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Susitna-Watana Hydroelectric Project
(FERC No. 14241)

Project Safety Resources
Study Plan Section 16 Introduction

Final Study Plan

Alaska Energy Authority

SUSITNA-WATANA HYDRO
Clean, reliable energy for the next 100 years.

July 2013

16.   PROJECT SAFETY

16.1   Introduction

The Project, as currently envisioned, is anticipated to include a dam constructed using roller compacted concrete (RCC) construction methods. The Project works will also include a large reservoir, a spillway, cofferdams, diversion tunnels, integrated penstocks and powerhouse, railhead improvements, temporary construction housing and maintenance facilities, borrow and quarry areas, transmission lines, access roads, staging and stockpile areas, etc. The Project safety studies will provide information and analysis to demonstrate that proposed structures are safe and adequate to fulfill their stated functions.

16.2   Nexus Between Project Construction / Existence / Operations and Effects on Resources to be Studied

Among the basic studies required to verify the design criteria for and the design of a large dam are the seismic hazard evaluation and the Probable Maximum Flood (PMF) studies.

Project construction, operation, and maintenance activities have the potential to be affected by, and to affect, seismic activity in the Project area, and extreme floods can also affect Project operations. Thus, the ability to safely pass extreme floods and safely survive a regional or local seismic event is of paramount importance in dam development. These studies will verify the design criteria to be used for the PMF inflow and the routing of the PMF and also verify the condition or nature of the seismic hazard such that appropriate design criteria are formulated.

16.3   Resource Management Goals and Objectives

The capability of Watana Dam to safely pass the most extreme floods, a FERC requirement, and the ability of the dam to survive a seismic event are basic elements of a comprehensive dam safety program under FERC's 18 CFR Part 12 regulations. Dam safety is a fundamental design criterion for the Watana Dam.

Additionally, The DNR's Alaska Division of Geological and Geophysical Surveys (DGGS) evaluates potential geologic hazards to buildings, roads, bridges, and other installations and structures as part of its mission statement.

16.4   Summary of Consultation with Agencies, Alaska Native Entities and Other Licensing Participants Regarding Revised Study Plan Development

Many residents of the upper Susitna Valley expressed concerns about the stability of the proposed dam during and after a seismic event. They have also expressed concern about the dam's ability to withstand extreme flood events.

AEA has informally consulted with the Alaska Division of Geological and Geophysical Surveys. A conference call was held among FERC, AEA, and MWH representatives on August 20, 2012

to discuss the structure of the Board of Consultants. An initial Board of Consultants meeting was held on November 1-2, 2012 in Bellevue, Washington.

Consultation subsequent to the filing of the Revised Study Plan (RSP) is described within each Final Study Plan (FSP).