

## Susitna-Watana Hydroelectric Project Document ARLIS Uniform Cover Page

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**Susitna-Watana Hydroelectric Project  
(FERC No. 14241)**

**Social Conditions and Public Goods  
and Services Study  
Study Plan Section 15.6**

**Initial Study Report  
Part C: Executive Summary and Section 7**

Prepared for

Alaska Energy Authority



**SUSITNA-WATANA HYDRO**

*Clean, reliable energy for the next 100 years.*

Prepared by

Northern Economics, Inc. and Veritas Economic Consulting

June 2014

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## EXECUTIVE SUMMARY

Social Conditions and Public Goods and Services Study 15.6	
Purpose	This study assesses potential changes in population, housing, public goods and services, and other quality of life factors resulting from the construction and operation of the Project and potential changes in regional economic conditions resulting from the nonpower effects of the Project.
Status	Data collection efforts in 2013 made good progress in meeting overall study objective of describing, using text and appropriate tables and graphics, existing socioeconomic conditions within the study area. Completion of the description of existing socioeconomic conditions will require continuing integration with other study reports.
Study Components	<ul style="list-style-type: none"> <li>• Identify recreation outcomes that are likely to occur under with-Project conditions.</li> <li>• Assess currently available recreation data.</li> <li>• Identify and apply existing recreation utility functions from the literature.</li> <li>• Identify recreation demand by appropriately combining existing utility functions with site characteristics under without-Project and expected with-Project conditions.</li> <li>• Identify aggregate demand using population data and participation rates.</li> <li>• Document results of the social conditions and public goods and services study in initial and updated study reports.</li> </ul>
2013 Variances	Based on information presented in the Transportation Resources Study (ISR Study 15.7), which describes the primary sources and destinations of Project-related road and railroad traffic, Seward, Point MacKenzie, Whittier, Wasilla, and Houston were added to the list of potentially affected communities in the study area.
Steps to complete the Study	The plans for completing this study include further developing the Random Utility Model and working with Study 5.5 on the REMI model in 2014. Additional recreation utility functions and demographic data will be updated in the model in 2014. AEA will continue to implement all study components in 2015, with no modifications to the FERC-approved Study Plan. Such efforts will include completing the Random Utility Model (RUM) modeling exercise and associated key informant interviews.

<b>Highlighted Results and Achievements</b>	<p>Data have been collected to describe socioeconomic conditions in the study area.</p> <p>Progress was made in developing the REMI model assumptions for comparing future socioeconomic conditions with and without the Project.</p> <p>The recreation utility functions for the Random Utility Model have been identified, and these functions are being combined with existing recreational site characteristics.</p>
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## **7. COMPLETING THE STUDY**

### **7.1. Proposed Methodologies and Modifications**

To complete this study, AEA will implement the methods in the Study Plan (RSP Section 15.6.4), with no modifications. The following study components will be undertaken:

- In conjunction with Study 15.5, further develop the REMI model to help forecast socioeconomic conditions associated with the regional economic impact of Project employment and expenditures during the construction and operations phases.
- The REMI model will also be employed to analyze the regional economic impact of changes in recreation and subsistence expenditures and changes in the level of economic activity in the construction, transportation, recreation and tourism, commercial fishing, oil and gas, and electric utilities sectors.
- Further development of a Random Utility Model to predict changes in recreation site visitation and aggregated economic welfare (i.e., dollar-valued consumer satisfaction).
- Changes in non-use values will be described based on the predicted direction and degree of changes to the ecosystem and habitat.
- Potential changes in property uses will be described, and, to the extent practicable, the changes in property values that would result from changes in use will be estimated.
- Changes in annual government expenditures and revenues for the state and each borough and community will be estimated using output from the REMI model for the state and boroughs, and from a gravity model for the communities.
- The socioeconomic effects of changes in transportation patterns will be described in quantitative or qualitative terms.
- Potential changes to quality of life will be identified based on information collected from key informant interviews supplemented with information collected by the public surveys and focus groups.

#### **7.1.1. Decision Points from Study Plan**

There were no decision points in the FERC-approved Study Plan to be evaluated for this study following the completion of 2013 work.

#### **7.1.2. Modifications to Study Plan**

No modifications to the Study Plan methods are needed to complete the study and meet Study Plan objectives. However, based on information presented in the Transportation Resources Study (ISR Study 15.7), which describes the primary sources and destinations of Project-related road and railroad traffic, Seward, Point MacKenzie, Whittier, Wasilla, and Houston were added to the list of potentially affected communities in the study area

## **7.2. Schedule**

In general, the schedule for completing the FERC-approved Study Plan is dependent upon several factors, including Project funding levels authorized by the Alaska State Legislature,

availability of required data inputs from one individual study to another, unexpected weather delays, the short duration of the summer field season in Alaska, and other events outside the reasonable control of AEA. For these reasons, the Study Plan implementation schedule is subject to change, although at this time AEA expects to complete the FERC-approved Study Plan through the filing of the Updated Study Report by February 1, 2016, in accordance with the ILP schedule issued by FERC on January 28, 2014.

With regard to this specific study, AEA is not proposing work in 2014 and 2015. In 2014 the study team will continue to work on the REMI model to and further develop the related Random Utility Model by incorporating recreation utility functions provided through study 12.5. Further work on the Random Utility Model will also involve further developing the future demographic forecasts provided by the REMI model in Study 15.5. AEA plans to complete all remaining data collection during the 2015 study season, which will be reported in the USR.

### **7.3. Conclusion**

Much of the information collected for the REMI model used in this study will also be required for the Regional Economic Evaluation Study (ISR Study 15.5) and data collection efforts will be coordinated between the two studies. The REMI model will be used to estimate regional economic impacts, including the impacts of changes in economic activity in the construction, transportation, recreation and tourism, commercial fishing, oil and gas, and electric utilities sectors. Inputs to the REMI model will include estimates of Project construction and operations manpower requirements and timing, worker payroll, material purchases, and cost of power, and a number of other items from the engineering and other feasibility studies, together will impact results obtained from Recreation Resources (RSP Section 12.5), Subsistence Resources (RSP Section 14.5), and Analysis of Fish Harvest (RSP Section 9.15).

A Random Utility Model that incorporates existing recreation data, new recreation data collected by the Recreation Resources Study (ISR Study 12.5) and recreation utility functions from the published literature will be used to predict changes in recreation site visitation and aggregated economic welfare (i.e., dollar-valued consumer satisfaction).

Potential changes in property uses will be described, and, to the extent practicable, the changes in property values that would result from changes in use will be estimated.

Demographic forecasts provided by the REMI model will be used to assess impacts on population, public services and infrastructure, and housing. In addition, as part of the fiscal impact analysis, the cost per capita or other measure (e.g., number of school age children) for major services provided by the state and affected boroughs and the incorporated communities will be determined. Changes in annual government expenditures and revenues for the state and each borough and community will then be estimated using output from the REMI model for the state and boroughs, and from a gravity model for the communities.

The socioeconomic effects of changes in transportation patterns will be assessed based on the results of the Transportation Resources Study (ISR Study 15.9), which will incorporate demographic and economic forecasts provided by this Study Plan. The analysis will include a

description of the number and types of residences and businesses that might be displaced by the Project access road and transmission corridors.

To identify changes to quality of life and overall natural resource uses trends in the study area, information collected from key informant interviews will be supplemented with information collected by the public surveys and focus groups conducted for the Recreation Resources and Aesthetic Resources Studies (ISR Studies 12.5 and 12.6).