

DRAFT

WRITTEN COMMENTS

BY MAY 1.

Send to Power Authority



SUSITNA HYDROELECTRIC PROJECT

TK
1425
.S8
A23
no. 4002

**DRAFT
SOCIAL SCIENCE PROGRAM STUDY TASKS
FISCAL YEAR 1985**

Report by

Harza-Ebasco Susitna Joint Venture

Prepared for

Alaska Power Authority



ALASKA DEPT. OF
FISH & GAME

APR 12 1984

HABITAI
Draft Report REGIONAL OFFICE
April 1984

NOTICE

ANY QUESTIONS OR COMMENTS CONCERNING
THIS REPORT SHOULD BE DIRECTED TO
THE ALASKA POWER AUTHORITY

ARLIS

Alaska Resources
Library & Information Services
Anchorage, Alaska

TABLE OF CONTENTS

<u>Section/Title</u>	<u>Page</u>
1.0 INTRODUCTION	1
2.0 LONG TERM GOALS OF THE POWER AUTHORITY	3
3.0 SOCIAL SCIENCE STUDY TEAM PARTICIPANTS	6
4.0 FY85 STUDY TASK DESCRIPTIONS AND PRIORITIZATION	7

3 3755 000 44688 0

LIST OF TABLES

<u>Number</u>	<u>Title</u>	<u>Page</u>
1	Susitna Hydroelectric Project Federal Energy Regulatory Commission Schedule for Licensing Process	2
2	Fiscal Year 1985 Social Science Program Tasks	9

SITNA HYDROELECTRIC PROJECT
FISCAL YEAR 1985 SOCIAL SCIENCE PROGRAM STUDY TASKS

1.0 INTRODUCTION

The Alaska Power Authority (Power Authority) submitted a license application to the Federal Energy Regulatory Commission (FERC) for the Susitna Hydroelectric Project (Project) on February 18, 1983 (Table 1). Following initial submission of supplemental information and responses to FERC comments, the application was accepted for review by the FERC on July 29, 1983. The application was then sent (by the FERC) to resource agencies for review and comment. This review is now complete. The Power Authority has responded to the agencies' comments and the FERC is preparing a draft environmental impact statement (DEIS), due to be released on May 25, 1984. The final environmental impact statement (FEIS) is due for release on December 28, 1984. The license is tentatively scheduled to be issued by the FERC on March 18, 1987. This date is based on the FERC Susitna Project Status Report (revised on February 1, 1984) which assumes that there will be no substantial delays in the licensing process prior to that date.

Although the license application has been accepted by the FERC for review, various social science program studies and activities are still needed to ensure that the licensing process proceeds on schedule. This document outlines the study tasks proposed for Fiscal Year 1985 (FY85). It is provided at this time so that resource agencies will have an opportunity to review and comment on them prior to the development of a detailed plan of study. The Power Authority has also scheduled a workshop on April 17, 1984, to discuss these plans in detail with the agencies. The agencies will have an opportunity to provide their input and comment at this workshop. The Social Science Program is comprised of the following five subtasks: cultural resources, socioeconomics, recreation, aesthetics, and land use.

Table 1
SUSITNA HYDROELECTRIC PROJECT
FEDERAL ENERGY REGULATORY COMMISSION
SCHEDULE FOR LICENSING PROCESS*

License application submitted to the FERC	February 18, 1983
Submission by the Power Authority of responses to FERC comments and requests for supplemental information	July 11, 1983
License application accepted by the FERC for formal review	July 29, 1983
Agency review of license application document complete	December 12, 1983
Responses to agency comments submitted by the Power Authority	January 19, 1984
Draft Environmental Impact Statement released	May 25, 1984
Final Environmental Impact Statement released	December 28, 1984
License issued by the FERC (tentative)	March 18, 1987

*Based on the FERC Susitna Project Status Report - February 1, 1984.

2.0 LONG-TERM GOALS OF THE POWER AUTHORITY

The Power Authority has defined specific long-term goals for social science program studies that must be accomplished for the Susitna Project. These goals are:

1. Completion of the DEIS review process
2. Completion of the FEIS process
3. Completion of the Settlement Process
4. Completion of (potential) hearings
5. Receipt of an acceptable FERC license for the Project
6. Acquisition of local, state, and federal permits for the Project
7. Continuation of studies that provide integrity to the maintenance of the social science program.

The following description briefly summarizes the Power Authority's role for each of these goals:

1. Completion of the DEIS review process.

The Power Authority will review the FERC's DEIS and provide any necessary comments on this document. The Power Authority also plans to submit reports during this process that provide additional refinement to existing analyses. These reports will include impact assessment and mitigation plan refinements and other specific studies. The Power Authority may also be requested to provide other information to the FERC for completion or clarification of the DEIS. The comment period for the DEIS should end by July 25, 1984.

2. Completion of the FEIS process.

The Power Authority plans to review and comment on the FEIS and submit any additional information that may be needed.

3. Completion of the Settlement Process.

The Power Authority plans to finish cultural resource, socioeconomic, recreation, aesthetic, and land use impact evaluations and develop detailed mitigation and long-term monitoring plans necessary to complete the settlement process. This will be accomplished through workshops, and the distribution of information and direct negotiations with resource agencies. Additional information or analyses resulting from on-going studies will be provided to the agencies during this period.

4. Completion of (potential) hearings.

If there are certain issues that cannot be resolved during the settlement process, there may be a need for hearings. The Power Authority will develop briefs and directly participate in the hearings. If hearings are necessary, they will be initiated in the 1984-1985 winter period. Direct testimony will be provided in September 1985 with an administrative law judge decision due on January 25, 1986.

5. License ordered by the FERC.

Following the settlement process (and potential hearings), the FERC will establish articles for the license that stipulate any additional needs for information and study prior to project initiation. The Power Authority will review these articles and respond to them with any additional information that may have been developed in the interim. The final order granting the license should come from the FERC in March, 1987.

6. Acquisition of permits.

Numerous permits will be needed for project construction and operation. The Power Authority will develop information that is required for these permits.

7. Program integrity.

Certain studies will need to be continued so there is a continuity of information collected. These include cultural resource (e.g., systematic testing of archeological sites) and socioeconomic (e.g., community

and resource user surveys) data collection. This information will be used to refine existing analyses and to develop baseline information for potential construction and with-project monitoring programs.

3.0 SOCIAL SCIENCE STUDY TEAM PARTICIPANTS

The Power Authority is assisted by various groups and contractors (referred to as the Social Science Study Team) in refining impact assessments and mitigation plans and in the formal licensing process. These organizations and their primary project responsibilities are:

- A. Harza-Ebasco Susitna Joint Venture (H-E) - responsible for providing general support and coordination for impact assessment and mitigation plan refinement and the formal licensing process, and for monitoring all activities in the social science program to ensure that team members accomplish assigned tasks in a satisfactory manner with respect to budget, schedule, and quality of work.
- B. University of Alaska Museum, Fairbanks (UAM) - responsible for completing systematic testing within sites identified in direct impact areas, preparing analyses and reports of field work, and preparing an evaluation of the importance of their findings.
- C. Frank Orth and Associates, Inc. (FOA) - responsible for updating socioeconomic projections, revising the impact model, and participating in selected socioeconomic impact assessment and mitigation plan refinements. *Jim Skuba*
- D. EDAW, Inc. (EDAW) - responsible for participating in recreation and aesthetics impact assessment and mitigation plan refinements.

4.0 FY85 STUDY TASK DESCRIPTIONS AND PRIORITIZATION

Certain studies must be performed to meet the long-term goals for this Project. This document specifically addresses those studies proposed for FY85. To facilitate review and evaluation, the studies have been divided into tasks that address specific objectives. Some of these tasks are more important than others because they are either critical to the licensing and settlement processes or are necessary to maintain baseline data collection. Therefore, the studies have been prioritized by task description with decreasing priority assigned to increasing task number (e.g., Level 1 has the highest priority). The prioritization sequence is intended only as a general indicator of relative importance. This prioritization will provide a basis for budget allocation decisions that may have to be made.

These tasks have been divided into four general levels of importance:

- Level 1 - The lowest reasonable level of effort which could be undertaken with some probability of maintaining the licensing schedule but with a substantial degree of risk for schedule delay.
- Level 2 - An intermediate level of effort between the minimum reasonable (Level 1) and the required level of effort (Level 3).
- Level 3 - The required level of effort for maintaining the licensing schedule with an acceptable degree of risk for schedule delay.
- Level 4 - The level of effort desired to maintain the present schedule with a higher degree of certainty.

Tasks have been assigned to individual levels and prioritized within levels based on the results of discussions with key representatives from appropriate subcontractors, Harza-Ebasco, and the Power Authority.

A listing of all tasks by level is provided in Table 2 followed by a description for each individual task. The ordering of tasks within any level does not represent an additional ranking within a particular level.

TABLE 2
FISCAL YEAR 1985
SOCIAL SCIENCE PROGRAM TASKS: PROGRAM-WIDE

Level 1

1. Preparation of responses to DEIS and FEIS
2. Preparation of responses to FERC supplemental information requests
3. Participation in settlement process
4. Preparation of materials to support FERC hearings
5. Preparation of workscopes for FY86
6. Preparation of FY86 Detailed Plan of Study
7. General coordination of social science program activities

Level 2

None

Level 3

None

Level 4

None

TABLE 2 (cont'd)
FISCAL YEAR 1985
SOCIAL SCIENCE PROGRAM TASKS: CULTURAL RESOURCES

Level 1

1. Complete systematic testing
2. Analysis
3. Significance criteria workshop
4. Obtain determinations of National Register eligibility
5. Evaluate project impacts to significant sites in direct impact areas
6. Archeological clearances
7. Coordination with other resource studies

Level 2

8. Complete field testing of sensitivity model
9. Evaluate project impacts to potential sites in indirect impact areas
10. Prepare preliminary mitigation plan

Level 3

11. Refine sensitivity models
12. Field work preparation
13. Evaluation of permanent village location

Level 4

14. Curation of archeological materials
15. Evaluation of access road location

TABLE 2 (cont'd)
FISCAL YEAR 1985
SOCIAL SCIENCE PROGRAM TASKS: SOCIOECONOMICS

Level 1

1. Evaluation of access road location; *Riskier access alternatives*
2. Evaluation of on-site permanent village
3. Evaluation of permanent village location *and work camps*
4. Evaluation of worker transportation alternatives
5. Evaluation of worker shift and rotation schedules
6. Coordination with other resource studies

Level 2

7. Refinement of impacts on communities
8. Refinement of impacts on lodge operators
9. Refinement of impacts on guides
10. Refinement of impacts on Susitna Basin resource users
11. Refinement of impacts on trappers
12. Refinement of impacts on boat operations
13. Refinement of impacts on sport hunters and fishermen
14. Assessment of impacts on winter river users
15. Assessment of speculative in-migration
16. Refinement of construction and operation worker characteristics
17. Assessment of traffic impacts
18. Refinement of information on railhead
19. Refinement of socioeconomic model
20. Socioeconomic impact projection revisions
21. Mitigation options
22. Preparation of mitigation plan update

*Effect of altered river flows on communities
" " State regulations affecting project*

TABLE 2 (cont'd)
FISCAL YEAR 1985
SOCIAL SCIENCE PROGRAM TASKS: SOCIOECONOMICS

Level 3

23. Refinement of impacts on adjacent landowners
24. Refinement of impacts on remote parcel owners
25. Assessment of tourism potential of project facilities
26. Refinement of land use and housing constraints assumptions
27. Refinement of impacts on air taxi operators
28. Refinement of impacts on specialty businesses

Level 4

29. Analysis of project flows on riverbank communities
30. Assessment of Alaska hiring policies

TABLE 2 (cont'd)
FISCAL YEAR 1985
SOCIAL SCIENCE PROGRAM TASKS: RECREATION

Level 1

1. Evaluation of access road location
2. Evaluation of public access alternatives
3. Coordination with other resource studies

Level 2

4. Refinement of impacts on hunters
5. Refinement of impacts on fishermen
6. Refinement of impacts on boaters
7. Refinement of impacts on non-consumptive activities
8. Assessment of tourism potential of project facilities
9. Refinement of Recreation Plan
10. Land agreements
11. Operating and management agreements

Level 3

12. Evaluation of camp and village locations
13. Analysis of recreation opportunities for on-site workers

Level 4

14. Evaluation of transmission line location
15. Evaluation of operating options

TABLE 2 (cont'd)
FISCAL YEAR 1985
SOCIAL SCIENCE PROGRAM TASKS: AESTHETICS

Level 1

1. Refinement of aesthetic impacts
2. Feasibility of aesthetic mitigation measures
3. Coordination with other resource studies

Level 2

4. Preparation of draft Aesthetics Mitigation Plan

Level 3

5. Evaluation of access road location
6. Evaluation of transmission line location
7. Evaluation of camp and permanent village locations

Level 4

8. Evaluation of operating options

TABLE 2 (cont'd)
FISCAL YEAR 1985
SOCIAL SCIENCE PROGRAM TASKS: LAND USE

Level 1

1. Evaluation of access road location
2. Evaluation of public access alternatives
3. Coordination with other resource studies

Level 2

4. Evaluation of transmission line location
5. Assessment of project development plans of other land managers and landowners - *Natives etc.*
6. Relationship between the Project and land management decisions *i.e. SAP*

Level 3

7. Location of habitat mitigation lands - *primarily in Terrestrial group*

Level 4

8. Evaluation of camp and permanent village locations

PROGRAM-WIDE TASKS

Task 1: Preparation of Responses to DEIS and FEIS

The DEIS and FEIS as well as comments on these documents must be reviewed to ensure that all analyses and conclusions are based on accurate information, to provide clarifications, and to provide alternative interpretations where appropriate.

Task 2: Preparation of Responses to FERC Supplemental Information Requests
Supplemental information requested by FERC must be provided to support the licensing process.

Task 3: Participation in Settlement Process

This task will ensure that the settlement process progresses with input from participants that can provide the best information for resolving specific issues. An important aspect of the settlement process will be the dissemination of information to familiarize agency personnel with social science program study methodologies, analyses, and results.

Task 4: Preparation of Materials to Support FERC Hearings

The environmental hearings will include an examination of impacts of the Project on cultural, socioeconomic, recreational, aesthetic, and land use resources. A substantial amount of information and data may need to be condensed and summarized into formats appropriate to support the hearings process.

Task 5: Preparation of Workscopes for FY86

In order to ensure continuity of the social science program and to continue supporting the licensing and settlement processes, workscopes will be prepared for each subtask which outline work to be undertaken in FY86.

PROGRAM-WIDE TASKS, cont'd

Task 6: Preparation of FY86 Detailed Plan of Study

The Detailed Plan of Study for FY86 will contain a discussion of the rationale, objectives, deliverables, and schedule for each task in the social science program. In addition, the study team member who will assume primary responsibility for each task will be identified.

Task 7: General Coordination of Social Science Program Activities

Coordination among the social science program subtasks and among other study teams (e.g., terrestrial, aquatics, hydrology, and engineering) is a vital aspect of the overall activities necessary to ensure satisfactory integration of all related but separate study components. The importance of this task increases as the Project proceeds toward the FERC hearings and the resolution of issues.

CULTURAL RESOURCES TASKS

Task 1: Complete Systematic Testing

This task includes the completion of detailed field investigations at all archeological sites identified during earlier reconnaissance surveys. The objective is to obtain all data about each site (such as, age and size) necessary to determine which sites are eligible for the National Register of Historic Places and to develop appropriate mitigation strategies.

Task 2: Analysis

Tephra and geoaicheological analysis and lithic type analyses will be completed for materials collected during the 1984 field season.

Task 3: Significance Criteria Workshop

This workshop will include a presentation to concerned parties of criteria developed to evaluate the significance of archeological sites identified in the project area. It will solicit input from concerned parties which will be used to modify and refine significance criteria.

Task 4: Obtain Determinations of National Register Eligibility

Requests for formal determinations of National Register of Historic Places eligibility will be prepared and submitted to FERC for subsequent transmittal to the State Historic Preservation Officer and the National Park Service.

Task 5: Evaluate Project Impacts to Significant Sites in Direct Impact Areas

Design and engineering studies and proposed construction practices will be reviewed for all direct impact areas. An evaluation will be made of all significant archeological sites within such areas to determine if and how they will be affected during construction and/or operation of the Project.

Task 6: Archeological Clearances

Site-specific archeological investigations will occur in areas which have not been surveyed to determine the presence or absence of cultural resources at places where ground disturbing activities (such as, drilling and seismic test sites and waste disposal areas) are planned in FY85. In addition, reports will be prepared for review by appropriate agencies, including but not limited to, the State Historic Preservation Officer (SHPO).

Task 7: Coordination with Other Resource Studies

The collection of additional cultural resources data, the assessment of impacts on cultural resources, and the development of the preliminary Cultural Resources Mitigation Plan will be coordinated with other appropriate social science program subtasks as well as with the terrestrial, aquatic, hydrologic, and engineering programs.

Task 8: Complete Field Testing of Sensitivity Model

Reconnaissance surveys will be conducted for a sample of portions of proposed linear facility corridors (the transmission line, access road, and railroad) in order to obtain data on the relative distribution and criteria affecting the distribution of archeological sites located in the general project vicinity.

Task 9: Evaluate Project Impacts to Potential Sites in Indirect Impacts Areas

Areas subject to indirect project impacts (including those related to future development and increased accessibility) will be identified and the types of impacts affecting each indirect impact area will be determined in consultation with the SHPO, the National Park Service, and the Bureau of Land Management (BLM), and other concerned parties. An evaluation will be made as to which of these areas correspond with archeologically sensitive areas.

Task 10: Prepare Preliminary Mitigation Plan

A preliminary plan for the mitigation of adverse project effects upon cultural resources will be developed.

Task 11: Refine Sensitivity Models

The results of Task 7 will be used to test and refine the sensitivity models used to evaluate the relative archeological sensitivity (i.e., the likelihood of site occurrence) in a particular area. This is necessary to complete the assessment of impacts to large tracts (such as recreation areas) which may be indirectly affected by the Project.

Task 12: Field Work Preparation

All activities necessary to prepare for conducting field work in 1985 will be completed. This would include obtaining appropriate permits, developing site-specific data-gathering methodologies, preparing a logistic plan, and hiring and training field personnel.

Task 13: Evaluation of Permanent Village Location

This task will evaluate the cultural resource implications of locating the permanent village outside the project area.

Task 14: Curation of Archeological Materials

All archeological materials collected during the 1984 field season will be curated.

Task 15: Evaluation of Access Road Location

This task will evaluate the cultural resource implications of locating project-related access roads in particular locations and of establishing restrictions on the utilization of project-created corridors.

SOCIOECONOMIC TASK

Task 1: Evaluation of Access Road Location

This task will examine the socioeconomic implications of locating project-related access roads in particular locations and of establishing restrictions on the utilization of project-created corridors. This information will be important for refining the analyses of resource use, traffic, Native Corporation development plans, tourism potential of project facilities, resource protection measures, and refinement of mitigation plans.

Task 2: Evaluation of On-Site Permanent Village

This task will gather information from other projects in remote areas with project-created communities in order to identify factors which influence their successful establishment, efficiency, and ability to satisfy workers and their families.

Task 3: Evaluation of Permanent Village Location

This task will examine the socioeconomic implications of locating the permanent village outside of the project area.

Task 4: Evaluation of Worker Transportation Alternatives

This task will analyze the economic, demographic, housing, facilities, services, and traffic implications of various worker transportation alternatives (including car, bus, and air transport). The results of this analysis will be incorporated into the projection updates, the traffic analysis, and mitigation planning.

Task 5: Evaluation of Worker Shift and Rotation Schedules

Projects in remote areas have utilized a variety of worker shift and rotation schedules to ensure worker satisfaction, to modify project impacts on local communities and wildlife, and to reduce project construction and operations costs. This task will outline various alternatives available and will analyze the consequences of each. The information will be incorporated in the analysis of worker transportation alternatives, permanent village

locations, and traffic patterns. If necessary, the results will also be incorporated into the economic, demographic, and facilities and services impact projection update.

Task 6: Coordination with Other Resource Studies

The collection of additional socioeconomic data, the refinement of socioeconomic impacts, and the refinement of the Socioeconomic Mitigation Plan will be coordinated with other appropriate social science program subtasks as well as with the terrestrial, aquatic, hydrologic, and engineering program.

Task 7: Refinement of Impacts on Communities

Surveys of community residents (households), businesses, and public sector employers will be conducted again in Cantwell, Trapper Creek, and Talkeetna. In addition, surveys may also be conducted in Nenana, Healy, McKinley Park, Paxson and Gold Creek. This results of the surveys will be used to update economic, demographic, housing, facilities, services, fiscal, and resource use information about these communities. The information will be incorporated into descriptions of existing conditions and in baseline and impact projections. Additionally, information about resident attitudes will be obtained to improve forecasting and mitigation plan development and the analysis of project effects on social organization and lifestyle.

Task 8: Refinement of Impacts on Lodge Operators

This task will collect information on lodges serving the area affected by the Project. This information will allow existing conditions to be described and project impacts on this economic activity and lifestyle to be assessed.

Task 9: Refinement of Impacts on Guides

This task will collect information on big game and fishing guides in order to provide more complete information about current guiding activities in the study area and to provide a basis for evaluating project effects on them. In addition, this information will supplement data on resource use in the study area.

Task 10: Refinement of Impacts on Susitna Basin Resource Users

This task will collect information on Susitna Basin resource users in order to provide more complete and current data about the resource use patterns of study area residents. This information will be important in assessing future wildlife conditions, describing existing conditions in the study area more accurately, and providing better data for refining and quantifying impact projections.

Task 11: Refinement of Impacts on Trappers

Economic, demographic, and resource use information will be collected for project area trappers in order to develop a more accurate characterization of the group as it now exists, to obtain resource use and harvest information, and to provide a basis for assessing the consequences of the Project on this group and on businesses with close linkages to them.

Task 12: Refinement of Impacts on Boat Operations

More detailed information about river use, especially in the lower reaches of the Susitna River, and potential project-related impacts on boat operators will be developed. This will include an examination of the effects of the Project on navigation.

Task 13: Refinement of Impacts on Sport Hunters and Fishermen

This task will collect information on sport hunters and fishermen utilizing the project area in order to determine whether the Project would significantly affect these activities. An analysis of trends in fish and wildlife permits and licenses will be included to refine forecasts of resource use demand in the study area.

Task 14: Assessment of Impacts on Winter River Users

This task will obtain information about the use of the Susitna River during the winter, particularly with respect to its importance as a corridor and/or bridge, and will evaluate the effects of the Project on river users.

Task 15: Assessment of Speculative In-Migration

This task will characterize the population that might move to Alaska, or more specifically to the local impact area, in anticipation of employment on the Project or in project-induced jobs. The extent of this effort will depend on the results of an evaluation of the potential for speculative in-migration to occur, which is being conducted in FY84.

Task 16: Refinement of Construction and Operation Worker Characteristics

This task will include the collection of survey data on two groups of workers: Intertie construction workers and construction and/or operation workers at large-scale projects in remote areas. The purpose of the surveys is to obtain relevant information about each group's demographic and economic characteristics as well as information on transportation modes and resource use, and recreational and housing preferences. This information would be used to refine analyses of worker-related impacts.

Task 17: Assessment of Traffic Impacts

This task will develop quantitative estimates of traffic patterns and impacts of the Project for all appropriate transportation scenarios. Information about types of project-related vehicular traffic will be included.

Task 18: Refinement of Information on Railhead

This task will examine the socioeconomic impacts resulting from the construction and operation of the rail facility to be located near Cantwell.

Task 19: Refinement of Socioeconomic Model

This task will incorporate information obtained through other FY85 tasks to refine the socioeconomic model. This task will include preparation of a report describing any modifications made in the model.

Task 20: Socioeconomic Impact Projection Revisions

This task will result in updated forecasts that incorporate pertinent modifications of data and model assumptions. Particular emphasis will be placed on the development of forecasts for various worker transportation and worker shift and rotation schedule scenarios.

Task 21: Mitigation Options

This task will develop an inventory of the agencies and organizations that might participate in mitigation activities and will delineate their authorities and responsibilities. This information will be used as an information source in developing the mitigation plan to ensure that proposed activities are in the purview of the organizations being proposed.

Task 22: Preparation of Mitigation Plan Update

This task will incorporate the information developed during FY85 in addition to other specific information needed to refine the Socioeconomic Mitigation Plan. The updated plan will present proposed mitigation activities in greater detail and will delineate the costs and consequences of these activities with greater precision.

Task 23: Refinement of Impacts on Adjacent Landowners

To support the refinement of both baseline and impact projections during FY85, this task will develop information about development plans of Native Corporations and other landowners with interests in the study area. This task will seek to better delineate the economic development plans for these areas and to examine more closely the Project's effects on development alternatives.

Task 24: Refinement of Impacts on Remote Parcel Owners

This task will identify and describe remote parcel owners in order to obtain information about the current use of their land, their plans for future use, and place and mode of access.

Task 25: Assessment of Tourism Potential of Project Facilities

This analysis will evaluate the potential to develop project facilities as a "destination" tourist attraction. This task will include an evaluation of the need for support facilities and associated economic implications and impacts on area resources.

Task 26: Refinement of Land Use and Housing Constraints Assumptions

This task will obtain better information about the availability of land for residential and commercial development in the local impact area communities. Particular attention will be given to Cantwell where land constraints have significant implications for project-related population effects.

Task 27: Refinement of Impacts on Air Taxi Operators

This research will delineate the characteristics of air taxi and small plane activities in the study region, obtain information about river use by planes, and determine whether the Project would significantly affect these activities.

Task 28: Refinement of Impacts on Specialty Businesses

This task will assess project-related impacts on specialty businesses, such as taxidermists, that are dependent upon fish and wildlife resources.

Task 29: Analysis of Project Flows on Riverbank Communities

This task will quantify the baseline and with-project economic consequences of project-related flows in communities along the Susitna River such as Talkeetna.

Task 30: Assessment of Alaska Hiring Policies

This task will examine the implication of Alaska's "local hire" policy and the one-year residency requirement on worker location, speculative immigration, and local/non-local worker distribution.

RECREATION

Task 1: Evaluation of Access Road Location

This task will examine the recreation implications of locating project-related access roads in particular locations. This information will be important for refining the analyses of resource use, traffic, Native Corporation development plans, tourism potential of project facilities, resource protection measures, and refinement of the Recreation Plan.

Task 2: Evaluation of Public Access Alternatives

This task will evaluate the effects of alternative public access policies on project-related recreational opportunities. This will include assessments of public use of the access roads, the rail spur, reservoirs, airstrips, and transmission line rights-of-way. Access to other locations, such as to Portage Creek and across the dam to the south shore, will also be evaluated. Results of this task will help determine appropriate control measures to be included in the Recreation Plan.

Task 3: Coordination with Other Resource Studies

The collection of additional recreational data, the refinement of recreation impacts, and the refinement of the Recreation Plan will be coordinated with other appropriate social science program subtasks as well as with the terrestrial, aquatic, hydrologic, and engineering programs.

Task 4: Refinement of Impacts on Hunters

This task will provide a better understanding of how the construction and operation of the Project will affect hunters and how changes in use may affect wildlife resources. The results of this task will assist in the development of appropriate mitigation measures and in refining the Recreation Plan. The task will include an assessment of existing use in the project area, an assessment of the potential change in that use, and an evaluation of the project-related impacts on the availability of the resource.

Task 5: Refinement of Impacts on Fishermen

This task will provide a better understanding of how the Project will affect fishing demand and resulting impacts on fishery resources. The task will focus on two geographic areas: 1) upper basin streams and lakes, and 2) the Susitna River and major tributaries downstream of Devil Canyon. The results of this task will assist in the development of appropriate mitigation measures.

Task 6: Refinement of Impacts on Boaters

This task will focus on updating information on the amount of existing whitewater boating in the project area and on an assessment of the demand for such activity. This information will provide a basis for determining the significance of project-related impacts to whitewater boating and for developing appropriate mitigation measures. In addition, information on other types of boating activity on the Susitna River (both above and below the dam sites) will be updated to better determine the significance of project-related impacts on access and overall boating demand.

Task 7: Refinement of Impacts on Non-Consumptive Activities

This task will focus on updating information on the amount of non-consumptive activities (such as bird watching, photography, and backpacking) occurring in the project area. This information will provide a basis for projecting the increase in demand for those activities and determining the significance of project-related impacts to those activities and area resources. Appropriate mitigation measures will be developed and included in the Recreation Plan.

Task 8: Assessment of Tourism Potential of Project Facilities

This analysis will evaluate the potential to develop project facilities as a "destination" tourist attraction. The task will include an evaluation of the need for support facilities and associated economic implications and impacts on area resources.

Task 9: Refinement of Recreation Plan

The purpose of this task is to refine the Recreation Plan as appropriate. This task will include an examination of alternative or additional recreation sites and activities. In addition, plan refinements will reflect policy decisions and mitigation measures identified through related studies.

Task 10: Land Agreements

Land agreements for areas where recreation facilities and activities will be located will be identified. Efforts necessary to obtain appropriate land agreements will be conducted by the Power Authority.

Task 11: Operating and Management Agreements

Agreements regarding sources of funding and responsibility for managing and operating project-related recreational facilities will be identified. Efforts necessary to obtain appropriate operating and management agreements will be conducted by the Power Authority.

Task 12: Evaluation of Camp and Village Locations

This task will evaluate the effects of camp and permanent village locations on project-related recreational opportunities. The assessment will focus on the location of recreational activities associated with each camp/village location and the potential impacts that may result to area resources.

Task 13: Analysis of Recreation Opportunities for On-site Workers

This task will review the recreational opportunities available to on-site construction and operation workers and their families and will estimate the extent and distribution of use by them. In addition, this task will evaluate the effects of alternative worker shift and rotation schedules on recreational opportunities. This information will assist in the refinement of the Recreation Plan and in controlling use-related impacts to area resources.

Task 14. Evaluation of Transmission Line Location

This task will evaluate the effects of transmission line locations on project-related recreational opportunities. Emphasis will be placed on assessing the effects of increasing access to areas via the transmission line rights-of-way.

Task 15: Evaluation of Operating Options

This task will evaluate the potential effects of different operating options on recreational activities downstream of the dams. The evaluation will focus on potential impacts on recreational access and activities in both summer and winter.

AESTHETICS

Task 1: Refinement of Aesthetic Impacts

This task will assess the significance of project-related aesthetic impacts on viewsheds of existing and proposed recreation facilities, such as lodges, trails, and campsites. An evaluation of the significance of impacts on those areas and facilities will help determine the location and extent of appropriate mitigation measures.

Task 2: Feasibility of Aesthetic Mitigation Measures

Based on recommendations of the FY84 Aesthetic Mitigation Plan Update and findings from Task 1, the feasibility of specific aesthetic mitigation measures for each project facility will be evaluated. This task will require an interdisciplinary approach to ensure that engineering and environmental concerns are considered.

Task 3: Coordination with Other Resource Studies

The collection of additional aesthetics information, the refinement of aesthetic impacts, and the development of a draft Aesthetics Mitigation Plan will be coordinated with other appropriate social science program subtasks as well as with the terrestrial, aquatic, hydrologic, and engineering programs.

Task 4: Preparation of Draft Aesthetics Mitigation Plan

Upon completion of Task 2, a draft Aesthetics Mitigation Plan, which will incorporate recommended mitigation measures, will be prepared. This report will include written and graphic descriptions of identified mitigation measures, maps, construction cost information, construction scheduling, and necessary maintenance.

Task 5: Evaluation of Access Road Location

This task will examine the aesthetic implications of locating project-related access roads in particular locations. The assessment will focus on views from identified use areas and a determination of the significance of visual impacts based on visual quality and viewer frequency.

Task 6: Evaluation of Transmission Line Location

This task will examine the aesthetic implications of locating project-related transmission lines in particular locations. The assessment will focus on views from identified use areas and a determination of the significance of visual impacts based on visual quality and viewer frequency.

Task 7: Evaluation of Camp and Permanent Village Locations

This task will examine the aesthetic implications of locating the camp and permanent village in particular locations. The visual assessment will focus on impacts from existing and proposed recreational use areas, as well as an evaluation of the design and layout of the facilities.

Task 8: Evaluation of Operating Options

This task will evaluate the potential effects of different operating options on aesthetic resources.

LAND USE

Task 1: Evaluation of Access Road Location

This task will examine the land use implications of locating project-related access roads in particular locations. This information will be important for the analysis of resource use, traffic, Native Corporation development plans, tourism potential of project facilities, resource protection measures, and refinement of mitigation plans.

Task 2: Evaluation of Public Access Alternatives

This task will evaluate the effects of alternative public access policies on project-related land use. This will include assessments of public use of the access roads, the rail spur, reservoirs, airstrips, and transmission line rights-of-way.

Task 3: Coordination with Other Resource Studies

The collection of additional land use data and the refinement of land use impacts will be coordinated with other appropriate social science program subtasks as well as with the terrestrial, aquatic, hydrologic, and engineering programs.

Task 4: Evaluation of Transmission Line Location

This task will examine the land use implications of locating project-related transmission lines in particular locations.

Task 5: Assessment of Project Development Plans of Other Land Managers and Landowners

This task will assess the impacts of development plans of current and proposed public and private landowners and land managers in the project area on the Susitna Project. The assessment will include, but not be limited to, an examination of development plans of Native Corporations, the BLM, Department of Natural Resources land disposal participants, the Division of Parks, and lodge operators.

Task 6: Relationship between the Project and Land Management Decisions

This task will re-examine the relationship between the Project and affected land managers in order to determine potential land management conflicts and to develop appropriate measures for resolving those conflicts.

Task 7: Location of Habitat Mitigation Lands

This task will assess the potential land use effects of the acquisition of habitat mitigation lands. This activity will be closely coordinated with the terrestrial program.

Task 8: Evaluation of Camp and Permanent Village Locations

This task will examine the land use implications of locating the camp and permanent village in particular locations.