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DOCUMENT CONTROL

Susitna Hydroelectric Project
Alaska Public Utilities Commission
Rule on Economic Interest
Combustion Engines
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HARZA-EBASCO SUSITNA JOINT VENTURE

INTRA-OFFICE MEMORANDUM

LOCATION Anchorage

DATE November 6, 1984

TO File

NUMBER 40.17.5

FROM W.M. Dyok

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SUBJECT Susitna Hydroelectric Project
Alaska Public Utilities Commission Ruling on
Economic Life of Combustion Turbines

The Power Authority, in its comments on the Federal Energy Regulatory Commission (FERC) Draft Environmental Impact Statement of May 1984, states that the economic life of combustion turbines used in the Power Authority's economic analysis is 20 years (page 8-3 of Volume 3 Appendix I - Fuels Pricing and Economics). The economic life is revised from that used by the Power Authority for the economic studies conducted in the License Application. "The reduced lifetime for combustion turbines reflects a current Alaska Public Utilities Commission ruling." (Alaska Power Authority, 1984).

Based on the above statement, on October 24, 1984, FERC requested a copy of the Alaska Public Utilities Commission (APUC) ruling requiring a 20 year life for combustion turbines.

The basis for the Power Authority's statement in the Appendix on Fuels Pricing and Economics is the Battelle report on Existing Generating Facilities and Planned Additions for the Railbelt Region of Alaska (Battelle, 1982). The following quote is from Page A.2 of the report:

"The following lifetimes have been assumed for the various types of generating units. These lifetimes are the same as those assumed by Acres American Inc. (1981), with the exception of the lifetime for natural-gas-fired gas turbines. Acres uses a 30-year lifetime, while a 20-year lifetime will be assumed in this analysis. This reduced life time was selected to more accurately reflect the current Alaska Public Utilities Commission ruling that the useful depreciated life of a simple-cycle gas turbine is 16 2/3rds years."

To obtain a copy of this ruling, I contacted Mr. Michael Tavella, utilities engineer for the Alaska Public Utilities Commission. He informed me that the commission has not made a formal ruling on the useful life of a simple-cycle gas turbine. He did say that in Alaska the useful life of a simple-cycle gas turbine is about 16-20 years. The reason for this is that gas turbines are base loaded in Alaska, whereas in the lower 48 states they are generally used for peaking. This reduces the useful life of a gas turbine from about 30 years to 20 years. Mr. Tavella thought a 30 year life would be too high for Alaskan conditions. However, Chugach Electric Association depreciates simple cycle gas turbines over 30 years if the Rural Electrification

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Administration loans for the gas turbines are based on 30 years. According to Mr. Tavella, other utilities such as Anchorage Municipal Light and Power use a useful life of 20 years for simple cycle gas turbines. The APUC accepts 20 years as the useful depreciated life of a simple-cycle gas turbine.

References

1. Alaska Power Authority, Comments on the Federal Energy Regulatory Commission Draft Environmental Impact Statement of May 1984, Volume 3 Appendix I - Fuels Pricing and Economics, August 1984.
2. Battelle Pacific Northwest Laboratories, Existing Generating Facilities and Planned Additions for the Railbelt Region of Alaska, Volume VI, Prepared for the Office of the Governor, State of Alaska, September 1982.

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