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By Commissioner Susan Bell

Meeting Alaska's Energy Needs

The Susitna-Watana Hydroelectric Project will provide affordable, renewable energy to Alaskans for the next century.

A diverse mix of energy sources, including renewable energy, is important to Alaska's future. The Legislature recently adopted the goal that 50 percent of Alaska's electrical generation will be from renewable sources by 2025.

Through the Renewable Energy Fund, the Alaska Energy Authority (AEA) has invested more than \$200 million in over 200 renewable energy projects. AEA will continue to promote wind, hydropower, solar, and geothermal energy projects throughout Alaska, including the Railbelt. However, these projects alone will not be sufficient to meet future energy needs.

AEA identified large hydro as critical to meeting future power generation needs. Subsequently, two large hydro projects were analyzed for feasibility: Susitna and Chakachamna. The Susitna option was superior based on environmental risk, cost, and licensing probability.

Many Alaskans remember the multi-dam Susitna hydro project from the 1980s. In contrast, the current Susitna-Watana Hydroelectric Project is a single dam and is scaled to more accurately meet the electrical energy needs of the Railbelt. In 2011 the Alaska Legislature unanimously passed Senate Bill 42, enabling AEA to move forward with licensing.

Hydro provides reliable power to the electrical grid and has potential to complement other energy sources like the existing Bradley Lake Hydro facility, and the Eva Creek and Fire Island wind projects. The Susitna-Watana Hydroelectric Project is one element of Alaska's energy portfolio that includes a diverse mix of energy sources, essential to the State's energy future.

Economic Opportunity

Energy costs are consistently ranked as a primary concern of residents and business owners. Alaska has a strong track record of successful hydro projects providing long-term, stable rates, which translates into community viability and economic development. Affordable power is a necessary

component of development projects such as mines, ports, ore processing plants, refineries, and seafood processing.

Bradley Lake, near Homer, was commissioned in 1991 and continues to provide the Railbelt's lowest rates. Southeast Alaska depends heavily on hydropower. Kodiak has a successful model of a mix of hydro and wind power; as a result, the City of Kodiak operates on nearly 90 percent renewable energy.

The probable construction cost of the Susitna-Watana Hydroelectric Project is estimated to be \$4.3 billion. This estimate will be refined as factors like dam height, type, methods of construction, and materials are determined. This investment is anticipated to be recovered over the long-term through the sale of energy to local utilities.

Susitna-Watana Hydroelectric Project

The Susitna-Watana Hydroelectric Project will provide stable, affordable electricity for more than 100 years. The proposed project consists of a single dam, roughly 700-feet high, at river mile 184, nearly 90-river miles upstream of Talkeetna, and 35-river miles upstream of Devil's Canyon rapids. The reservoir would be 39 miles long and 2 miles wide (at the widest).

In hydroelectric projects, stored water equates to energy. The water released through the turbines generates power. Preliminary studies indicate an installed capacity of 600 MW, providing half of the Railbelt's energy needs.

The proposed project is being licensed through the Federal Energy Regulatory Commission (FERC) Integrated Licensing Process (ILP). The ILP includes a series of rigorous deadlines and check-in points to ensure the proposed project is not only moving through the regulatory process, but meeting stringent environmental and safety standards. The Susitna-Watana Hydroelectric Project is in year one of the six-year licensing process.

The FERC license is expected in 2017. The powerhouse, dam, and related facilities are expected to be online in 2023, and will be linked by transmission lines to the Railbelt Intertie.

Responsible Development

Building on 30 years of data and more than 3,000 reports, the Susitna-Watana Hydro team worked with State and Federal agencies, Alaska Native organizations, community members, and scientific and environmental contractors to develop a robust environmental study plan, which was filed with FERC on July 16.

Understanding the Susitna River ecosystem and identifying potential project impacts is the goal of the environmental program. Extensive fish studies are a key element of the environmental program, as is knowledge about populations of big game, like caribou and moose.

The Susitna-Watana Hydroelectric Project is an important component of building Alaska's energy future, contributing to a diverse mix of energy sources while supporting stable communities and providing for economic development.

(Additional information is available online at Susitna-Watanahydro.org).