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**SUS 10041**

**(also part 2 of SUS 347)**

**Comments on Draft Exhibit E of Susitna Hydroelectric Project License Application. Letter to Eric Yould from Richard A. Neve, January 21, 1983.**

- To Eric Yould, Executive Director, Alaska Power Authority
- From Richard A. Neve, Commissioner, Alaska Dept. of Environmental Conservation
- 4 p.

This document is one of four agency memorandums addressed sent in January 1983 to Eric Yould. These memorandums are assigned individual SUS numbers 10040, 10041, 10042, and 10043.

These memorandums appear also in a collected document: Agency Comments on Draft Exhibit E of Susitna Hydroelectric Project License Application : Comments by NMFS, DEC, DNR, USFWS. -- SUS 347.

These submitted comments are in reference to: Susitna Hydroelectric Project FERC License Application. Exhibit E / prepared by Acres. Draft. -- APA Document nos. 157-161.

*(This explanatory sheet is supplied by Alaska Resources Library and Information Services. Titles of memorandums are supplied from Susitna Aquatic Impact Assessment Project Bibliography with corrections made by the cataloger.)*

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# STATE OF ALASKA

## DEPT. OF ENVIRONMENTAL CONSERVATION

SOUTHCENTRAL REGIONAL OFFICE

January 21, 1983

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JAN 28 1983

Mr. Eric Yould  
Executive Director  
Alaska Power Authority  
334 West 5th Avenue  
Anchorage, Alaska 99501

Dear Mr. Yould:

The Alaska Department of Environmental Conservation is pleased to respond to the Alaska Power Authority's request for comments on the Susitna Hydroelectric Project, Federal Energy Regulatory License Application, Exhibit E. These comments are organized into seven primary categories and are presented below.

### A. Water Quality

1. The discussion on water quality impacts is well done for both the Watana and Devil Canyon dams. The major impact to water quality is from a change in the downstream water temperature that will occur with the project operation. The Reservoir Temperature Model (DVRESM) is designed to predict reservoir outflow temperatures to an accuracy of  $\pm 2^{\circ}\text{C}$ . That is a range of variation of  $4^{\circ}\text{C}$ . A difference of  $4^{\circ}\text{C}$  in predicted outflow temperatures could have a significant effect on the actual versus the predicted impact on downstream fisheries. This modeling effort should be developed to predict reservoir operating parameters when using a given downstream impact, essentially working the model backwards. Accurate estimates of the predicted downstream river temperatures are an essential component of the impact assessment process.
2. The sheer magnitude of the construction project will create a high potential for soil erosion that may affect water quality. The Exhibit E needs to be more specific on how these problems will be mitigated. Methodologies need to be described in detail for construction of the road, dam and townsites, and other project entities.

### B. Hazardous Substances

A very large amount of hazardous substances will be transported to, and utilized at, the project site. Discharges of hazardous substances could contaminate land as well as surface and ground water. Further impacts could occur to human welfare, fish, and wildlife.

The Exhibit E document does not address the major possible sources of fuel spills, but rather the minor ones (leaky hydraulic lines and water pumps). A very detailed oil spill contingency plan needs to be developed that will have several major objectives and be written to account for a major (i.e., tank truck roll-over), as well as a minor spill event.

The plan should be responsive to project needs and yet be simple enough to be functional. Major objectives of the plan are discussed in detail below:

1. To develop a training program that will stress spill prevention. This program needs to cover spill response under all project conditions and set up several response scenarios.
2. To develop the response capability to adequately handle the worst case spill expected. This response capability should be developed for the Watana and Devil Canyon camps and the railhead staging area. This would mean staging spill cleanup equipment at all sites. All hazardous substances that will be used on site need to be considered (solvents, chemical additives, etc.).
3. To develop an immediate response team for each work shift, consisting of personnel dedicated to spill containment and cleanup, should a discharge incident occur. This response team would have a designated leader who would direct the team. A complete training program in spill response for this team would be essential.
4. To contain a small section on the project area environment. This would include a map of major drainage areas, fish habitat and seasonal descriptions, and wildlife habitat and seasonal descriptions. The environmental section is very important in prioritizing spill response actions (i.e., most sensitive areas first), and for developing an appreciation for the impact a spill can have.

#### C. Wastewater Treatment

The type of wastewater treatment plant to be used at each camp site has to be described in greater detail to more adequately evaluate its effectiveness. The discharge from the Watana treatment facility may not meet fecal coliform standards because of inadequate dilution. The discharge zone should be well defined for both facilities. The Watana and Devil Canyon camp wastewater treatment plants are to be functioning and approved before each camp is in operation.

#### D. Concrete Batching Plant

Potential impacts that may occur from the concrete production process are not described in enough detail. The discharge from this process will also have, in addition to pH changes, problems with siltation, turbidity and possibly toxic additives used in the curing process. Siltation from concrete can form a mat over substrate gravels. This could suffocate emerging salmon fry or other indigenous organisms that require substrate habitat. Discharges that may have toxic concrete additives as a component may kill aquatic organisms. The batching process may also have airborne particulate problems. Specific control measures need to be described in detail for each type of problem that may be encountered.

#### E. Access Corridors

The access route (Plan 17) was determined, during the access route selection process, to have greater potential for major environmental impacts than the other route options. The major impacts of concern were:

1. The Denali Highway to Watana Dam site portion passes through habitat that has historically been used by portions of the Nelchina caribou herd.
2. Many native grayling streams can potentially be affected during the construction of the Denali Highway to Watana Dam site access section.
3. Access along the south side of the Susitna River from the Watana to Devil Canyon Dam sites passes through the Stephan Lake region. This region is important habitat for moose, wintering caribou, migrating waterfowl, and fur bearers.
4. Wetlands habitat is crossed southwest of Devil Canyon.

Because of the greater potential for major impacts associated with the Plan 17 access option, more attention should be given to defining the methods that will be implemented to mitigate these impacts. For example:

1. How will the access route be designed to minimize disruption to the caribou herd?
2. What technique will be implemented to prevent impacts to native grayling streams from road construction?
3. How will impacts to the Stephan Lake region be reduced?
4. How will project and post-project access be controlled to prevent secondary impacts related to access?

#### F. Fishery Impact Assessment

The field data base is incomplete for an accurate prediction of the impact the Susitna Hydroelectric Project will have on fishery resources. A good set of data has been collected for only two years. Fishery population and related water quality data can have inherent fluctuations from year to year. Long term, large-scale programs need to be implemented in order to make a reasonably accurate population estimate. Very specific detailed studies designed to correlate physical and chemical aspects of the aquatic habitat to population fluctuations need to be part of the long term program. This program should be continued through project construction.

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If impacts cannot be accurately predicted, a worst case (100% loss) estimate of the fishery population should be assumed and the implications this impact would have to the aquatic community and related resource use need to be discussed. By assuming a worst case estimate, a type of mitigation program can then be developed where compensation to the fishery population can occur to result in an acceptable loss.

A long term post-project aquatic monitoring program should be developed as an integral part of the project. Funds should be allocated in advance to insure the continued existence of this program. The monitoring program is essential to determine the effectiveness of mitigation measures that are implemented.


G. Interagency Review Board

It is strongly recommended that a formal interagency review board be established to work with the Alaska Power Authority in the development of the Susitna Hydroelectric Project. This board will identify and comment on socioeconomic and environmental issues and regulatory requirements. It is suggested that the Formal Designation of the Susitna Technical Advisory Committee (see attached memo to you dated November 17, 1982) be implemented to accomodate this recommendation.

Once project construction begins, a similar interagency board should be established to monitor the socioeconomic and environmental impacts and regulatory compliance. This board would make recommendations to the Alaska Power Authority to correct associated problems as necessary.

The Alaska Department of Environmental Conservation appreciates this opportunity to comment on the Susitna Hydroelectric Project, Federal Energy Regulatory License Application, Exhibit E and hopes that these comments will be useful to you. If you have any questions, or if we can be of further assistance, do not hesitate to contact Bob Martin or Steve Zrake in Anchorage.

Sincerely,



Richard A. Nevé  
Commissioner

Attachment

cc: Bob Martin, ADEC, Anchorage  
Steve Zrake, ADEC, Anchorage  
Su-Hydro Steering Committee