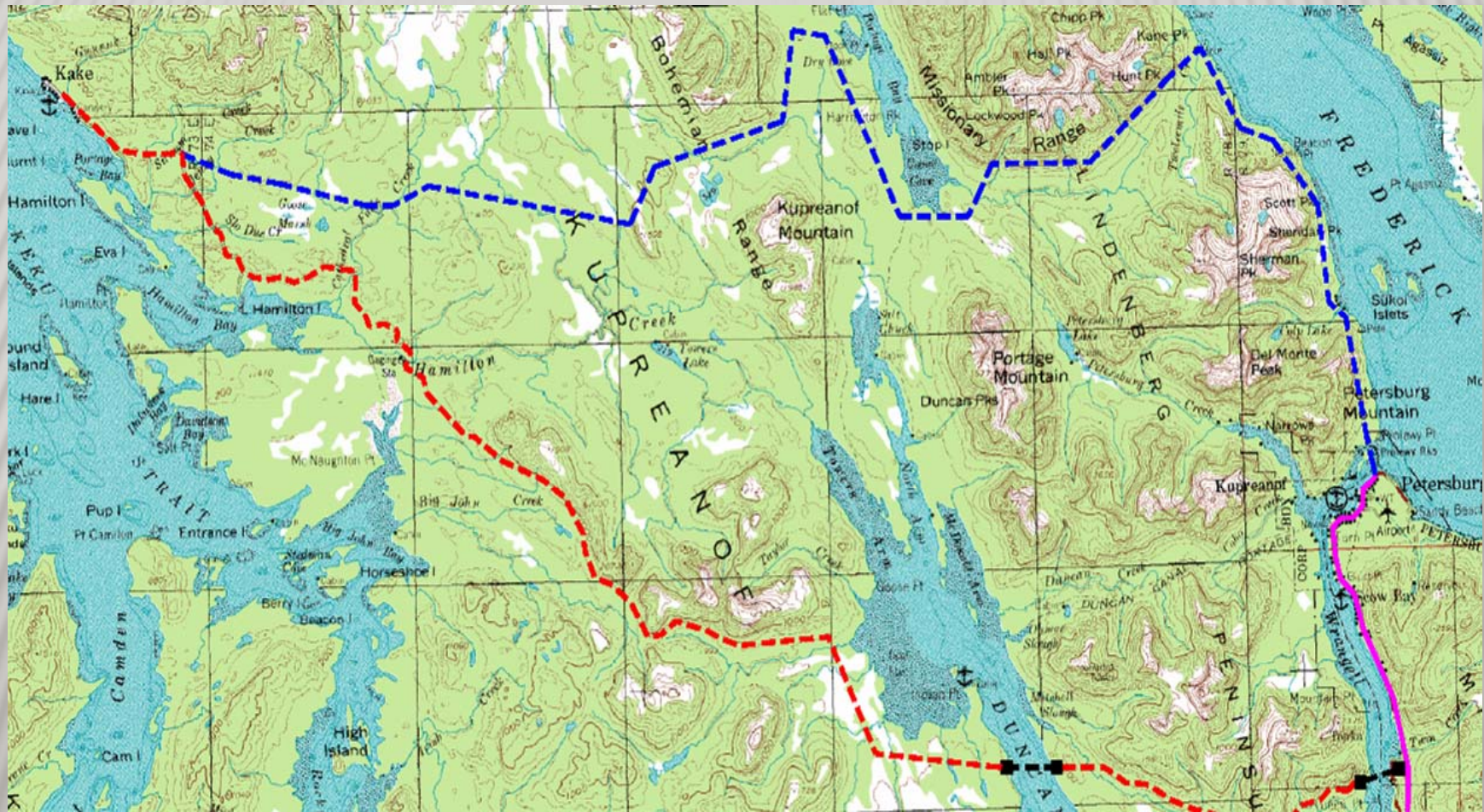
### Purpose of Intertie

- × Interconnect Kake to SEAPA power grid
- × Bring lower cost power to Kake
  - + Retail rates as high as 60 cents/kWh

## Technical Configuration

- Single pole overhead construction, 69-kV
- Follow existing USFS roads or permanent road where possible
  - Existing utility corridor routes
- Integrate with fiber optic telecommunication system components
- 2-3 year construction, 5 years total development

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**Kake –Petersburg Intertie: Northern and Center-South Routes**

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Typical USFS  
Road on  
Kupreanof  
Island

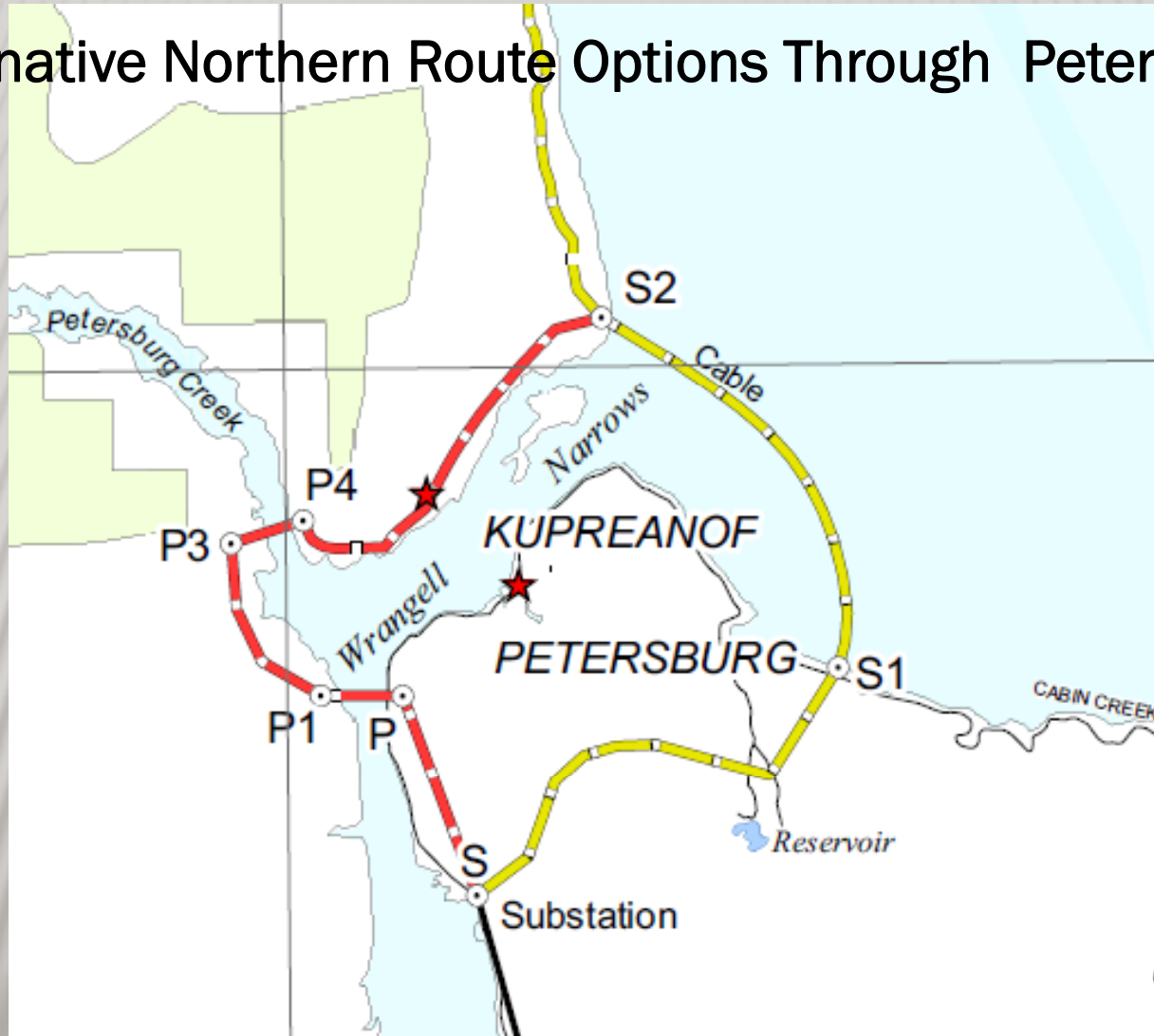
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## Alternative for Northern Route

- × Horizontal directional bore under Wrangell Narrows and Petersburg Creek
- × Power cable in pipe – about 10 inch diameter
- × Overhead or underground line on Kupreanof Island

# Alternative Northern Route Options Through Petersburg



## Recent Permitting Activities

- × Tetra Tech is conducting this work
- × Met with US Forest Service several times
  - × Established work plan
- × Field investigations last fall
  - × Streams, soils and hydrology
- × Cultural resource study undertaken this winter

## Upcoming Permitting Activities

- × USFS needs to issue another Notice of Intent (NOI)
  - × Would like to reference preferred route
- × Field work to resume in June
  - × Most intensive effort in July
  - × Field logistics evaluation underway now
- × More meetings with USFS
- × Draft EIS in late 2011, Final EIS in 2012

### Recent Engineering Work

- × Completed preliminary design for northern route
  - × Served as basis for field locations last fall
- × Continuing discussions with geotechnical specialists regarding underwater crossing issues
- × Evaluating alternatives for underwater crossings
  - × Directional drilling for Center-South route
- × Updated cost estimates

## Upcoming Engineering Work

- × Define scope of work for geotechnical studies
  - × Undertake first phase of studies
- × Conduct field evaluations of preliminary design
  - × Update design as needed
- × Conduct detailed evaluation of underwater crossing alternatives
  - × Directional drilling
  - × Submarine cables
- × Potentially define preferred route

## Estimated Construction Costs

- × Costs of materials continue to rise
  - + Metal and oil prices are a significant factor
- × Labor costs also increasing
- × Submarine cables are very expensive

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### Estimated Total Cost of Construction 69-kV (\$000)

	<u>Northern Route - No Road</u>		
	Center - South w/Bore	With Submarine Cable	With Bore and UG Cable
Overhead Line	\$ 17,924	\$ 20,978	\$ 23,484
Clearing and Road Construction	3,991	5,792	6,139
Underground Construction	-	-	3,365
Submarine Cables	4,007	7,892	-
Directional Bore Crossings	2,379	-	1,914
Switchyards and Substations	<u>1,977</u>	<u>1,611</u>	<u>1,611</u>
Subtotal - Direct Costs	\$ 30,279	\$ 36,272	\$ 36,512
Indirect Costs	\$ 2,422	\$ 2,902	\$ 2,921
Contingency (15%)	<u>4,905</u>	<u>5,876</u>	<u>5,915</u>
Total Costs	\$ 37,606	\$ 45,050	\$ 45,348

## Estimated Construction Costs

- × Northern route would cost approximately \$6 million less if a DOT road were in place before the intertie is built
- × Northern route would cost about \$3 million less if underground construction is not needed in and adjacent to Kupreanof
- × Costs are about \$3 million higher for 138-kV

## Primary Benefits of Intertie

- × Reduce diesel generation in Kake
- × Lower electric rates in Kake
- × Allow for economic incentive rate structures
- × Extend the current SEAPA grid

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Kake  
powerplant



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