Alaska Energy Authority

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Senate Community & Regional Affairs Committee
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SUSITNA-WATANA HYDRO

Clean, reliable energy for the next 100 years.
Current Status

- In 2014, Administrative Order (AO) 271 placed the Susitna-Watana Hydroelectric Project into abeyance
- In 2019, AO 306 rescinded AO 271
- No state funds were spent in Fiscal Year 2019
State Energy Policy

- In 2010, House Bill 306 was passed and set an aspirational goal to generate 50% of the state’s electricity from renewable and alternative energy sources by 2025
Why Large Hydro?

2011

- Oil & Gas: 70%
- Coal: 9%
- Hydro: 21%

2019

- Oil & Gas: 65%
- Coal: 6%
- Hydro: 27%

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Why Susitna-Watana?

- 50% Railbelt energy demand
- Greater winter storage capacity
- Lower overall cost to develop
- Less complex project

- Fewer long-term operational uncertainties
- Stable, reliable, clean energy 100+ years
AS 44.83.080 Powers of the Authority

➢ (18) to acquire a Susitna River power project, whether by construction, purchase, gift, or lease, including the acquisition of property rights and interests by eminent domain under AS 09;

➢ (19) to perform feasibility studies and engineering and design with respect to power projects.
Project History

1950s
First studies conducted by U.S. Bureau of Reclamation.

1980s
Alaska State studies project but oil prices cause State to postpone.

2011
Alaska Legislature unanimously authorizes Alaska Energy Authority to pursue Susitna-Watana Hydro.

2010
50%
Renewable Energy Goal by 2025

2012
Studies begin on Susitna River and surrounding areas

2017
Licensing Abeyance

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Project At a Glance

- **Dam Height**: 705 feet
- **Dam Elevation**: 2,065 Feet MSL
- **Reservoir Length**: ~42 miles
- **Reservoir Width**: ~1.25 miles
- **Installed Capacity**: 459-619 MW
- **Annual Energy**: 2,800,000 MWh
- **Cost**: ~$5.655 billion (2014$)
Engineering

- Size and generation optimized
- Design reviewed by International Board of Consultants
- Designed to withstand:
  - 10,000-year flood
  - Maximum credible earthquake of a magnitude 8.0
- 2014 Engineering Feasibility Report
Economics

- Benefit-Cost and Economic Impact Analyses completed in 2015
- Based on 2014 projection of natural gas prices:
  - Benefit-cost ratio of 2.39 from energy savings alone
  - $11.2 billion (2014$) in energy savings over first 50 years
  - $4.7 billion (2014$) in capital and O&M costs over first 50 years
Employment Opportunities

- Direct jobs:
  - 5,000 pre-construction and non-construction direct jobs (2010-2028)
  - 12,000 direct overall construction workforce

- Local spending and statewide multiplier effects (2014$):

<table>
<thead>
<tr>
<th>Project Spending Category</th>
<th>Local Spending ($)</th>
<th>Business Sales ($)</th>
<th>Jobs</th>
<th>Labor Income ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spending on Licensing/Design and Other Program Costs</td>
<td>814,148,500</td>
<td>551,245,700</td>
<td>3,870</td>
<td>204,254,400</td>
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<tr>
<td>Construction Spending</td>
<td>2,658,465,300</td>
<td>1,837,133,150</td>
<td>11,305</td>
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<tr>
<td>Operations Spending</td>
<td>$26,500,000</td>
<td>18,494,000</td>
<td>105</td>
<td>6,435,000</td>
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Licensing Status

- Integrated Licensing Process
- 2/3 of the way done
- 58 FERC-approved studies:
  - Implemented 2012-2017
  - 19 studies completed
  - 39 significant progress made
- Initial Study Report filed with FERC
FERC Study Plan Determination Outcome

- Confirmed adequacy of environmental studies
- Validated quality of work completed to date
- Rejected nearly all study modification requests
- Rejected requests for additional years of study
- Confirmed data gathered thus far is representative of baselines
- Rejected requests for additional studies
- Licensing activity currently in abeyance
Project Timeline

Pre-Application Phase
2 – 3 years
- Preparation - Planning
- Collaboration - Environmental Studies
- Engineering Feasibility Studies

FERC Review
2 years
- Submit FERC Application
- Review - Determination

Construction Phase
9-11 years
- Construction
- Inspections - Testing
- Financing and power sales agreements
- Detailed design

Project Execution Phase

Operational Phase
- Power Generation - Maintenance - Monitoring
- Monitoring
- Monitoring
Governor and Legislature Determine Next Steps

- If greenlighted...
  - Determine licensing status
  - Update cost estimate to obtain license
  - Update benefit-cost and economic impact analyses
  - Review data to assure it remains reflective of current conditions
  - Consult with FERC, landowners, and other stakeholders
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