

Chikuminuk Lake Hydropower

House Energy & Resources

Committee Hearing

February 2012



Christine Klein, Calista EVP/COO

Elaine Brown, Nuvista Executive Director

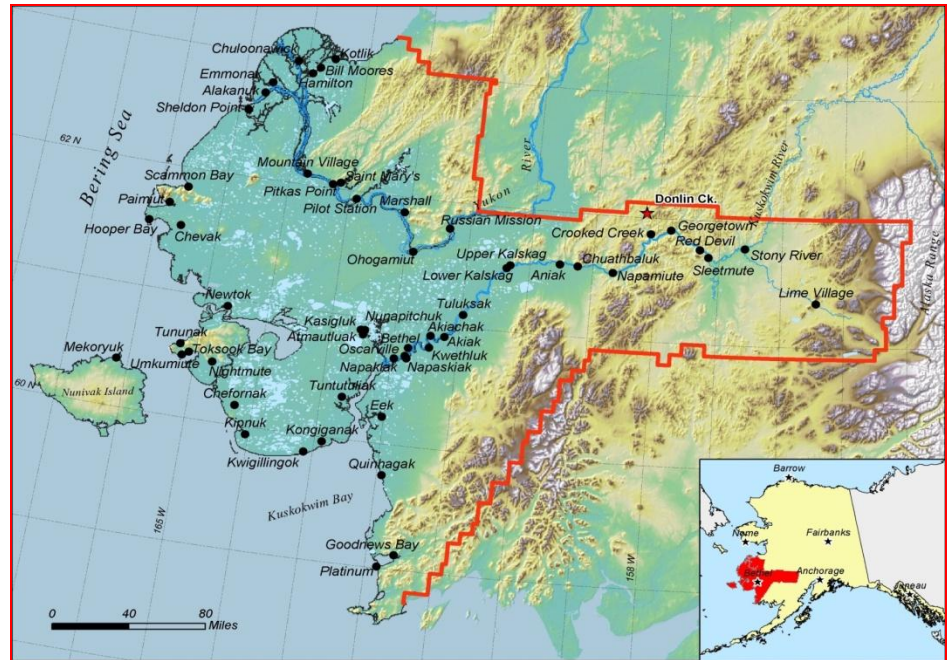
Nuvista Light & Electric Cooperative

Our Mission:

Improve the energy economics in Rural Alaska by creating energy generation and transmission infrastructure to serve, connect and enable the region to attain affordable, long term energy sustainability and self-sufficiency.

Who Are We:

A non-profit corporation guided and governed by twelve member Board of Directors from across the region: Association of Village Council Presidents (AVCP), Yukon Kuskokwim Health Corporation (YKHC), Regional Housing Authority (AVCP-RHA), Alaska Village Electric Coop (AVEC), Middle Kuskokwim Electric, Chaninnik Wind, Lower Yukon, Calista Corporation

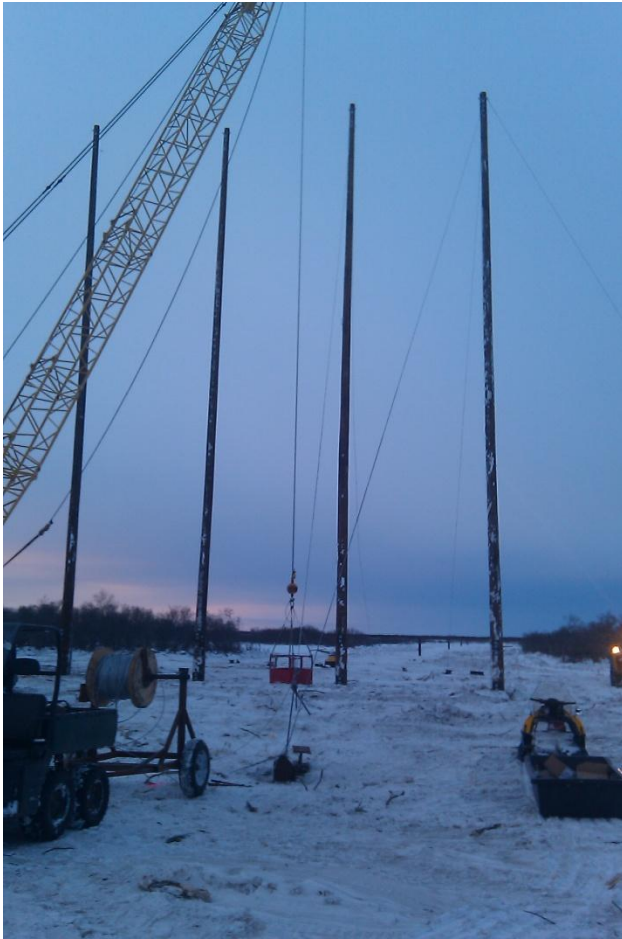


Current Situation in the Yukon-Kuskokwim (Y-K) Delta:

- **38+ Previous Energy Studies** document region need & options, and indicate hydropower opportunities
- **Region-wide Agreement** previously difficult due to large number villages, remoteness, subsistence concerns, and high costs
- **Y-K Linking Infrastructure** lacking
- **6% Population Increase** of last 10 years much higher than estimated, and indicates growing energy needs
- **Needed PCE subsidies** —funding better used in permanent solutions (Wind turbine, Hydro, and Interties)



Y-K Delta Energy Costs



Diesel

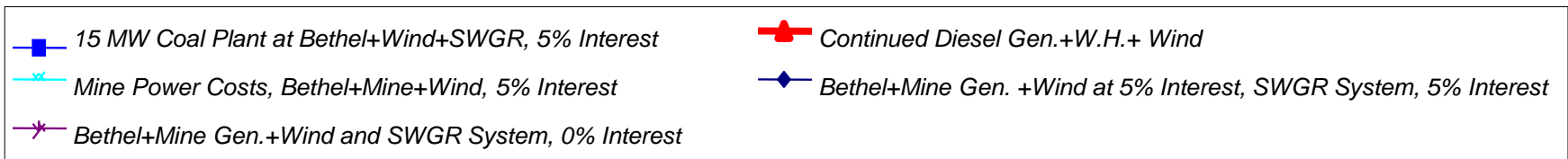
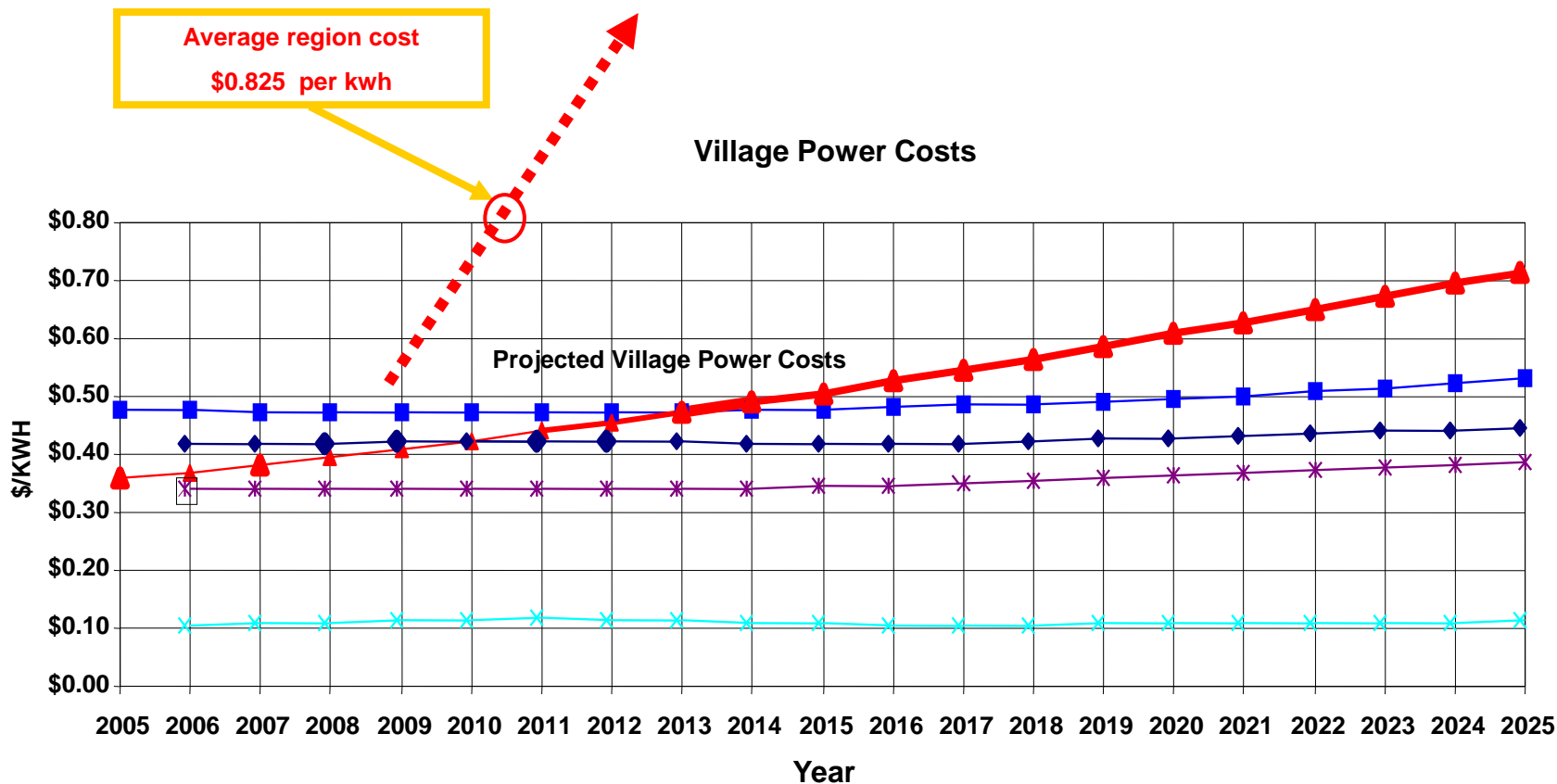
- Primary home heating fuel cost ranges \$6.00 to \$10.00/gallon 2011
- Expect \$7.00 to \$12.00 gallon 2012
- 15-20% of family income 5 years ago went to heating. Today its 60-75%
- Families choosing food vs. heating

Electricity

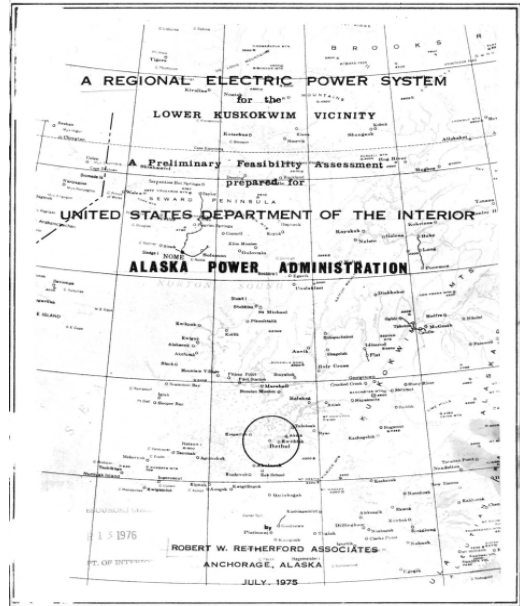
- Generated by over 40+ small village owned diesel generators
- Home use < 50% Natl Average
- Cost = \$0.58 to \$1.05 kilowatt hour
- Escalating cost of energy
- PCE cannot keep up



Electrical Costs Already Far Exceed the 25 year projections made in 2005



Where We've Been



- **Over 38** Energy Studies, Data, and Reports since '75.
- > 41 largely independent aged diesel power generator plants
- Village generators use >20 million gallons of diesel year
- Transmission lines needed
- Coal and Hydropower listed repeatedly as feasible options
- Energy costs escalating
- Wind, Bio-mass, Hydro, Diesel
- Some Coastal Villages proceed w/wind generation but there's limited application in region, wind studies continue to be done.



Hooper Bay

Thank-You Legislators' "2011"

Region: Calista/AVCP Southwest Alaska

Project: Chikuminuk Hydroelectric Alternative Energy

Scope: Initiate Licensing Activities, Environmental Studies, Preliminary Engineering, & Investigations along with holding Public Meetings within Regions

Request: **\$17,600,000**

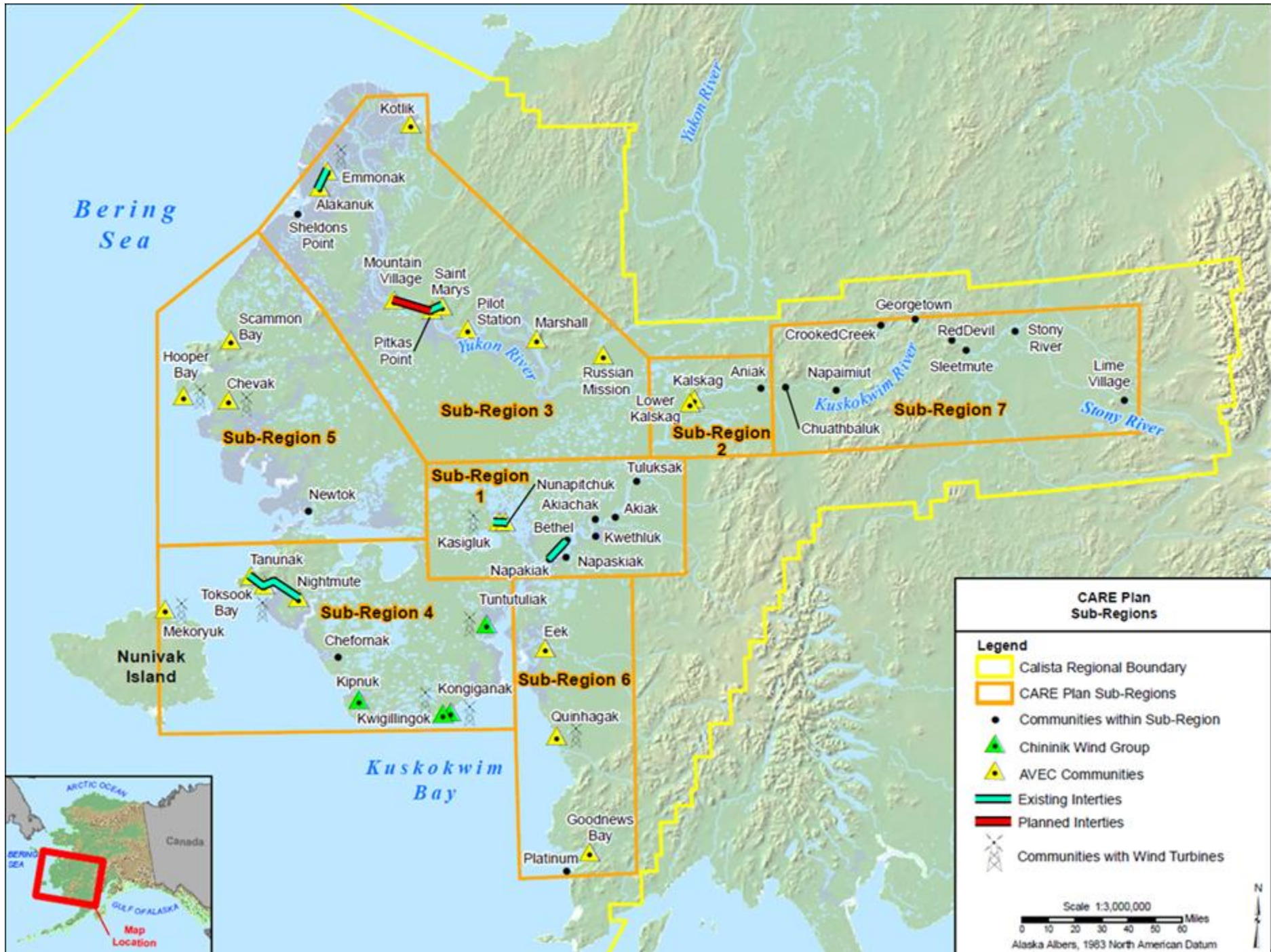
Funded: **\$10,000,000**



What We've Completed to date...

- **Region Public Meetings** - hydropower site alternatives presented and Chikuminuk was preferred alternative, positive, and selected – March 2011
- **Executive Director & Program Manager** nationwide recruitment and interviews, with the selection of an Alaskan from region – August 2011
- **Nuvista Team** developing scopes, public meetings, agency coordination, grant applications, technical assistance to region villages, overseeing
 - 100% Alaskan Hire, 75% Native hire, and Yupik speaking member
- **Chikuminuk Stream gages** reinstalled with USGS – Sept 2011
- **Comprehensive region wide alternative energy plan** underway integrating past and future work to guide future development
- **Region Intertie System** plan developed and applying for project grants
- Engineering Request for Proposals and Consultants Selected October 2011
- **Engineering Agreement** with Hatch Engineering signed – January 2012
 - Many Alaskan Subcontractors: companies from Fairbanks, Anchorage, Wasilla and Bethel





Bering Sea

Yukon River

Sub-Region 3

Sub-Region 7

Sub-Region 5

Sub-Region 2

Sub-Region 1

Sub-Region 4

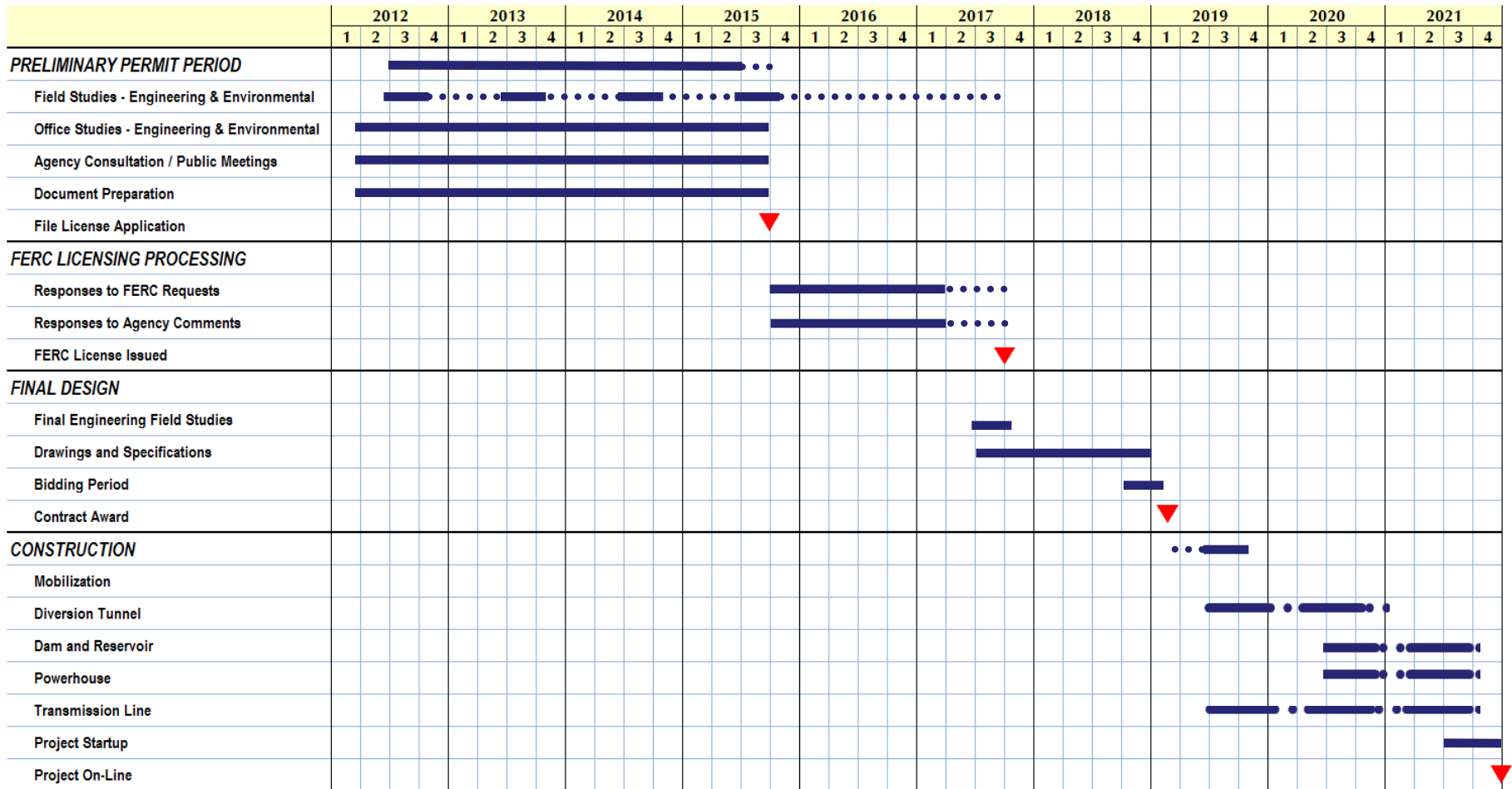
Sub-Region 6




Nunivak Island

Kuskokwim Bay



Chikuminuk Lake Hydro Schedule: Licensing / Design / Construction



-  Continuous Activity
-  Intermittent Activity
-  TBD (based on design, permits & weather)

Planned Activity Schedule for 2012

- **February 2012**

- Preliminary FERC Permit Application for Chikuminuk Lake Hydro project
- Request to FERC to use the Alternative Licensing Process (ALP)
- DNR Informational Meeting – Project & Team Introduction

- **March 2012**

- Agency Meetings Introducing Chikuminuk Project, discussing initial study gap analysis results, and early start to field study plans.
- Wood Tikchik Advisory Council Meeting
- March 27-29 AVCP Annual Regional Housing Authority Conference in Bethel to update the public on project status

- **April 2012**

- April 11-13 Yukon-Kuskokwim Health Corp Meetings update on project
- FERC Permit Preliminary Application Document (PAD) for Chikuminuk

- **May/October 2012**

- Joint Agency/Public Scoping Meetings for Chikuminuk Hydroelectric
- Preliminary Engineering and Dual Field Season Reconnaissance



Chikuminuk Project Phases:

<i>Hydroelectric Energy Project Tasks</i>	<i>Lead</i>	<i>Schedule</i>	<i>Funding</i>	<i>Cost (millions)</i>
1. Initiate Licensing Activities, field geo-environmental studies, preliminary engineering, investigations and holding public meetings within the regions	Nuvista, FERC	2011 2012	State Private	\$10.0M
2. Complete Licensing Application, Environmental Studies, Engineering	Nuvista AEA	2011 2015	State	\$7.6M
3. Transmission rights-of-ways surveys, and land easements	Nuvista DOI/BLM	2012- 2015	State DOI	\$7.83M
4. Final Designs, Permitting, Design Modifications, and Bidding	Nuvista AEA	2016 2018+	AIDEA, BIA Bonds	\$35.25M
5. Hydropower and transmission system project Construction	TBD	2018 2022	Mix, DOE Bonds	\$391.7 M
<i>(-10 to +25%)</i> Total Project Estimated Cost:	TBD	2012 2022	Mixture	\$483M

Thank-You Legislators



Alternative Energy for Southwest Alaska

