

# Subcommittee on Water, Power and Oceans

Doug Lamborn, Chairman

Hearing Memorandum

March 31, 2017

To: All Subcommittee on Water, Power and Oceans Members

From: Majority Committee Staff, Subcommittee on Water, Power and Oceans (x5-8331)

Hearing: Legislative hearing on H.R. 220, a bill to authorize the expansion of an existing hydroelectric project, and for other purposes.  
**April 4, 2017 at 10:00 a.m. in 1324 Longworth H.O.B.**

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## **Bill Summary:**

H.R. 220 authorizes the limited expansion of the Terror Lake hydroelectric project on Kodiak Island, Alaska.

## **Invited Witnesses:**

*Mr. Darron Scott*  
President and CEO  
Kodiak Electric Association, Inc.  
Kodiak, Alaska

Department of the Interior  
Washington, DC

## **Background:**

The Terror Lake Hydroelectric Project (Project) on Kodiak Island, Alaska provides 31 Megawatts<sup>1</sup> of hydropower capacity to the Island's approximately 13,789 residents and a U.S. Coast Guard Station (USCG). Kodiak Island (Island) is off the North American electricity grid and is reliant solely on electric generation within the Island or imported diesel fuel. Before the Project was built, the Island primarily relied on diesel fuel.<sup>2</sup>

The Project, licensed by the Federal Energy Regulatory Commission (FERC) as Project No. 2743 in 1981, was the result of an agreement between the federal government, the State of

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<sup>1</sup> <http://www.akenergyauthority.org/TerrorLake>.

<sup>2</sup> Olive, Stewart W. and Lamb, Berton L. *Conducting a FERC Environmental Assessment: A Case Study and Recommendations from the Terror Lake Project*. U.S. Fish and Wildlife Service. April 1984, p. 8.

Alaska, environmental groups and the Kodiak Electric Association (KEA).<sup>3</sup> Since the Project is within the Kodiak Island National Wildlife Refuge (Refuge), the settlement required the following mitigation measures: 1) the Alaska Department of Natural Resources agreed to manage 28,000 acres of state-owned land contiguous to the Refuge at Kiliuda Bay as though it were part of the refuge; and 2) The State of Alaska agreed that at least half of the Shearwater Peninsula would be designated as wildlife habitat where grazing would be prohibited.<sup>4</sup> The Refuge currently comprises 82.6% of the Island.<sup>5</sup>

The KEA, a rural electric cooperative, owns and operates the Project. Almost 99.7% of KEA's energy sources are renewable and consist of wind energy and hydropower produced at Terror Lake with the remaining 0.3% consisting of diesel generation.<sup>6</sup> One of KEA's largest customers is the USCG Base on the Island, which includes Air Station Kodiak, USCG Cutter Spar, and the USCG Cutter Alex Haley.<sup>7</sup> KEA also provides electricity for USCG housing and support services. Due to the harsh environment in Alaska and the importance of offshore activities to the local economy, these USCG activities are essential not only to the Island's residents but to activities in the Bering Sea and the Gulf of Alaska.

In light of growing electricity demand on the Island, KEA will be unable to meet the needs of the residents without acquiring additional energy resources. KEA believes that the increased generation capacity must come in the form of either an expansion of the Terror Lake Hydroelectric Project or increased diesel fuel imports.<sup>8</sup> As a result, the utility seeks to expand the Project. The proposed expansion would divert a small portion of flows in the Upper Hidden Basin into Terror Lake via a 1.2 mile underground tunnel (see Map 1 below). This diversion would increase the water resources at Terror Lake by 25%, resulting in an additional 33,000 Megawatt-hours (MWh) of generation each year and totaling an estimated output of the Project of approximately 168 million MWh annually.<sup>9</sup> According to KEA estimates, if the expansion of

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<sup>3</sup> Yaffee Steven L. and Wondollock Julia M., *Negotiating Extinction: An Assessment of the Potential Use of Alternative Dispute Resolution Techniques for Resolving Conflicts Between Endangered Species and Development*. School of Natural Resources and Environment, The University of Michigan, September 1994, (prepared for the Administrative Conference of the United States). Case Study #9: "The Terror Lake Case", p. 1. [http://www.snre.umich.edu/ecomgt/cases/pubs/acus/Terror\\_Lake.pdf](http://www.snre.umich.edu/ecomgt/cases/pubs/acus/Terror_Lake.pdf)

<sup>4</sup> "The Terror Lake Case", p. 5.

<sup>5</sup> <https://www.fws.gov/refuge/Kodiak/about.html>; [http://www.kodiak.org/kodiak\\_island\\_detailed\\_geography](http://www.kodiak.org/kodiak_island_detailed_geography). Percentage determined as 1.9MM acres of refuge out of 2.3 MM acres total land comprising Kodiak Island.

<sup>6</sup> <http://www.kodiakelectric.com/generation.html>.

<sup>7</sup> <https://www.uscg.mil/BaseKodiak/default.asp> (See "Team Kodiak" tab).

<sup>8</sup> As KEA explained in its FERC amendment application, the stability and reliability that will be provided by the Upper Hidden Basin Diversion cannot be met by additional variable renewable resources: KEA is already pushing the technologic edge for wind energy penetration on its isolated micro-grid with battery and flywheel energy storage system integration, and cannot practically engineer any more wind energy additions to its system. The stable integration of all variable energy forms . . . on KEA's isolated micro-grid has reached its maximum under KEA's current conditions. Application for Non-Capacity Amendment to License, Preliminary Draft Environmental Assessment § 2.2.2. <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=14258904>.

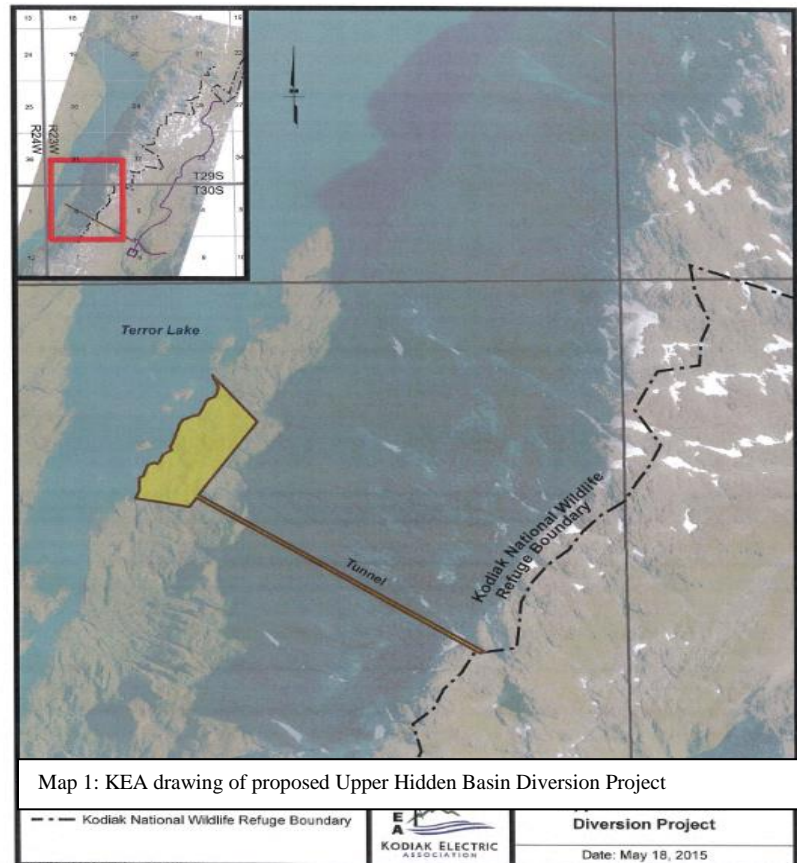
<sup>9</sup> Application for Non-Capacity Amendment to License, Exhibit B.

<https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=14258904>.

Terror Lake is not approved, the diesel generation required for heat alone will result in an annual release of 140 tons of NO<sub>x</sub> and 6,500 tons of greenhouse gases into the atmosphere.<sup>10</sup>

KEA plans to use up to twenty acres of land on the Refuge to accommodate the construction of the needed tunnel and remediation site. H.R. 220 allows KEA to use not more than twenty acres of federal land within the Refuge for the proposed expansion. The legislation specifically requires the expansion to be subject to appropriate terms and conditions under the Federal Power Act. This would allow the U.S. Fish and Wildlife Service to impose what's commonly referred to as "mandatory conditions" under Section 4(e) of the Federal Power Act as a way for the federal agency to order mitigation.

The bill seeks to expedite the expansion in light of rising costs and a limited construction season. According to KEA, delaying construction by just one year would incur \$11 million in additional project costs, which includes \$1.3 million in costs associated with future supplemental diesel generation that will be required to meet electricity demand.<sup>11</sup> All of these costs would be borne by the Island's ratepayers, including the U.S. Coast Guard.



<sup>10</sup> Alaska Dept. of Environmental Quality, Kodiak Generating Station Title V Air Quality Operating Permit No. AQ0211TVP03, Condition 10.3.b for Emission Units 2C and 3C.

<http://dec.alaska.gov/Applications/Air/airtoolsweb/AirPermitsApprovalsAndPublicNotices> .

<sup>11</sup> KEA estimates that 600,000 gallons of diesel would be required annually to produce the electricity that will be provided by the Upper Hidden Basin Diversion. Although the price of diesel fuel is volatile and KEA's contract price is tied to the Oil Price Information Service, its most recent delivery of diesel fuel (in January 2017) was invoiced at \$2.26/gallon.

## **Major Provisions of H.R. 220:**

Section 1(b) – Authorizes the licensee for the Terror Lake hydroelectric project to occupy not more than 20 acres of Federal land to construct, operate and maintain the Upper Hidden Basin Diversion Expansion without further authorization of the Secretary of the Interior or under the Alaska National Interest Lands Conservation Act.

Section 1(c) – Clarifies that this legislation does not impact any requirement to procure a revised license from FERC nor impact the ability of the USFWS to impose conditions on that license, pursuant to the Federal Power Act and in particular section 4(e) of that Act. This also in no way impacts any requirement to conduct an environmental review pursuant to the National Environmental Policy Act of 1969.

## **Cost**

The Senate Energy and Natural Resources Committee voice voted an identical bill (S. 1583 – Sen. Murkowski) during the 114<sup>th</sup> Congress. The Congressional Budget Office (CBO) found that that the Senate language would have “no significant impact on the federal budget.”<sup>12</sup> The Senate Energy and Natural Resources Committee passed the same bill (S. 214) in this Congress by voice vote on March 30, 2017.

## **Administration Position**

Unknown.

## **Effect on Current Law (Ramseyer)**

Not applicable.

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<sup>12</sup> <https://www.cbo.gov/sites/default/files/114th-congress-2015-2016/costestimate/s1583.pdf>.