Chikuminuk Lake Hydropower

House Energy & Resources

Committee Hearing

February 2012

Christine Klein, Calista EVP/COO

Elaine Brown, Nuvista Executive Director
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

Average region cost $0.825 per kwh

Projected Village Power Costs

- 15 MW Coal Plant at Bethel+Wind+SWGR, 5% Interest
- Continued Diesel Gen.+W.H.+ Wind
- Mine Power Costs, Bethel+Mine+Wind, 5% Interest
- Bethel+Mine Gen. +Wind at 5% Interest, SWGR System, 5% Interest
- Bethel+Mine Gen.+Wind and SWGR System, 0% Interest
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.
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
II. Transmission System Needed

Transmission Grid Build Out

Sequence with Wind Turbine Generation Option
Chikuminuk Lake Hydro Schedule: Licensing / Design / Construction

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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:

<table>
<thead>
<tr>
<th>Hydroelectric Energy Project Tasks</th>
<th>Lead</th>
<th>Schedule</th>
<th>Funding</th>
<th>Cost (millions)</th>
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<tbody>
<tr>
<td>1. Initiate Licensing Activities, field geo-environmental studies, preliminary engineering, investigations and holding public meetings within the regions</td>
<td>Nuvista, FERC</td>
<td>2011 2012</td>
<td>State Private</td>
<td>$10.0M</td>
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<td>2. Complete Licensing Application, Environmental Studies, Engineering</td>
<td>Nuvista AEA</td>
<td>2011 2015</td>
<td>State</td>
<td>$7.6M</td>
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<td>4. Final Designs, Permitting, Design Modifications, and Bidding</td>
<td>Nuvista AEA</td>
<td>2016 2018+</td>
<td>AIDEA, BIA Bonds</td>
<td>$35.25M</td>
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<td>5. Hydropower and transmission system project Construction</td>
<td>TBD</td>
<td>2018 2022</td>
<td>Mix, DOE Bonds</td>
<td>$391.7 M</td>
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Total Project Estimated Cost: TBD 2012 2022 Mixture $483M
Thank-You Legislators

Alternative Energy for Southwest Alaska