ALASKA POWER AUTHORITY

SUSITNA HYDROELECTRIC PROJECT

PROGRESS REPORT

FOR

JANUARY, 1981

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ALASKA POWER AUTHORITY
SUSITNA HYDROELECTRIC PROJECT
MONTHLY PROGRESS REPORT

REPORT NO. 13

PERIOD: January, 1981

Progress Report No. 13 covers activities on the Susitna Hydroelectric Project for the month of January, 1981.

An External Review Board Meeting was held in Anchorage on January 22, 23, and 24, 1981. During this meeting, the following items were covered:

- A status report on the Hydrologic, Seismic, Geotechnical, Environmental, Transmission Investigations and various studies was presented by Acres.

- The APA gave a presentation on the Public Participation Program.

- Acres presented the Power Alternatives of the State Energy Profile and Projections, including alternatives to the Susitna Hydroelectric Development.

- Acres presented an overview of the Basin Development Options including details of the preferred Development Plan.

- APA/Acres conducted a tour of the Susitna Basin.

- An open discussion on the assessment of the project to date was held by those present.

During the first part of January, Acres task supervisors and staff contributed substantially to the material presented at this meeting.

Task 1, Power Studies, is continuing as scheduled and should be completed in February with a termination report issued in March.

Task 2, Surveys and Site Facilities, are proceeding on schedule. Acres prepared bid documents for the 1981 helicopter services contract. Renewal of CIRI/H&N's subcontract with KNIK/ADC is in negotiation. Bids were received and evaluated for maintenance of the camp communication equipment. R&M continued work on river cross-section planning. The access corridor development is proceeding in preparation for the March workshop.

Task 3, Hydrology, continued with the SSARR model for estimating the PMF and preliminary sensitivity runs were completed. Preliminary analysis of freeze-up and river cross section data continued. R&M continued to collect data from the field and climate data reduction software requirements were near completion.

Task 4, Seismic Studies, are continuing as scheduled. Acres reviewed WCC's Interim Report final draft during the period.

Task 5, Geotechnical Exploration, Subtasks 5.01, 5.03, and 5.04 are complete. Subtask 5.05, the 1981 program, is currently being developed into subcontractor's 1981 task scopes. The Subtask 5.08 report is in draft form at this time. It is scheduled for in-house review in February and final issue in March 1981.

Task 6, Design Development, continued with initiation of preliminary layout studies for the Watana and Devil Canyon sites. Preliminary feasibility assessments of the sites including both economic and environmental issues was started. Preparation of the Development Selection Report (DSR) was started. A conceptual design of the Watana fill dam cross section was completed. A rearrangement of the Devil Canyon thin arch dam geometry was made following an internal review. Work on Generation Planning and Load Management continued with initiation of sensitivity studies. Environmental screening results were documented in the DSR draft.

Task 7, Environmental Studies, continued with emphasis placed on providing the environmental sections of the DSR. Meetings were held with TES to discuss their scope and exchange information regarding the transmission studies. A meeting is arranged with ADF&G in early February to discuss the overall fisheries program.

TES prepared a draft report identifying the advantages and disadvantages of the Alternative Hydroelectric Development Schemes for Upper Susitna Basin. A site visit was made to BC Hydro to review the Peace River Project. Work began on formulating the field study requirements for the 1981 season. Work continued on the Annual Report for the cultural resources section of the Susitna Project. Work started on a large reconstruction of the total Cordilleran ice sheet. The Wildlife Ecology Studies continued with emphasis on data analysis and the first Annual Report.

ADF&G continued work on Hydro Aquatic and Big Game Studies during the reporting period. Field surveys were hindered by warm temperatures which hampered travel on land. Work continued on the Annual Report preparation.

In Task 8, Transmission, the work continued with preparation of the Task 8.01 Closeout Report, and a year-end Status Report on Subtask 8.02, System Studies. Key sections of the transmission corridor were outlined for geological surveys to commence. Studies of alternative transmission schemes continued. Computer studies and cost estimates were carried out on the alternatives. The selection of appropriate tower configurations was commenced.

Task 10, Licensing, continued with a review of the newly proposed FERC regulations for license application for major, unconstructed projects.

Task 11, Marketing and Financing, continued on schedule as required by the various subtasks. The Project Overview Report (POR) first draft was issued for comment. Work continued on analyzing the finanical models.

In Task 12, Public Participation, action list responses were sent to APA. A meeting was held with the APA on the direction the task would follow in 1981. This resulted in an agreement which will lead to a contract to study the sociocultural concerns of the public.

Task 13, Administration, continued as scheduled.

TASK 1 - POWER STUDIES

ACRES ACTIVITIES

The Task 1 Termination Report is being finalized and will be distributed in March 1981.

Subtask 1.01 - Review of ISER

The Subtask 1.01 Closeout Report was issued the week of January 19, 1981.

Subtask 1.02 - Forecasting Peak Load Demand

Acres review of the WCC report was completed.

WCC ACTIVITIES

Subtask 1.02 - Forecasting Peak Load Demand

The final report for this subtask was issued the week of January 8, 1981.

TASK 2 - SURVEY AND SITE FACILITIES

ACRES ACTIVITIES

Subtask 2.02 - Field Camp and Logistical Support

Acres continued to monitor day to day activities and coordinate logistical support for the field camp.

Acres, Anchorage Office, prepared bidding proposals and the contract for helicopter services during the 1981 season. Bid documents will be mailed out on March 2, 1981.

A new member for Acres, Anchorage Office, was brought on board. As Resident Supervisor, Watana Camp, his primary function will be total coordination of helicopter support and Resident Acres Field Representative during the on-coming season.

Acres, with CIRI/H&N, is preparing for a refueling operation to replenish diesel fuel and jet fuel at Watana camp.

CIRI/H&N ACTIVITIES

CIRI/H&N continued to oversee the operation of camp facilities. The proposed winter mobilization of additional fuel is pending further direction from Acres American, Inc.

Renewal of the existing O/M subcontract with KNIK/ADC is now in negotiation. It is anticipated that an agreement concerning renewal of the subcontract will be reached in February, 1981.

Quotations for the maintenance of the camp communication equipment and facilities have been received from various local vendors. The quotations have been evaluated, and the preparation of a related contract (purchase order) is in progress.

Results from land status research completed in early December, 1980, were coordinated with Acres' engineers who are responsible for selection of a proposed transmission corridor for the Susitna project. CIRI/H&N's recommendations concerning the scope of upcoming land acquisition analysis will be forwarded to Acres American in early February, 1981.

R&M ACTIVITIES

Subtask progress was as follows:

Subtask 2.03 - Resupply and Emergency Service

No activity.

Subtask 2.07 - Site Specific Surveys

River cross-section planning is progressing.

Subtask 2.08 - Aerial Photography and Photogrammetric Mapping

Watana Reservoir mapping commenced.

Subtask 2.09 - Control Network Surveys

Horizontal and vertical control data reduction is progressing well.

Subtask 2.10 - Access Roads

Access corridor development is proceeding in preparation for the March workshop.

Subtask 2.16 - Hydrographic Surveys

Office reduction of river surveys is progressing well.

TASK 3 - HYDROLOGY

ACRES ACTIVITIES

Subtask 3.02 - Field Data Index and Distribution System

The Updated Field Data Index prepared by R&M Consultants was reviewed and approved for publication.

Subtask 3.03 - Field Data Collection and Processing

Routine monitoring of R&M field work continued. Development of computer software for data processing is in progress.

Subtask 3.05 - Flood Studies

Detailed supervision and coordination was provided for the flood peak and volume frequency analyses being conducted by R&M.

The SSARR model for estimating the probable maximum flood (PMF) was set up and preliminary sensitivity runs were completed as part of review of the COE estimates for the spring and summer PMF.

Subtask 3.06 - Hydraulic and Ice Studies

Preliminary analysis of freeze-up and river cross section data continued.

Subtask 3.10 - Lower Susitna Studies

Preliminary estimates of monthly regulated flows (due to Watana-Devil Canyon development) in the lower Susitna reaches were made and sent to R&M for further analyses.

R&M ACTIVITIES

Subtask 3.02 - Field Data Index and Distribution System

The Field Data Index was completed and distributed.

Subtask 3.03 - Field Data Collection and Processing

Snow, flow, water quality and sediment data was collected in the field. Preparation of climate data reduction software is near completion.

Subtask 3.05 - Flood Studies

The results of Acres review of the flood study Interim Report were received. The definition of flood volume studies was outlined.

Subtask 3.10 - Lower Susitna Studies

Mean daily flows and stages were computed for Susitna Station, Sunshine, and Gold Creek for pre and post project flows. An interdisciplinary meeting was held on Lower Susitna studies.

TASK 4 - SEISMIC STUDIES

ACRES ACTIVITIES

Acres has completed review of the final draft of the Interim Report on Seismic Studies, which was submitted by Woodward-Clyde Consultants (WCC) on January 20, 1981. Dr. L. Sykes was added to the Acres specialist consultants panel to provide assistance in review of seismic studies. A meeting was held on January 29, 1981, between Acres, WCC and Dr. Sykes. A presentation on status of Task 4 studies was made to the Alaska Power Authority Review Panel during January 22-24, 1981, in Anchorage, Alaska.

WCC ACTIVITIES

Comments received on Draft 2 of the 1980 Interim Report on Seismic Studies were incorporated into the 1980 report. Planning was initiated on the 1981 studies.

TASK 5 - GEOTECHNICAL EXPLORATION

ACRES ACTIVITIES

Subtask 5.01 - Data Collection and Review

Subtask is complete.

Subtask 5.03 - Exploratory Program Design, 1980

Subtask is complete.

Subtask 5.04 - Exploratory Program, 1980

Subtask is complete.

Subtask 5.05 - Exploratory Program Design, 1981

The 1981 exploration plan is being developed and is currently being prepared for incorporation into subcontractor's 1981 task scopes. Internal and specialist consultant review will be conducted in February.

Subtask 5.08 - Data Reduction

The results of work on Subtasks 5.01, 5.03, and 5.04 are is being combined into one report, which is in draft form at this time. In-house review will be performed in early February with publication scheduled for later in the month. A presentation on the status of Task 5 - Geotechnical Studies was made to APA's External Review Panel during January 22-24, 1981, in Anchorage, Alaska.

R&M ACTIVITIES

Subtask 5.01 - Data Collection and Review

Closed out.

Subtask 5.02 - Photointerpretation

On hold to establish budget and authorization to proceed.

Subtask 5.03 - Exploratory Program Design (1980)

Closed out.

Subtask 5.04 - Exploratory Program (1980)

Closed out. Report delivered. Instrumentation in boreholes installed and data monitored.

TASK 3 - DESIGN DEVELOPMENT

ACRES ACTIVITIES

Subtask 6.02 - Investigate Tunnel Alternatives

The in-house working draft of the Subtask 6.02 Closeout Report was completed.

Subtask 6.03 - Evaluate Susitna Alternatives

Work continued on refining layouts for the selected sites for Development Selection Report purposes. The evaluation of alternatives was continued to incorporate both economic and environmental parameters. Preliminary results of this evaluation indicate that the Watana/Devil Canyon dam plan is the optimum basic development. This evaluation will be refined during February and incorporated in the Development Selection Report (Subtask 6.05). In-house working draft sections were prepared for inclusion in the Development Selection Report.

Subtask 6.05 - Development Selection Report

Work continued on the preparation of the first draft of the report.

Subtask 6.06 - Watana/Devil Canyon Staged Development Alternatives

Report on work included under Subtask 6.03.

Subtask 6.07 - Preliminary Watana Dam Alternatives

A conceptual design of the fill dam cross section was completed. Work commenced on determining the feasibility of providing gravel material for the outside shells, as opposed to rockfill, in order to reduce settlement under seismic loadings.

A review of slight shifts in dam alignment between the upstream and downstream shear zones was commenced in conjunction with the general alignments of the spillway, power and diversion facilities.

Subtask 6.08 - Preliminary Devil Canyon Alternatives

Following the previous internal review panel meeting, a rearrangement of the thin arch dam geometry was made. This was analyzed using the ADSAS and HEATFLOW programs obtained from WPRS. Indications were that small tension stresses still occurred in the dam under temperature loadings, and slight adjustments were made to improve the overall configuration. Stress analyses are still to be completed.

General layouts for the Devil Canyon site were continued in conjunction with the above work.

Subtask 6.32 - Thermal Generator Reservoir

Work is complete and results have been documented in the draft DSR. As a result of internal comment preparation of further detail in support of the 6.32 thermal plant costs was studied.

Subtask 6.33 - Hydroelectric Generation Sources

Costs were finalized for non-Susitna hydro sites and production recalculated for Chakachamna, Keetna and Snow.

Subtask 6.34 - Environmental Analysis

Environmental screening results were documented in the draft DSR. Summary environmental assessment of the selected development was initiated.

Subtask 6.35 - Load Management and Conservation

Work was completed on this Subtask with preparation of appropriate sections of the DSR.

Subtask 6.36 - Generation Planning

Initial generation planning activities for the thermal system on Susitna is completed. Sensitivity and preferred plan description is postponed until February pending further project management direction.

TASK 7 - ENVIRONMENTAL STUDIES

ACRES ACTIVITIES

Subtask 7.01 - Coordination of Environmental Studies

Acres received from TES an environmental review of Watana/Devil Canyon versus High Devil Canyon/Vee as input into the Development Selection Report.

Response to the steering committee comments were redrafted as discussed with APA.

A presentation was prepared for the External Review Board meeting of January 22.

Subtask 7.05 - Socieconomic Analysis

Discussions continued with TES regarding the end product that can be expected from Work Package 3.

Subtask 7.06 - Cultural Resource Investigation

Discussions were held with Acres' geotechnical personnel, WCC and TES regarding exchange of information between Dr. Thorson of the University of Alaska and Acres.

Subtask 7.09 - Susitna Transmission Corridor Assessment

Acres met with TES to discuss the scope, schedule and information exchange regarding transmission study.

Subtask 7.10 - Fish Ecology Studies

Woody Trihey's progess to date was reviewed and the results of the agency contact program with APA discussed. Acres coordinated the interaction between ADF&G, Woody Trihey and TES and discussed the problems and progress to date. A meeting was arranged with ADF&G in early February to discuss the overall fisheries program.

Subtask 7.11 - Wildlife Ecology Studies

Acres attended a meeting on January 28 to discuss downstream studies. Attendees at this meeting included representatives of TES, R&M, and ADF&G. Acres attended a wildlife meeting on January 29 in Anchorage and the first wildlife mitigation task force meeting on January 30.

Subtask 7.14 - Access Road Environmental Analysis

A meeting was held with APA to discuss the results of public meetings on access roads for Susitna development. Acres requested from TES environmental documentation for use during this meeting.

TES ACTIVITIES

Subtask 7.01 - Administration

TES prepared and submitted to Acres a draft report identifying environmental advantages and disadvantages of Alternative Hydroelectric Development Schemes for the Upper Susitna Basin, specifically comparing Watana/Devil Canyon with Vee/High Devil Canyon/Olson. In addition TES, at Acres request, attended External Review Board Meetings held on January 22 and 24 at the offices of the Alaska Power Authority. TES participated in the discussions held at these meetings.

TES visited the Acres Vancouver office on January 30 and with Terry Wardle visited BC Hydro to review the Peace River Project. It is anticipated that TES will visit the Peace River Project at the time of ice breakup during the spring of 1981.

TES also spent time with its Alaska Subcontractors to review the status of the first Annual Reports, to review problems associated with 1980 field study efforts and to review the upcoming field programs for 1981. Each subcontractor was urged to complete and provide to TES their Annual Reports, as soon as they become available. The need for and urgency of our request was appreciated by all subcontractors.

Subtask 7.02 - Field Monitoring

Work began on the formulation of field study needs for the upcoming 1981 field season.

Subtask 7.05 - Socioeconomic Analysis

Work was completed on data collection activities for socioeconomic Profile Development, and continued on data compilation and profile development. Socioeconomic profiles were approximately one-half complete by the end of the month.

Work on preliminary socioeconomic impact studies is held pending Susitna basin development selection.

Work continued on the methodology and refinement of elements of precasts of future socioeconomic conditions without the Susitna Project, in conjunction with the socioeconomic data compilation and profiling process.

Subtask 7.06 - Cultural Resources

The Annual Report for the cultural resources section of the Susitna Project is nearing completion. Graphics and photographs are complete.

Also during January, work began on a large reconstruction of the total Cordilleran ice sheet, of which the Susitna River area is a crucial part. It is necessary to view the Susitna River region as a small piece in a much larger framework in order to understand the glacial dynamics of the Susitna valley. When completed, this data will be incorporated into cultural resource studies in an effort to delineate survey areas.

With regard to paleontology, modal analysis of thin sections prepared from the deposits along Watana Creek is in progress. This analysis is being undertaken to aid in provenance studies of the Tertiary basin in the Watana Creek area.

In addition, plans are presently underway to construct or rent wall tents and frames for the coming field season. As it now stands, it appears that the tent camp will be located in the same area as last year.

TES facilitated an exhange of geological information between Dr. Thorson of the University of Alaska and Woodward-Clyde.

Finally, TES proposed to Acres a method for maintaining confidentiality of archeological site locations without withholding information from authorized personnel who need access to it. TES anticipates approval of this approach.

Subtask 7.07 - Land Use Analysis

Work continued on the land use analysis for the Annual Report. The U of A completed a rough first draft during the month.

Subtask 7.08 - Recreation Planning

Work continued on the Recreation survey. During the month, TES provided information to APA concerning the survey sample and recreation planning process.

Subtask 7.09 - Transmission Line Corridor Assessment

Literature acquisition and familiarization continued through the month of January. Data were collected from libraries at Syracuse University and University of Alaska and from other universities and organizations.

On January 23, 26, and 28 site visits of transmission corridors from Anchorage to Willow, the project impoundment areas to the Intertie and Healy to Fairbanks were reviewed. The corridors were reviewed both from the air and from the Parks Highway.

Time was spent in the Anchorage office placing the transmission corridors on recently obtained color infra-red aerial photos received in the Anchorage office.

Finally, TES attended the APA sponsored workshop on the proposed Anchorage to Fairbanks transmission line held in Anchorage on January 21.

Subtask 7.10 - Fish Ecology Studies

A fish ecology field trip was undertaken during the period of January 25-28. The field trip covered the entire river from the mouth at Cook Inlet to the MacLaren River and included a visit with ADF&G field crews on the lower river.

During the trip, the reservoir areas were flown at proposed reservoir water level elevations in order to gain an understanding of areas to be inundated by the proposed development. In addition, streams tributary to the Susitna in the impoundment area were also flown at reservoir elevation levels.

The activities of the TES field fisheries biologist, Dr. Schmidt, centered around coordination efforts with the Department of Fish and Game in developing work tasks for the coming field season and on the preparation of program revisions. Other activities for the month included review of work plans and other studies previously conducted in the area and familiarization with all fisheries and aquatic aspects of the proposed study effort. Finally, work continued by TES consultants on the preparation of the first Annual Report.

Subtask 7.11 - Wildlife Ecology Studies

The major activities conducted within Subtask 7.11 during the month of January centered around data analysis and preparation of the first Annual Report. During the last week of the month TES organized and conducted several coordination meetings in Anchorage. On January 28, TES held a meeting with representatives of ADF&G and R&M to discuss coordination of the downstream moose habitat studies. The specific study efforts of ADF&G and TES were reviewed, and it was determined that there were not areas representing duplication of effort, nor were there any major areas of concern that were being missed by these two research efforts. On January 29, all wildlife investigators met with the plant ecology investigators and discussed the 1980 field effort, as well as the coordination of the upcoming field season. A fourth meeting took place on Friday, January 30, and constituted the introductory meeting of a Susitna Project Wildlife Mitigation Task Force. This meeting was attended by representatives of TES, Acres, APA, ADF&G, USFWS, BLM, and DNR. A copy of the minutes of this meeting, which represented an official consultation as called for in the Fish and Wildlife Coordination Act, will be submitted to Acres during the first part of February.

Subtask 7.12 - Plant Ecology Studies

TES continued its supervision of and coordination with the Agricultural Experiment Station in Palmer. Much of the month was spent preparing the first Annual Report and preparing for various meetings to be held during the last week in January.

On January 27, representatives of TES and AES met in Palmer and discussed the status of the Plant Ecology effort with emphasis on: first Annual Report, downstream studies, vegetation mapping, and wetlands.

On January 28, representatives from TES, AES, ADF&G, Acres, and R&M met in Anchorage to discuss the downstream vegetation studies. Coordination and integration of the TES/AES, ADF&G, and R&M efforts was performed. Problems presented by ADF&G in a letter from Paul Arneson to TES dated September 26, were completely resolved.

On January 29, representatives from TES and AES attended a coordination meeting consisting of all wildlife and vegetation personnel. A presentation was given on the vegetation/habitat mapping effort and the wetlands mapping.

On January 30, the plant ecology studies personnel for AES and TES attended a Mitigation Task Force meeting.

A draft copy of the first Annual Report was hand delivered to TES on January 30 for preliminary TES review and comment.

Subtask 7.14 - Access Road Environmental Analysis

Cathie Baumgartner furnished to the APA a letter report on impact issues that are being considered in relation to access road routing and alignment. Work began by documenting on maps areas of potential environmental impact along specific alternatives. These maps will be transmitted to the APA in early February.

ADF&G - HYDRO AQUATIC STUDIES

ADMINISTRATION AND SUPPORT

The workshop for the External Review Panel of the Susitna Hydroelectric Feasibility Studies was attended, January 22 and 24. On January 26, a review of the fish and wildlife studies was provided to Dr. A. Starker Leopold, a member of that panel, as he had requested in late December.

A meeting between Habitat Protection Section and Sport Fish Division Headquarters staff, Eric Yould, Robert Mohn of APA and Dr. John Hayden of Acres was attended in Juneau by the Aquatic Studies Coordinator. APA expressed their concerns regarding the slow startup of the aquatic studies and requested the Department give a top priority to movement of personnel actions through ADF&G's Division of Administration. Discussion of the adequacy of the aquatic studies program to meet the Phase I licensing schedule was also expressed, and ADF&G agreed to meet with APA and members of Acres environmental consultant group to discuss the program and possible revisions during the first week of February.

FIELD STUDIES

Resident and Juvenile Anadromous Project

Numerous sites along the Susitna River from Indian River downstream to Alexander Creek were surveyed during January by resident and juvenile anadromous field crews.

Unseasonably warm temperatures and lack of snow fall hampered travel by snow machine this month. The warm temperatures also produced numerous overflow areas and open leads in the river ice which enhanced the dangers of traveling on the Susitna River. The Alexander Creek area was surveyed during the first portion of the month, but the lack of snow, heavy overflow, and exposed sand areas prevent future sampling until conditions improve. The sampling area will be expanded in February to include the Portage Creek study program.

Office time for the crews was spent in continuing the bid and purchase process for necessary equipment.

Anadromous Adult Project

No field activities were planned or accomplished in this period. The Aquatic Studies Coordinator did continue program review with Commercial Fish Division staffers concerning possible program restructure.

ADF&G - BIG GAME ACTIVITIES

Weather conditions have continued to seriously hamper the big game studies. During November and December, we had cold temperatures and little snow. From the first of January to the present, we have had unusually mild temperatures, little snow accumulation, low ceilings and wind. Moose have not moved to normal winter ranges at lower elevations close to the Susitna River in either the upstream or downstream study areas. Impacts of the hydroelectric project are likely to be most severe during years of heavy snowfall. We will need such a year to fully assess impacts. Unless conditions change soon this will not be the year.

Continued poor snow conditions may jeopardize planned late winter moose censuses both upstream and downstream and attempts to tag additional wolves and wolverine.

These problems will not halt any of the projects, but our assessment impacts at the end of Phase I will be more tentative than if we had normal snow accumulation.

The entire week of January 26 was spent in meetings at the Anchorage Acres office briefing Starker Leopold, discussing downstream moose - vegetation study problems, meeting with other terrestrial study investigators, attending the first Wildlife Mitigation Task Force meeting, etc.

The major activity for December and January was annual report preparation. All of the individual species reports were at least in rough draft form by mid-January and are currently in the rather tedious editing and retyping stages.

Because of the tight scheduling of others we have been submitting drafts of each species report to Dr. Taber and TES as soon as it is in a reasonably final form. We expect to resubmit the entire package in a neater form at the end of February as scheduled.

TASK 8 - TRANSMISSION

Subtask 8.01 - Transmission Line Corridor Screening

The Closeout Report is being prepared for this subtask. The screened corridors have been indicated on maps which will be included in the Closeout Report.

In anticipation of the 1981 summer season, key sections of the corridors have been defined so that the required geological exploration and mapping work can be undertaken for the purposes of identifying adverse geological features along the corridors and to determine probable line tower foundation conditions.

During this month, several meetings were held in Anchorage with R. Retherford which resulted in further refinement of the line corridors.

Subtask 8.02 - Electric System Studies

Studies of the alternative transmission schemes continued. Economic conductor sizes were established. Computer simulations of line energizing were carried out to identify shunt reactor requirements for the line voltage and lengths under consideration. Analysis of contingency events to determine equipment parameters and configurations for the stages of Susitna hydroelectric development continued. Preliminary cost estimates including the cost of transmission losses were prepared for the transmission line alternatives.

Subtask 8.03 - Route Selection

Work continued on this subtask. The alternative corridors determined from Subtask 8.01 were under further process of elimination by considering various parameters including the environmental aspects.

A meeting was held at IECO offices in Anchorage with Acres and Mr. R. Retherford, mainly to discuss the intertie between Willow and Healy, which is currently under study by CAI. The main points of discussion were centered upon the section between Montana and Chulitna Pass where there are two alternatives, a corridor parallel to the Alaska Railroad or parallel to the highway.

Another meeting, held in Anchorage, attended by representatives of APA, CIR/H&N, TES, and Acres, addressed the latest land status studies.

Another meeting was held in Anchorage with TES for the purpose of coordinating and scheduling of the environmental input to Task 8.

Subtask 8.04 - Tower, Hardware and Conductor Studies

Work has started to select the most appropriate tower configuration for the 230 and 345 KV lines. Existing data contained in the IECO report concerning tower configuration is under review by Acres.

At a meeting in Anchorage, attended by R. Retherford and Acres, technical and structural aspects of transmission line towers were reviewed, including foundations and guying.

Subtask 8.07 - Transmission Line Cost Estimates

Work proceeded on this subtask. A copy of transmission line cost estimates was obtained from R. Retherford. The costs were prepared from previous 138 and 230 KV transmission line projects in Alaska.

Current costs of conductors were also obtained from manufacturers. These costs were used in the economical conductor analysis in Subtask 8.02.

TASK 10 - LICENSING

Internal review of responsibilities for Exhibit V was made with a resultant suggested table of contents and specifically assigned areas.

On January 23, the FERC approved proposed regulations which could supersede the existing rules for license application for major, unconstructed projects. The comment period for the proposal closes on March 27, and the final rules may follow from two to six months later, depending on the nature of comments. These rules will be obtained and reviewed over ensuing weeks to consider impacts on the project study.

TASK 11 - MARKETING AND FINANCE

Subtask 11.01 - Project Overview Preparation and Update

Preparation of input to the Project Overview Report continued with chapter authors providing the coordinating/editorial team with input. Advance draft chapters for Chapter 13 - Power and Energy Marketing, Chapter 16 - Financial Analysis, and Chapter 17 - Security of Project Capital Cost and Revenue Structure were prepared and submitted to APA and the Managing Underwriter Group. A meeting took place with Arthur Young, Manager of the Railbelt Alternative Energy Studies to initiate interface between Susitna studies and Cook Inlet Tidal Power Review now being conducted separately by AAI.

Subtask 11.02 - Internal Reports

Following testing of the financial models in late December work proceeded on analysis of Alternative Financing Structures including treatment of separate funding and royalty recovery for Watana Dam, subordinated debt support and residual recovery equity arrangements. Sensitivity analyses were conducted on varying capital cost and alternative energy cost escalation patterns to determine DCF returns. Interaction was developed between the Financial/Economic Analysis and the OGP-5 Generation Planning Model. Input on socio-economic issues were provided to an assessment of net economic benefits. Presentation of financial model results to APA took place at meetings on January 20/21 and Task 11 was presented at the external review panel meeting January 22. Meetings were

held with participating specialist consultants to discuss procedures, model output and financing concepts to relieve high front end loadings. Assessment continued of a likely level of energy pricing on the system when Susitna comes into operation. Data concerning potential utility purchases and their interaction with Alaska Public Utilities Commission and Alaska Power Administration were collected.

Subtask 11.03 - Alternative Power Service Risk Analysis

Dr. C.B. Chapman contributed to the coordination meeting held between staff involved in Tasks 6, 9 and 11.

Subtask 11.05

Risk analysis approaches were further reviewed in conjunction with Task 11.02 Financial Feasibility Analysis and the preparation of Chapters 16 and 17 of the POR.

TASK 12 - PUBLIC PARTICIPATION

Action List responses were forwarded to APA's public participation officer. Two additional comments were received and are presently being addressed. Discussions were held with APA regarding the access road workshops and possible upcoming public meetings. An agreement was reached on our approach to awarding a contract to address the sociocultural concerns identified in earlier public meetings.

TASK 13 - PROJECT ADMINISTRATION

Subtask 13.04 - Schedule Monitoring

The project schedule was updated to February 1, 1981, with appropriate changes being made in logic and durations. A Plan of Study Master Schedule bar chart was also drawn. Copies of the revised schedule, computer generated bar chart, and the Master Schedule are appended to this report. Schedule monitoring is continuing.

Subtask 13.05 - Cost Control

The cost control reports will now be issued every other month. The next report will be issued in March.

TASK 14 - ADF&G SUPPORT

Acres continued to handle purchasing requirements for ADF&G in January.

WORK COMPLETED:
TO FEBRUARY 2, 1981

ACRES AMERICAN SUSITNA HYDRO-ELECTRIC PROJECT

CPM ANALYSIS LISTING

I-NODE	J-NODE	DUR	SELECT CODES	------D E S C R I P T I O N ----------	E.S.	E.F.	L.S.	L.F.	T.F.	F.F.	CL
10000	10600	0	C OPB 1 C2	101 REVIEW OF METHODOLOGIES							COMPLETE
10400	10500	0	C OPB 1 C2	102 FCST PEAK LOAD DEMAND TRANS							COMPLETE
12100	11800	0	C OPB 1 C2	103 INDENT OF POWER ALTERNAT							COMPLETE
11800	11900	0	C OPB 1 C2	108 TERMINATION REPORT							COMPLETE
20200	20300	0	C OPA C2	2021 FIELD CAMP SET-UP	ST						COMPLETE
20300	20400	0	C OPA C2	2021 FIELD CAMP SET-UP	FIN						COMPLETE
21200	21500	0	C OPA C2	204 LAND STATUS RESEARCH							COMPLETE
20800	21000	0	C OPA C2	206 RIGHT OF ENTRY	ST						COMPLETE
25000	25200	0	C OPA C3	207 SITE SPECIFIC SURVEYS	ST						COMPLETE
23000	23200	0	C OPA C3	2081 AIR PHOTOS & MAPPING-1980	ST						COMPLETE
23600	23800	0	C OPA C3	209 CONTROL NETWORK SURVEYS							COMPLETE
25600	26600	0	C OPA C3	211 MAP & PHOTO SEARCH							COMPLETE
24400	24600	0	C OPA C3	216 HYDROGRAPHIC SURVEYS	ST						COMPLETE
32600	32800	0	C OPB 1 C4	301 REVIEW AVAILABLE MATERIAL	ST						COMPLETE
32800	33000	0	C OPB 1 C4	301 REVIEW AVAILABLE MATERIAL	FIN						COMPLETE
36200	36400	0	C OPB 1 C4	3021 FIELD DATA INDEX-SETUP	ST						COMPLETE
36400	36600	0	C OPB 1 C4	3021 FIELD DATA INDEX-SETUP	FIN						COMPLETE
37000	37200	0	C OPB 1 C4	3031 FIELD DATA COLLECTION-SPECS							COMPLETE
37400	37500	0	C OPB 1 C4	3032 FIELD DATA COLLECTION 80-81	ST						COMPLETE
32800	33200	0	C OPB 1 C4	3041 WATER RSRCS-FLOW EXTENSION	ST						COMPLETE
33200	33300	0	C OPB 1 C4	3041 WATER RSRCS-FLOW EXTENSION	CT-1						COMPLETE
34200	34400	0	C OPB 1 C4	3043 WATER RSRCS-RESERVOIR STUDY	ST						COMPLETE
31600	31800	0	C OPB 1 C4	3053 FLOODS-RESERVOIR ROUTING	ST						COMPLETE
30000	30200	0	C OPB 1 C4	3061 HYDRLS&ICE-CHANNEL WTR LVLS	ST						COMPLETE
38000	38200	0	C OPB 1 C4	3081 TRANSMSN LINE-PRLM PARAMTR							COMPLETE
30800	31000	0	C OPB 1 C4	3101 LWR SUSITNA STUDIES-PRELIM	ST						COMPLETE
43100	43200	0	C OPB 1 C1	401 REVIEW AVAILABLE DATA	ST						COMPLETE
43200	43400	0	C OPB 1 C1	401 REVIEW AVAILABLE DATA	CT-1						COMPLETE
43400	41200	0	C OPB 1 C1	401 REVIEW AVAILABLE DATA	FIN						COMPLETE
44000	44200	0	C OPA C4	402 SHORT TERM MONITORNG PROGRAM	ST						COMPLETE
44200	41200	0	C OPA C4	402 SHORT TERM MONITORNG PROGRAM	FIN						COMPLETE
40000	40200	0	C OPB 1 C1	403 PRELIM RESERVR INDUCD SEISMC							COMPLETE
40300	40600	0	C OPB 1 C1	404 REMOTE SENSING IMAG ANALYSIS	ST						COMPLETE
40600	40800	0	C OPB 1 C1	404 REMOTE SENSING IMAG ANALYSIS	CT-1						COMPLETE
40800	42000	0	C OPB 1 C1	404 REMOTE SENSING IMAG ANALYSIS	FIN						COMPLETE
42200	42400	0	C OPA C4	405 SEISMIC GEOLOGIC RECONASANCE							COMPLETE
41000	41200	0	C OPB 1 C1	406 PRELIM EVALUATN&REPORT-DRAFT	ST						COMPLETE
41200	41400	0	C OPB 1 C1	406 PRELIM EVALUATION & REPORT	CT-1						COMPLETE
44200	45000	0	C OPB 1 C1	407 PRELIM GROUND MOTION STUDIES							COMPLETE
45600	45800	0	C OPB 1 C1	408 DAM STABILITY	ST						COMPLETE
50000	50200	0	C OPB 1 C1	501 DATA COLLECTION	ST						COMPLETE
50200	50400	0	C OPB 1 C1	501 DATA COLLECTION	CT-1						COMPLETE
50400	50600	0	C OPB 1 C1	501 DATA COLLECTION	FIN						COMPLETE
50200	51200	0	C OPB 1 C1	502 AIR PHOTO INTERPRETATION	ST						COMPLETE
50800	51600	0	C OPB 1 C1	503 1980 PROGRAM DESIGN							COMPLETE
51000	51600	0	C OPA C4	504 1980 EXPLORATION PROGRAM							COMPLETE
52000	52200	0	C OPB 1 C1	505 1981 PROGRAM DESIGN	ST						COMPLETE
62500	625A0	0	C OPB 1 C4	601 REVIEW PREVIOUS STUDIES	ST						COMPLETE
625A0	62600	0	C OPB 1 C4	601 REVIEW PREVIOUS STUDIES	FIN						COMPLETE
62600	626A0	0	C OPB 1 C4	603 EVAL ALT SUSITNA DEVELOPMENT	ST						COMPLETE
626A0	62700	0	C OPB 1 C4	603 EVAL ALT SUSITNA DEVELOPMENT	CT-1						COMPLETE

CPM ANALYSIS LISTING

REP01

I-NODE	J-NODE	DUR	SELECT CODES		DESCRIPTION	E.S.	E.F.	L.S.	L.F.	T.F.	F.F.	CL
62700	627A0	0	C OPB 1 C4	603	EVAL ALT SUSITNA DEVELOPMENT CT-2							COMPLETE
627A0	62800	0	C OPB 1 C4	603	EVAL ALT SUSITNA DEVELOPMENT CT-3							COMPLETE
62800	62900	0	C OPB 1 C4	603	EVAL ALT SUSITNA DEVELOPMENT FIN							COMPLETE
68100	68200	0	C OPB 1 C6	604	DEVL CAN ARCH DAM EVALUATION ST							COMPLETE
68200	68300	0	C OPB 1 C6	604	DEVL CAN ARCH DAM EVALUATION FIN							COMPLETE
66900	669A0	0	C OPB 1 C4	6051	SELECT REPORT DRAFT							COMPLETE
65900	659A0	0	C OPB 1 C4	606	STAGED DEVELOPMENT ALTS ST							COMPLETE
659A0	659B0	0	C OPB 1 C4	606	STAGED DEVELOPMENT ALTS CT-1							COMPLETE
63000	63100	0	C OPB 1 C5	607	PRELIM WATANA DAM ALTERNATES ST							COMPLETE
63100	631A0	0	C OPB 1 C5	607	PRELIM WATANA DAM ALTERNATES CT-1							COMPLETE
64400	64500	0	C OPB 1 C6	608	PRELIM DEVIL CANYON DAM ALT ST							COMPLETE
64500	64600	0	C OPB 1 C6	608	PRELIM DEVIL CANYON DAM ALT CT-1							COMPLETE
69100	69200	0	C OPB 1 C4	609	ESTAB WATANA DESIGN CRITERIA ST							COMPLETE
63400	63500	0	C OPB 1 C4	610	ESTAB DEVIL CANYN DESGN CRIT ST							COMPLETE
6A500	6A600	0	C OPB 1 C2	632	THERMAL GENERATION RESOURCE ST							COMPLETE
6A600	6A700	0	C OPB 1 C2	632	THERMAL GENERATION RESOURCE CT1							COMPLETE
6A700	6A800	0	C OPB 1 C2	632	THERMAL GENERATION RESOURCE FIN							COMPLETE
6A900	6B100	0	C OPB 1 C2	633	HYDRO GENERATION RESOURCES ST							COMPLETE
6B100	6B200	0	C OPB 1 C2	633	HYDRO GENERATION RESOURCES CT-1							COMPLETE
6B200	6B300	0	C OPB 1 C2	633	HYDRO GENERATION RESOURCES FIN							COMPLETE
6B500	6B600	0	C OPB 1 C8	6341	ENVIRONMENT ASSESSMENT ST							COMPLETE
6B600	6B700	0	C OPB 1 C8	6341	ENVIRONMENT ASSESSMENT CT1							COMPLETE
6B700	6C300	0	C OPB 1 C8	6341	ENVIRONMENT ASSESSMENT FIN							COMPLETE
6D100	6D200	0	C OPB 1 C2	6361	GENERATION PLAN PARAMATERS							COMPLETE
6D300	6D3A0	0	C OPB 1 C2	6362	GENERAT PLAN ANALY & REPORT ST							COMPLETE
6D3A0	6D400	0	C OPB 1 C2	6362	GENERAT PLAN ANALY & REPORT CT-1							COMPLETE
71200	71400	0	C OPB 1 C8	701	STUDY COORD-ALTERNATIVE SITE CT-2							COMPLETE
70800	71000	0	C OPB 1 C8	7011	STUDY COORD-ALTERNATIVE SITE ST							COMPLETE
71000	71200	0	C OPB 1 C8	7011	STUDY COORD-ALTERNATIVE SITE CT-1							COMPLETE
79200	79300	0	C OPB 1 C8	702	MONITOR FIELD ACTIVITIES ST							COMPLETE
80000	80200	0	C OPB 1 C3	801	SELECT INITIAL CORRIDORS ST							COMPLETE
80200	80400	0	C OPB 1 C3	801	SELECT INITIAL CORRIDORS CT-1							COMPLETE
A2000	A1600	0	C FLC C110	10021	ESTABLISH REGULATORY REQUIRE							COMPLETE
C0000	C0200	0	C OPB 1 C810	12021	CONDUCT PUBLIC MEETING #1							COMPLETE
D0200	D0400	0	C PSB 2 C310	13011	PROJECT PROCED MANUAL-DRAFT ST							COMPLETE
D0400	D0600	0	C PSB 2 C310	13011	PROJECT PROCED MANUAL-DRAFT CT-1							COMPLETE
D0600	D0800	0	C PSB 2 C310	13011	PROJECT PROCED MANUAL-DRAFT FIN							COMPLETE
D0800	D1000	0	C PSB 2 C310	13012	PROJECT PROCED MANUAL-FINAL							COMPLETE
D0000	D0600	0	C PSB 2 C310	1302	FINANCIAL CONTROL PROCEDURES							COMPLETE
D1400	D1500	0	C PSB 2 C310	1303	PROJECT MASTER SCHEDULE							COMPLETE
D2000	D2200	0	C PSB 2 C310	13041	SCHEDULE CONTROL SYSTEM-DEV							COMPLETE
D2600	D2800	0	C PSB 2 C310	13051	COST CONTROL SYSTEM-DEV							COMPLETE
D3200	D3400	0	C PSB 2 C310	13061	MANPOWER LOADING SCHEULE-DEV							COMPLETE
D1600	D0600	0	C PSB 2 C410	1307	DEVELOP ACCOUNTING POLICIES							COMPLETE
D1800	D1900	0	C PSB 2 C310	1308	DOCUMENTATION CONTROL							COMPLETE

REMAINING WORK:
FROM FEBRUARY 2, 1981

ACRES AMERICAN SUSITNA HYDRO-ELECTRIC PROJECT

CPM ANALYSIS LISTING

TIME NOW: 3FEB81

I-NODE	J-NODE	DUR	SELECT CODES	------DESCRIPTION----------		E.S.	E.F.	L.S.	L.F.	T.F.	F.F.	CL	
20400	20000	72	R OPA C2	2022	FIELD CAMP OPERATIONS		2FEB81	18JUN82	9FEB81	25JUN82	1	1	1
20400	20600	72	R OPA C2	203	RESUPPLY & EMERGENCY SERVICE		2FEB81	18JUN82	9FEB81	25JUN82	1	1	1
215A0	215B0	0	OPA 1 C3	204XX	EXHIBIT F MATERIAL COMPLETE		2FEB81	30JAN81	30NOV81	27NOV81	43	42	1
21600	22000	5	R OPA C2	205	LAND AQUISITION ANALYSIS		23FEB81	27MAR81	24MAY82	25JUN82	65	65	1
21000	21100	21	R OPA C2	206	RIGHT OF ENTRY	FIN	2FEB81	26JUN81	1FEB82	25JUN82	52	52	1
25200	25400	4	R OPA C3	207	SITE SPECIFIC SURVEYS	CT-1	2FEB81	27FEB81	9FEB81	6MAR81	1	0	1
25400	25500	7	OPA C3	207	SITE SPECIFIC SURVEY	FIN	2MAR81	17APR81	11MAY81	26JUN81	10	0	1
23200	23400	3	R OPA C3	2081	AIR PHOTOS & MAPPING-1980	FIN	2FEB81	20FEB81	9MAR81	27MAR81	5	2	1
24000	24200	10	R OPA C3	2082	AIR PHOTOS & MAPPING-1981		2FEB81	10APR81	24AUG81	30OCT81	29	8	1
22200	22400	5	R OPA C3	210	ACCESS ROAD	ST	2FEB81	6MAR81	15JUN81	17JUL81	19	0	1
22400	22600	2	OPA C3	210	ACCESS ROAD	CT-1	9MAR81	20MAR81	14SEP81	25SEP81	27	8	1
22600	22800	10	OPA C3	210	ACCESS ROAD	FIN	18MAY81	24JUL81	28SEP81	4DEC81	19	0	1
26400	26600	3	R OPA C4	212	FIELD RECON FOR RSRVR CLEAR	ST	2FEB81	20FEB81	16MAR81	3APR81	6	0	1
26600	26800	6	R OPA C4	212	FIELD RECON FOR RSRVR CLEAR	FIN	23FEB81	3APR81	6APR81	15MAY81	6	0	1
27600	27200	5	OPA C3	213	MRKTBILITY AND DISPOSAL STDY		2FEB81	6MAR81	21DEC81	22JAN82	46	4	1
27000	27200	2	OPA C3	214	CST ESTMTS RSVR CLEARING	ST	2FEB81	13FEB81	11JAN82	22JAN82	49	7	1
27200	27400	3	OPA C3	214	CST ESTMTS RSVR CLEARING	FIN	6APR81	24APR81	25JAN82	12FEB82	42	21	1
25800	26000	4	OPA C4	215	SLOPE EROSION & STBLTY STUDY	ST	2FEB81	27FEB81	20APR81	15MAY81	11	5	1
26000	26200	4	OPA C4	215	SLOPE EROSION & STBLTY STUDY	FIN	6APR81	1MAY81	18MAY81	12JUN81	6	6	1
24600	24800	3	R OPA C3	216	HYDROGRAPHIC SURVEYS	FIN	2FEB81	20FEB81	16FEB81	6MAR81	2	2	1
36600	36800	53	R OPB 1 C4	3022	FIELD DATA INDEX OPERATION		2FEB81	5FEB82	16MAR81	19MAR82	6	6	1
37500	37600	6	R OPB 1 C4	3032	FIELD DATA COLLECTION 80-81	FIN	2FEB81	13MAR81	2FEB81	13MAR81	0	0	1	CRITICAL
37600	37700	30	OPB 1 C4	3033	FIELD DATA COLLECTION 81-82	ST	16MAR81	90CT81	23MAR81	160CT81	1	0	1
37700	37800	22	OPB 1 C4	3033	FIELD DATA COLLECTION 81-82	FIN	120CT81	12MAR82	190CT81	19MAR82	1	1	1
33500	34600	2	OPB 1 C4	3041	WATER RSRCS-FLOW EXTENSION	FIN	2FEB81	13FEB81	2NOV81	13NOV81	39	38	1
33300	34600	4	OPB 1 C4	3042	WATER RSRCS-FREQ ANALYSIS		2FEB81	27FEB81	190CT81	13NOV81	37	36	1
34400	344A0	10	R OPB 1 C4	3043	WATER RSRCS-RESERVOIR STUDY	CT-1	2FEB81	10APR81	9FEB81	17APR81	1	0	1
344A0	34500	6	OPB 1 C4	3043	WATER RSRCS-RESERVOIR STUDY	CT-2	13APR81	22MAY81	20APR81	29MAY81	1	0	1
34500	34600	24	OPB 1 C4	3043	WATER RSRCS-RESERVOIR STUDY	CT-3	25MAY81	6NOV81	1JUN81	13NOV81	1	0	1
34600	34800	8	OPB 1 C4	3043	WATER RSRCS-RESERVOIR STUDY	FIN	9NOV81	1JAN82	16NOV81	8JAN82	1	0	1
35000	35200	4	OPB 1 C4	3044	WATER RSRCS-PRE&POST PROJECT	ST	9NOV81	4DEC81	14DEC81	8JAN82	5	4	1
35200	35400	4	OPB 1 C4	3044	WATER RSRCS-PRE&POST PROJECT	FIN	4JAN82	29JAN82	11JAN82	5FEB82	1	0	1
33700	33900	8	OPB 1 C4	3045	EVAPORATION STUDIES		2FEB81	27MAR81	11MAY81	3JUL81	14	11	1
39600	39800	59	R OPB 1 C4	3046	WATER RSRCS-GLACIAL STUDIES		2FEB81	19MAR82	2FEB81	19MAR82	0	0	1	CRITICAL
35400	354A0	0	OPB 1 C4	304XX	EXHIBIT H MATERIAL COMPLETE		1FEB82	29JAN82	19APR82	16APR82	11	11	1
35400	354B0	0	OPB 1 C4	304XX	EXHIBIT I MATERIAL COMPLETE		1FEB82	29JAN82	19APR82	16APR82	11	11	1
32700	32900	2	R OPB 1 C4	3051	FLOODS-FREQUENCY ANALYSIS		2FEB81	13FEB81	13APR81	24APR81	10	9	1
32800	32400	2	R OPB 1 C4	3052	FLOODS PMF REVIEW		2FEB81	13FEB81	13APR81	24APR81	10	9	1
31800	32000	6	R OPB 1 C4	3053	FLOODS-RESERVOIR ROUTING	CT-1	9FEB81	20MAR81	16NOV81	25DEC81	40	27	1
32000	32200	5	OPB 1 C4	3053	FLOODS-RESERVOIR ROUTING	FIN	28SEP81	30OCT81	28DEC81	29JAN82	13	13	1
30200	30400	5	R OPB 1 C4	3061	HYDRLS&ICE-CHANNEL WTR LVLS	CT-1	2FEB81	6MAR81	2FEB81	6MAR81	0	0	1	CRITICAL
30400	30600	47	OPB 1 C4	3061	HYDRLS&ICE-CHANNEL WTR LVLS	FIN	9MAR81	29JAN82	9MAR81	29JAN82	0	0	1	CRITICAL
39400	39500	6	R OPB 1 C4	3062	HYDR&ICE RSRVR FREEBRD		9FEB81	20MAR81	16MAR81	24APR81	5	4	1
38800	39000	3	R OPB 1 C4	3063	HYDR&ICE-RESER SLIDE SURGE	ST	2FEB81	20FEB81	9FEB81	27FEB81	1	0	1
39000	39100	8	OPB 1 C4	3063	HYDR&ICE-RESER SLIDE SURGE	FIN	23FEB81	17APR81	2MAR81	24APR81	1	0	1
39200	39300	8	OPB 1 C4	3064	HYDR&ICE-RSVR TEMP REGIME		9FEB81	3APR81	2MAR81	24APR81	3	2	1
35600	35800	3	R OPB 1 C4	3071	SEDIMENT YIELD & DEPOSITION	ST	2FEB81	20FEB81	1JUN81	19JUN81	17	0	1
35800	36000	6	OPB 1 C4	3071	SEDIMENT YIELD & DEPOSITION	FIN	23FEB81	3APR81	30NOV81	8JAN82	40	9	1
33400	33600	12	OPB 1 C4	3072	RIVER MORPHOLOGY	ST	16MAR81	5JUN81	190CT81	8JAN82	31	0	1
33600	33800	4	OPB 1 C4	3072	RIVER MORPHOLOGY	CT-1	8JUN81	3JUL81	11JAN82	5FEB82	31	30	1
33800	34000	4	OPB 1 C4	3072	RIVER MORPHOLOGY	FIN	1FEB82	26FEB82	8FEB82	5MAR82	1	1	1

CPM ANALYSIS LISTING

I-NODE	J-NODE	DUR	SELECT CODES		DESCRIPTION		E.S.	E.F.	L.S.	L.F.	T.F.	F.F.	CL	
38200	38400	4 R	OPB 1 C4	3082	TRANSMSN LINE-DET PARAMTR	ST	2FEB81	27FEB81	16FEB81	13MAR81	2	2	1	
38400	38600	4	OPB 1 C4	3082	TRANSMSN LINE-DET PARAMTR	FIN	16MAR81	10APR81	16MAR81	10APR81	0	0	1	CRITICAL
31100	31300	30	OPB 1 C4	309	ACCESS ROADS HYDROLOGY		9MAR81	20CT81	20JUL81	12FEB82	19	19	1	
31000	31200	5 R	OPB 1 C4	3101	LWR SUSITNA STUDIES-PRELIM	FIN	2FEB81	6MAR81	2FEB81	6MAR81	0	0	1	CRITICAL
31200	31400	47	OPB 1 C4	3102	LWR SUSITNA STUDIES-FOLLOWUP		9MAR81	29JAN82	9MAR81	29JAN82	0	0	1	CRITICAL
41300	41600	2	OPB 1 C1	406	PRELIM EVAL & REPORT DRAFT	FIN	2FEB81	13FEB81	12OCT81	23OCT81	36	36	1	
45800	46000	19 R	OPB 1 C1	408	DAM STABILITY	CT-1	2FEB81	12JUN81	23FEB81	3JUL81	3	0	1	
46000	46200	6	OPB 1 C1	408	DAM STABILITY	FIN	15JUN81	24JUL81	17MAY82	25JUN82	48	48	1	
42800	43000	31	OPA C4	409	LONG TERM MONITORING PROGRAM		13JUL81	12FEB82	23NOV81	25JUN82	19	19	1	
40200	41800	5 R	OPB 1 C1	410	RESERVOIR INDUCED SEISMICITY		2FEB81	6MAR81	5OCT81	6NOV81	35	35	1	
42400	42600	23 R	OPA C4	411	SEISMIC GEOLOGY-FIELD STUDY		2FEB81	10JUL81	16FEB81	24JUL81	2	0	1	
41400	41600	38 R	OPB 1 C1	412	EVALUATION & REPORT DRAFT	ST	2FEB81	23OCT81	2FEB81	23OCT81	0	0	1	CRITICAL
41600	41800	2	OPB 1 C1	412	EVALUATION & REPORT DRAFT	CT-1	26OCT81	6NOV81	26OCT81	6NOV81	0	0	1	CRITICAL
41800	42000	4	OPB 1 C1	412	EVALUATION & REPORT DRAFT	FIN	9NOV81	4DEC81	9NOV81	4DEC81	0	0	1	CRITICAL
44400	44600	15	OPB 1 C1	413	GROUND MOTION STUDIES	ST	2FEB81	15MAY81	13APR81	24JUL81	10	8	1	
44600	41800	15	OPB 1 C1	413	GROUND MOTION STUDIES	FIN	13JUL81	23OCT81	27JUL81	6NOV81	2	2	1	
45600	41800	32 R	OPB 1 C1	414	DAM STABILITY CONSULTING		2FEB81	11SEP81	30MAR81	6NOV81	8	8	1	
45200	45400	22	OPB 1 C1	415	SOIL SUSCEPTITY-SEISMIC FAIL		2FEB81	3JUL81	6JUL81	4DEC81	22	3	1	
51200	51600	2 R	OPB 1 C1	502	AIR PHOTO INTERPRETATION	FIN	2FEB81	13FEB81	20APR81	1MAY81	11	0	1	
52200	52600	2 R	OPB 1 C1	505	1981 PROGRAM DESIGN	FIN	2FEB81	13FEB81	6APR81	17APR81	9	6	1	
52400	52600	8 R	OPA C4	506	1981 EXPLORATION PROGRAM	ST	2FEB81	27MAR81	23FEB81	17APR81	3	0	1	
52600	52700	20	OPA C4	506	1981 EXPLORATION PROGRAM	FIN	30MAR81	14AUG81	20APR81	4SEP81	3	0	1	
53800	54000	9	OPB 1 C1	507	1982-4 PROGRAM DESIGN		6JUL81	4SEP81	18JAN82	19MAR82	28	28	1	
51400	51600	2 R	OPB 1 C1	5081	DATA ASSEMBLY-1980-DRAFT	ST	2FEB81	13FEB81	20APR81	1MAY81	11	0	1	
51600	51800	1	OPB 1 C1	5081	DATA ASSEMBLY-1980-DRAFT	FIN	16FEB81	20FEB81	18MAY81	22MAY81	13	0	1	
52800	53000	3	OPB 1 C1	5082	DATA ASSEMBLY-1981-DRAFT	ST	2FEB81	20FEB81	3AUG81	21AUG81	26	0	1	
53000	53200	2	OPB 1 C1	5082	DATA ASSEMBLY-1981-DRAFT	FIN	23FEB81	6MAR81	24AUG81	4SEP81	26	23	1	
53400	53600	7	OPB 1 C1	5083	DATA ASSEMBLY FINAL-DRAFT		17AUG81	20CT81	1MAR82	16APR82	28	28	1	
64300	67100	4	OPB 1 C4	602	INVESTIGATE TUNNEL ALTERNATIVES		2FEB81	27FEB81	16FEB81	13MAR81	2	2	1	
669A0	67000	1	OPB 1 C4	6052	SELECT REPORT FINAL DRAFT	ST	2MAR81	6MAR81	2MAR81	6MAR81	0	0	1	CRITICAL
67000	67100	1	OPB 1 C4	6052	SELECT REPORT FINAL DRAFT	CT-1	9MAR81	13MAR81	9MAR81	13MAR81	0	0	1	CRITICAL
67100	67200	2	OPB 1 C4	6052	SELECT REPORT FINAL DRAFT	FIN	16MAR81	27MAR81	16MAR81	27MAR81	0	0	1	CRITICAL
67200	672A0	3	OPB 1 C4	6053	SELECT REPORT FINAL EDITION		30MAR81	17APR81	30MAR81	17APR81	0	82	1	CRITICAL
659B0	66000	1 R	OPB 1 C4	606	STAGED DEVELOPMENT ALTS	FIN	2FEB81	6FEB81	9MAR81	13MAR81	5	5	1	
631A0	63200	8 R	OPB 1 C5	607	PRELIM WATANA DAM ALTERNATES	CT-2	16FEB81	10APR81	4MAY81	26JUN81	11	1	1	
63200	63300	1	OPB 1 C5	607	PRELIM WATANA DAM ALTERNATES	CT-3	20APR81	24APR81	29JUN81	3JUL81	10	7	1	
63300	633A0	0	OPB 1 C5	607	PRELIM WATANA DAM ALTERNATES	FIN	15JUN81	12JUN81	6JUL81	3JUL81	3	0	1	
64600	64700	6 R	OPB 1 C6	608	PRELIM DEVIL CANYON DAM ALT	CT-2	23FEB81	3APR81	25MAY81	3JUL81	13	10	1	
64700	64800	0	OPB 1 C6	608	PRELIM DEVIL CANYON DAM ALT	FIN	15JUN81	12JUN81	6JUL81	3JUL81	3	0	1	
69200	69300	4 R	OPB 1 C4	609	ESTAB WATANA DESIGN CRITERIA	CT-1	23FEB81	20MAR81	22JUN81	17JUL81	17	12	1	
69300	69400	7	OPB 1 C4	609	ESTAB WATANA DESIGN CRITERIA	CT-2	15JUN81	31JUL81	20JUL81	4SEP81	5	2	1	
69400	69500	1	OPB 1 C4	609	ESTAB WATANA DESIGN CRITERIA	FIN	17AUG81	21AUG81	7SEP81	11SEP81	3	0	1	
63500	63600	4 R	OPB 1 C4	610	ESTAB DEVIL CANYN DESGN CRIT	CT-1	23FEB81	20MAR81	29JUN81	24JUL81	18	12	1	
63600	63700	7	OPB 1 C4	610	ESTAB DEVIL CANYN DESGN CRIT	CT-2	15JUN81	31JUL81	27JUL81	11SEP81	6	2	1	
63700	63800	1	OPB 1 C4	610	ESTAB DEVIL CANYN DESGN CRIT	FIN	17AUG81	21AUG81	14SEP81	18SEP81	4	0	1	
66200	66300	11	OPB 1 C5	611	PRELIM DESIGN WATANA DAM	ST	15JUN81	28AUG81	6JUL81	18SEP81	3	0	1	
66300	66400	11	OPB 1 C5	611	PRELIM DESIGN WATANA DAM	CT-1	31AUG81	13NOV81	21SEP81	4DEC81	3	3	1	
66400	66500	4	OPB 1 C5	611	PRELIM DESIGN WATANA DAM	FIN	7DEC81	1JAN82	7DEC81	1JAN82	0	0	1	CRITICAL
65200	65300	11	OPB 1 C6	612	PREL DESIGN DEVIL CANYON DAM	ST	15JUN81	28AUG81	6JUL81	18SEP81	3	0	1	
65300	65400	11	OPB 1 C6	612	PREL DESIGN DEVIL CANYON DAM	CT-1	31AUG81	13NOV81	21SEP81	4DEC81	3	3	1	
65400	65500	4	OPB 1 C6	612	PREL DESIGN DEVIL CANYON DAM	FIN	7DEC81	1JAN82	7DEC81	1JAN82	0	0	1	CRITICAL

CPM ANALYSIS LISTING

REF01

I-NODE	J-NODE	DUR		SELECT CODES		DESCRIPTION		E.S.	E.F.	L.S.	L.F.	T.F.	F.F.	CL	
69800	69900	11		OPB 1 C4	613	DAM SELECTION REPORT-DRAFT	ST	15JUN81	28AUG81	19OCT81	1JAN82	18	18	1	
69900	68500	5		OPB 1 C4	613	DAM SELECTION REPORT-DRAFT	FIN	4JAN82	5FEB82	4JAN82	5FEB82	0	0	1	CRITICAL
61100	61200	3	R	OPB 1 C4	614	SPILLWAY DESIGN CRITERIA	ST	9FEB81	27FEB81	6APR81	24APR81	8	7	1	
61200	61300	8		OPB 1 C4	614	SPILLWAY DESIGN CRITERIA	FIN	20APR81	12JUN81	27APR81	19JUN81	1	0	1	
60600	60700	10		OPB 1 C5	615	WATANA SPILLWAY ALTERNATIVES	FIN	27JUL81	20CT81	3AUG81	90CT81	1	0	1	
61300	60600	6		OPB 1 C5	615	WATANA SPILLWAY ALTERNATIVES	ST	15JUN81	24JUL81	22JUN81	31JUL81	1	0	1	
61300	61400	3		OPB 1 C6	616	DEVL CAN SPILLWAY ALTERNATVE	ST	15JUN81	3JUL81	29JUN81	17JUL81	2	0	1	
61400	61500	8		OPB 1 C6	616	DEVL CAN SPILLWAY ALTERNATVE	FIN	6JUL81	28AUG81	20JUL81	11SEP81	2	0	1	
621A0	62200	4		OPB 1 C5	617	PRELIM DESGN WATANA SPILLWAY	ST	2FEB81	27FEB81	14SEP81	90CT81	32	31	1	
62200	62300	4		OPB 1 C5	617	PRELIM DESGN WATANA SPILLWAY	CT-1	50CT81	300CT81	120CT81	6NOV81	1	0	1	
62300	62400	13		OPB 1 C5	617	PRELIM DESGN WATANA SPILLWAY	FIN	2NOV81	29JAN82	9NOV81	5FEB82	1	0	1	
61500	61600	6		OPB 1 C6	618	PRELIM DES DEVIL CAN SPILWAY	ST	31AUG81	90CT81	14SEP81	230CT81	2	0	1	
61600	61700	15		OPB 1 C6	618	PRELIM DES DEVIL CAN SPILWAY	FIN	120CT81	22JAN82	260CT81	5FEB82	2	1	1	
64900	65000	6		OPB 1 C4	619	SPILLWAY SELECTN REPRT-DRAFT	ST	50CT81	13NOV81	28DEC81	5FEB82	12	11	1	
65000	65100	5		OPB 1 C4	619	SPILLWAY SELECTN REPRT-DRAFT	FIN	1FEB82	5MAR82	8FEB82	12MAR82	1	1	1	
6A000	6A100	3		OPB 1 C5	620	ACCESS & CAMP FACILITIES	ST	2FEB81	20FEB81	16NOV81	4DEC81	41	22	1	
6A100	6A200	8		OPB 1 C5	620	ACCESS & CAMP FACILITIES	FIN	27JUL81	18SEP81	7DEC81	29JAN82	19	0	1	
60000	60100	6		OPB 1 C5	621	WATANA DIVERSION SCHEMES	ST	2FEB81	13MAR81	7SEP81	160CT81	31	29	1	
60100	60200	10		OPB 1 C5	621	WATANA DIVERSION SCHEMES	FIN	50CT81	11DEC81	190CT81	25DEC81	2	0	1	
67300	67400	11		OPB 1 C6	622	DEVIL CANYON DIVERSN SCHEMES	ST	2FEB81	17APR81	120CT81	25DEC81	36	19	1	
67400	67500	0		OPB 1 C6	622	DEVIL CANYON DIVERSN SCHEMES	FIN	31AUG81	28AUG81	28DEC81	25DEC81	17	0	1	
61800	61900	6		OPB 1 C4	623	OPT WATANA POWER DEVELOPMENT	ST	15JUN81	24JUL81	3AUG81	11SEP81	7	3	1	
61900	62000	10		OPB 1 C4	623	OPT WATANA POWER DEVELOPMENT	CT-1	17AUG81	230CT81	14SEP81	20NOV81	4	0	1	
62000	62100	5		OPB 1 C4	623	OPT WATANA POWER DEVELOPMENT	FIN	260CT81	27NOV81	23NOV81	25DEC81	4	0	1	
65600	65700	6		OPB 1 C4	624	OPT DEVL CANYN POWER DEVELOP	ST	17AUG81	25SEP81	120CT81	20NOV81	8	0	1	
65700	65800	5		OPB 1 C4	624	OPT DEVL CANYN POWER DEVELOP	FIN	28SEP81	300CT81	23NOV81	25DEC81	8	4	1	
63900	64000	6		OPB 1 C4	625	OPTIMIZE DAM HEIGHTS	ST	2FEB81	13MAR81	16NOV81	25DEC81	41	37	1	
64000	64100	5		OPB 1 C4	625	OPTIMIZE DAM HEIGHTS	CT-1	30NOV81	1JAN82	28DEC81	29JAN82	4	4	1	
64100	64200	0		OPB 1 C4	625	OPTIMIZE DAM HEIGHTS	FIN	1FEB82	29JAN82	1FEB82	29JAN82	0	0	1	CRITICAL
69500	69600	16		OPB 1 C5	626	PREL DESGN WATAN POWER DEVEL	ST	24AUG81	11DEC81	14SEP81	1JAN82	3	0	1	
69600	69700	5		OPB 1 C5	626	PREL DESGN WATAN POWER DEVEL	FIN	14DEC81	15JAN82	4JAN82	5FEB82	3	2	1	
66600	66700	15		OPB 1 C6	627	PREL DES DEVL CAN POWR DEVEL	ST	24AUG81	4DEC81	21SEP81	1JAN82	4	0	1	
66700	66800	5		OPB 1 C6	627	PREL DES DEVL CAN POWR DEVEL	FIN	7DEC81	8JAN82	4JAN82	5FEB82	4	3	1	
67600	67700	5		OPB 1 C4	628	POWER DEVELOPMNT REPRT-DRAFT	ST	24AUG81	25SEP81	28DEC81	29JAN82	18	18	1	
67700	67800	1		OPB 1 C4	628	POWER DEVELOPMNT REPRT-DRAFT	CT-1	1FEB82	5FEB82	1FEB82	5FEB82	0	0	1	CRITICAL
67800	67900	1		OPB 1 C4	628	POWER DEVELOPMNT REPRT-DRAFT	CT-2	8FEB82	12FEB82	8FEB82	12FEB82	0	0	1	CRITICAL
67900	68000	4		OPB 1 C4	628	POWER DEVELOPMNT REPRT-DRAFT	FIN	15FEB82	12MAR82	15FEB82	12MAR82	0	0	1	CRITICAL
60300	60400	6		OPB 1 C5	629	WATANA GENERAL ARRANGEMENT	ST	14DEC81	22JAN82	28DEC81	5FEB82	2	1	1	
60400	60500	5		OPB 1 C5	629	WATANA GENERAL ARRANGEMENT	FIN	1FEB82	5MAR82	8FEB82	12MAR82	1	0	1	
60500	605A0	0		OPB 1 C5	629XX	EXHIBIT J MATERIAL COMPLETE		8MAR82	5MAR82	19APR82	16APR82	6	6	1	
60800	60900	6		OPB 1 C6	630	DEVL CAN GENERAL ARRANGEMENT	ST	31AUG81	90CT81	28DEC81	5FEB82	17	16	1	
60900	61000	5		OPB 1 C6	630	DEVL CAN GENERAL ARRANGEMENT	FIN	1FEB82	5MAR82	8FEB82	12MAR82	1	0	1	
61000	610A0	0		OPB 1 C5	630XX	EXHIBIT K MATERIAL COMPLETE		8MAR82	5MAR82	15MAR82	12MAR82	1	1	1	
68000	680A0	0		OPB 1 C4	630XX	EXHIBIT M MATERIAL COMPLETE		15MAR82	12MAR82	19APR82	16APR82	5	5	1	
68400	68500	1		OPB 1 C4	631	PROJECT FEASIBL REPORT-DRAFT	ST	21SEP81	25SEP81	1FEB82	5FEB82	19	19	1	
68500	68600	4		OPB 1 C4	631	PROJECT FEASIBL REPORT-DRAFT	CT-1	8FEB82	5MAR82	8FEB82	5MAR82	0	0	1	CRITICAL
68600	68700	1		OPB 1 C4	631	PROJECT FEASIBL REPORT-DRAFT	CT-2	8MAR82	12MAR82	8MAR82	12MAR82	0	0	1	CRITICAL
68700	68800	1		OPB 1 C4	631	PROJECT FEASIBL REPORT-DRAFT	CT-3	15MAR82	19MAR82	15MAR82	19MAR82	0	0	1	CRITICAL
68800	68900	4		OPB 1 C4	631	PROJECT FEASIBL REPORT-DRAFT	CT-4	22MAR82	16APR82	22MAR82	16APR82	0	0	1	CRITICAL
68900	69000	0		OPB 1 C4	631	PROJECT FEASIBL REPORT-DRAFT	FIN	19APR82	16APR82	19APR82	16APR82	0	0	1	CRITICAL
69000	690A0	0		OPB 1 C4	631XX	EXHIBIT L MATERIAL COMPLETE		19APR82	16APR82	19APR82	16APR82	0	0	1	CRITICAL

REP01

CPM ANALYSIS LISTING

I-NODE	J-NODE	DUR	SELECT CODES	------DESCRIPTION----------	E.S.	E.F.	L.S.	L.F.	T.F.	F.F.	CL	
6C600	6C700	1	R OPB 1 C8	6342 ENVIRONMENT ASSESSMENT-FINAL	2FEB81	6FEB81	23FEB81	27FEB81	3	3	1	
6C800	6C900	1	R OPB 1 C2	635 LOAD MANAGE & CONSERVE	2FEB81	6FEB81	23FEB81	27FEB81	3	3	1	
6D400	6D500	1	R OPB 1 C2	6362 GENERAT PLAN ANALY & REPORT CT-2	2FEB81	6FEB81	2FEB81	6FEB81	0	0	1	CRITICAL
6D500	6D600	3	OPB 1 C2	6362 GENERAT PLAN ANALY & REPORT FIN	9FEB81	27FEB81	9FEB81	27FEB81	0	0	1	CRITICAL
6C100	6C200	5	R OPB 1 C2	637 UPDATE GENERATION PLAN	2FEB81	6MAR81	29MAR82	30APR82	60	58	1	
6B800	6B900	72	R OPB 1 C2	636 LIAISON POWER ALTS CONSULTANT	2FEB81	18JUN82	9FEB81	25JUN82	1	1	1	
71400	71600	0	OPB 1 C8	7011 STUDY COORD-ALTERNATIVE SITE FIN	9FEB81	6FEB81	9FEB81	6FEB81	0	0	1	CRITICAL
71600	71800	18	OPB 1 C8	7012 STUDY COORD-PRELIM ALTERNATV ST	9FEB81	12JUN81	9FEB81	12JUN81	0	0	1	CRITICAL
71800	72000	0	OPB 1 C8	7012 STUDY COORD-PRELIM ALTERNATV FIN	15JUN81	12JUN81	15JUN81	12JUN81	0	0	1	CRITICAL
72000	72200	31	OPB 1 C8	7013 STUDY COORD-OPTIMIZED DESIGN	15JUN81	15JAN82	29JUN81	29JAN82	2	2	1	
79300	79400	64	R OPB 1 C8	702 MONITOR FIELD ACTIVITIES CT-1	2FEB81	23APR82	6APR81	25JUN82	9	0	1	
79400	79500	0	OPB 1 C8	702 MONITOR FIELD ACTIVITIES FIN	26APR82	23APR82	28JUN82	25JUN82	9	9	1	
71000	71100	1	R OPB 1 C8	7041 WATER RESOURCE ALT SITES	2FEB81	6FEB81	2FEB81	6FEB81	0	0	1	CRITICAL
71600	70000	17	OPB 1 C8	7042 WTR RES-PRE WAT&DEVL CAN ALT	9FEB81	5JUN81	16FEB81	12JUN81	1	1	1	
72000	70600	33	OPB 1 C8	7043 WTR RES-OPT WAT&DEVL CAN DES	15JUN81	29JAN82	15JUN81	29JAN82	0	0	1	CRITICAL
73000	73200	56	R OPB 1 C8	705 SOCIOECONOMIC ANALYSIS ST	2FEB81	26FEB82	9FEB81	5MAR82	1	1	1	
73200	73400	0	OPB 1 C8	705 SOCIOECONOMIC ANALYSIS FIN	8MAR82	5MAR82	8MAR82	5MAR82	0	0	1	CRITICAL
78600	78700	31	R OPB 1 C8	7061 CULTURAL-ALTERNATIVE SITES ST	2FEB81	4SEP81	16FEB81	18SEP81	2	0	1	
78700	79000	0	OPB 1 C8	7061 CULTURAL-ALTERNATIVE SITES FIN	7SEP81	4SEP81	21SEP81	18SEP81	2	0	1	
78900	79000	8	OPB 1 C8	7062 CULTURAL PRELIM ALTERNATIVES ST	2FEB81	27MAR81	27JUL81	18SEP81	25	23	1	
79000	79100	10	OPB 1 C8	7062 CULTURAL PRELIM ALTERNATIVES CT-1	7SEP81	13NOV81	21SEP81	27NOV81	2	0	1	
79100	79700	0	OPB 1 C8	7062 CULTURAL PRELIM ALTERNATIVES FIN	16NOV81	13NOV81	30NOV81	27NOV81	2	0	1	
79600	79700	15	OPB 1 C8	7063 CULTURAL-OPTIMIZED DESIGN ST	2FEB81	15MAY81	17AUG81	27NOV81	28	26	1	
79700	79800	20	OPB 1 C8	7063 CULTURAL-OPTIMIZED DESIGN CT-1	16NOV81	2APR82	30NOV81	16APR82	2	0	1	
79800	79900	0	OPB 1 C8	7063 CULTURAL-OPTIMIZED DESIGN FIN	5APR82	2APR82	19APR82	16APR82	2	0	1	
79900	799A0	0	OPB 1 C8	706XX EXHIBIT V MATERIAL COMPLETE	5APR82	2APR82	19APR82	16APR82	2	2	1	
75200	75300	31	R OPB 1 C8	7071 LAND USE ALTERNATIVE SITES ST	2FEB81	4SEP81	27APR81	27NOV81	12	0	1	
75300	76000	0	OPB 1 C8	7071 LAND USE ALTERNATIVE SITES FIN	7SEP81	4SEP81	30NOV81	27NOV81	12	0	1	
75900	76000	8	OPB 1 C8	7072 LAND USE PRELIM ALTERNATIVES ST	2FEB81	27MAR81	5OCT81	27NOV81	35	23	1	
76000	76100	10	OPB 1 C8	7072 LAND USE PRELIM ALTERNATIVES CT-1	7SEP81	13NOV81	30NOV81	5FEB82	12	0	1	
76100	76800	0	OPB 1 C8	7072 LAND USE PRELIM ALTERNATIVES FIN	16NOV81	13NOV81	8FEB82	5FEB82	12	0	1	
76700	76800	15	OPB 1 C8	7073 LAND USE OPTIMIZED DESIGN ST	2FEB81	15MAY81	26OCT81	5FEB82	38	26	1	
76800	76900	20	OPB 1 C8	7073 LAND USE OPTIMIZED DESIGN CT-1	16NOV81	2APR82	8FEB82	25JUN82	12	0	1	
76900	77000	0	OPB 1 C8	7073 LAND USE OPTIMIZED DESIGN FIN	5APR82	2APR82	28JUN82	25JUN82	12	12	1	
72400	72600	14	R OPB 1 C8	708 RECREATION PLANNING ST	2FEB81	8MAY81	26OCT81	29JAN82	38	38	1	
72600	72800	5	OPB 1 C8	708 RECREATION PLANNING FIN	1FEB82	5MAR82	1FEB82	5MAR82	0	0	1	CRITICAL
71200	73500	3	R OPB 1 C8	7091 TRANS LINE ASSESS SCREENING	2FEB81	20FEB81	23FEB81	13MAR81	3	0	1	
73500	73600	12	OPB 1 C8	7092 TRANS LINE ASSESS RTE SELECTN	23FEB81	15MAY81	13JUL81	20CT81	20	17	1	
736A0	73700	12	R OPB 1 C8	7101 FISH ECOLOGY ALTERNATV SITES ST	2FEB81	24APR81	22JUN81	11SEP81	20	0	1	
73700	73800	11	R OPB 1 C8	7101 FISH ECOLOGY ALTERNATV SITES CT-1	27APR81	10JUL81	14SEP81	27NOV81	20	0	1	
73800	74200	0	OPB 1 C8	7101 FISH ECOLOGY ALTERNATV SITES FIN	13JUL81	10JUL81	30NOV81	27NOV81	20	0	1	
74100	74200	8	OPB 1 C8	7102 FISH ECOLOGY PRELIM ALTERNAT ST	2FEB81	27MAR81	5OCT81	27NOV81	35	15	1	
74200	74300	10	OPB 1 C8	7102 FISH ECOLOGY PRELIM ALTS CT-1	13JUL81	18SEP81	30NOV81	5FEB82	20	0	1	
74300	74600	0	OPB 1 C8	7102 FISH ECOLOGY PRELIM ALTERNAT FIN	21SEP81	18SEP81	8FEB82	5FEB82	20	19	1	
74500	74600	15	OPB 1 C8	7103 FISH ECOLOGY OPTIMIZED DESGN ST	2FEB81	15MAY81	26OCT81	5FEB82	38	37	1	
74600	74700	20	OPB 1 C8	7103 FISH ECOLOGY OPTIMIZED DESGN CT-1	1FEB82	16JUN82	8FEB82	25JUN82	1	0	1	
74700	74800	0	OPB 1 C8	7103 FISH ECOLOGY OPTIMIZED DESGN FIN	21JUN82	18JUN82	28JUN82	25JUN82	1	1	1	
74900	75000	31	R OPB 1 C8	7111 WILDLIFE ECOLOGY ALTER SITES ST	2FEB81	4SEP81	27APR81	27NOV81	12	0	1	
75000	75100	0	OPB 1 C8	7111 WILDLIFE ECOLOGY ALTER SITES FIN	7SEP81	4SEP81	30NOV81	27NOV81	12	0	1	
75500	75600	8	OPB 1 C8	7112 WILDLIFE ECOLOGY PRELM ALTER ST	2FEB81	27MAR81	5OCT81	27NOV81	35	23	1	
75600	75700	10	OPB 1 C8	7112 WILDLIFE ECOLOGY PRELM ALTER CT-1	7SEP81	13NOV81	30NOV81	5FEB82	12	0	1	

I-NODE	J-NODE	DUR		SELECT CODES		DESCRIPTION		E.S.	E.F.	L.S.	L.F.	T.F.	F.F.	CL	
75700	76400	0		OPB 1 C8	7112	WILDLIFE ECOLOGY PRELM ALTER	FIN	16NOV81	13NOV81	8FEB82	5FEB82	12	0	1	
76300	76400	15		OPB 1 C8	7113	WILDLIFE ECOLOGY OPTIM DESGN	ST	2FEB81	15MAY81	26OCT81	5FEB82	38	26	1	
76400	76500	20		OPB 1 C8	7113	WILDLIFE ECOLOGY OPTIM DESGN	CT-1	16NOV81	2APR82	8FEB82	25JUN82	12	0	1	
76500	76600	0		OPB 1 C8	7113	WILDLIFE ECOLOGY OPTIM DESGN	FIN	5APR82	2APR82	28JUN82	25JUN82	12	12	1	
77100	77200	31	R	OPB 1 C8	7121	PLANT ECOLOGY ALTERNTV SITES	ST	2FEB81	4SEP81	27APR81	27NOV81	12	0	1	
77200	77500	0		OPB 1 C8	7121	PLANT ECOLOGY ALTERNTV SITES	FIN	7SEP81	4SEP81	30NOV81	27NOV81	12	0	1	
77400	77500	8		OPB 1 C8	7122	PLANT ECOLOGY PRELM ALTERNAT	ST	2FEB81	27MAR81	5OCT81	27NOV81	35	23	1	
77500	77600	10	,	OPB 1 C8	7122	PLANT ECOLOGY PRELM ALTERNAT	CT-1	7SEP81	13NOV81	30NOV81	5FEB82	12	0	1	
77600	77900	0		OPB 1 C8	7122	PLANT ECOLOGY PRELM ALTERNAT	FIN	16NOV81	13NOV81	8FEB82	5FEB82	12	0	1	
77800	77900	15		OPB 1 C8	7123	PLANT ECOLOGY OPTIMIZD DESGN	ST	2FEB81	15MAY81	26OCT81	5FEB82	38	26	1	
77900	78000	20		OPB 1 C8	7123	PLANT ECOLOGY OPTIMIZD DESGN	CT-1	16NOV81	2APR82	8FEB82	25JUN82	12	0	1	
78000	78100	0		OPB 1 C8	7123	PLANT ECOLOGY OPTIMIZD DESGN	FIN	5APR82	2APR82	28JUN82	25JUN82	12	12	1	
71000	74000	15	R	OPB 1 C8	714	ACCESS RD ENVIRONMENT ANALYS		2FEB81	15MAY81	15JUN81	25SEP81	19	0	1	
78200	78300	9		OPB 1 C8	715	PREP FOR FERC EXHIBIT-DRAFT	ST	2FEB81	3APR81	4JAN82	5MAR82	48	48	1	
78300	78400	6		OPB 1 C8	715	PREP FOR FERC EXHIBIT-DRAFT	CT-1	8MAR82	16APR82	8MAR82	16APR82	0	0	1	CRITICAL
78400	78500	0		OPB 1 C8	715	PREP FOR FERC EXHIBIT-DRAFT	FIN	19APR82	16APR82	19APR82	16APR82	0	0	1	CRITICAL
78500	785A0	0		OPB 1 C8	715XX	EXHIBIT W MATERIAL COMPLETE		19APR82	16APR82	19APR82	16APR82	0	0	1	CRITICAL
78500	785B0	0		OPB 1 C8	715XX	EXHIBIT S MATERIAL COMPLETE		19APR82	16APR82	17MAY82	14MAY82	4	4	1	
80400	80500	2		OPB 1 C3	801	SELECT INITIAL CORRIDORS	FIN	23FEB81	6MAR81	10AUG81	21AUG81	24	21	1	
81600	81800	2	R	OPB 1 C3	8021	LOAD FLOW ANALYSIS	ST	2FEB81	13FEB81	13APR81	24APR81	10	0	1	
81800	82800	6		OPB 1 C3	8021	LOAD FLOW ANALYSIS	FIN	16FEB81	27MAR81	27APR81	5JUN81	10	10	1	
82400	82600	10		OPB 1 C3	80221	PRELIMINARY ELEC SYSTEM	ST	2FEB81	10APR81	2FEB81	10APR81	0	0	1	CRITICAL
82600	82800	8		OPB 1 C3	80221	PRELIMINARY ELEC SYSTEM	CT-1	13APR81	5JUN81	13APR81	5JUN81	0	0	1	CRITICAL
82800	83000	0		OPB 1 C3	80221	PRELIMINARY ELEC SYSTEM	FIN	8JUN81	5JUN81	8JUN81	5JUN81	0	0	1	CRITICAL
85700	85800	39		OPB 1 C3	80222	RECOMMEND ELEC SYS		8JUN81	5MAR82	8JUN81	5MAR82	0	0	1	CRITICAL
80600	80800	23	R	OPB 1 C3	803	FINAL ROUTE SELECTION 1981	ST	23FEB81	31JUL81	16MAR81	21AUG81	3	0	1	
80800	81000	6		OPB 1 C3	803	FINAL ROUTE SELECTION 1981	CT-1	3AUG81	11SEP81	24AUG81	20CT81	3	0	1	
81000	81200	6		OPB 1 C3	803	FINAL ROUTE SELECTION 1981	CT-2	14SEP81	23OCT81	5OCT81	13NOV81	3	0	1	
81200	81400	0		OPB 1 C3	803	FINAL ROUTE SELECTION 1981	FIN	26OCT81	23OCT81	16NOV81	13NOV81	3	0	1	
83200	83400	7	R	OPB 1 C3	804	TOWER HARDWRE&CONDUCTR STUDY	ST	2FEB81	20MAR81	14SEP81	30OCT81	32	11	1	
83400	83600	2		OPB 1 C3	804	TOWER HARDWRE&CONDUCTR STUDY	CT-1	8JUN81	19JUN81	2NOV81	13NOV81	21	18	1	
83600	85400	10		OPB 1 C3	804	TOWER HARDWRE&CONDUCTR STUDY	FIN	26OCT81	1JAN82	16NOV81	22JAN82	3	0	1	
84600	84800	8		OPB 1 C3	805	SUBSTATIONS	ST	2FEB81	27MAR81	5OCT81	27NOV81	35	10	1	
84800	85400	8		OPB 1 C3	805	SUBSTATIONS	FIN	8JUN81	31JUL81	30NOV81	22JAN82	25	22	1	
84000	84200	8		OPB 1 C3	806	DISPATCH CTR & COMMUNICATNS	ST	2FEB81	27MAR81	5OCT81	27NOV81	35	10	1	
84200	85400	8		OPB 1 C3	806	DISPATCH CTR & COMMUNICATNS	FIN	8JUN81	31JUL81	30NOV81	22JAN82	25	22	1	
85200	85400	1	R	OPB 1 C3	807	TRANS LINE COST ESTIMATES	ST	2FEB81	6FEB81	18JAN82	22JAN82	50	47	1	
85400	85600	6		OPB 1 C3	807	TRANS LINE COST ESTIMATES	FIN	4JAN82	12FEB82	25JAN82	5MAR82	3	3	1	
90200	90400	2		OPB 1 C7	901	ASSEMBLE COST-SCHEDULE DATA	ST	30MAR81	10APR81	24AUG81	4SEP81	21	0	1	
90400	90600	4		OPB 1 C7	901	ASSEMBLE COST-SCHEDULE DATA	FIN	13APR81	8MAY81	21SEP81	16OCT81	23	2	1	
90800	91000	6		OPB 1 C7	902	PREP PRELIM CST ESTIMATES		13APR81	22MAY81	7SEP81	16OCT81	21	0	1	
91200	91400	17		OPB 1 C7	903	COST ESTIMATE UPDATES		25MAY81	18SEP81	19OCT81	12FEB82	21	0	1	
91400	914A0	0		OPB 1 C7	903XX	EXHIBIT N MATERIAL COMPLETE		21SEP81	18SEP81	19APR82	16APR82	30	30	1	
91600	91800	6		OPB 1 C7	9041	ENGR COST & SCHEDULE PRELIM		13APR81	22MAY81	7SEP81	16OCT81	21	0	1	
92000	92200	17		OPB 1 C7	9042	ENGR COST & SCHEDULE FINAL		25MAY81	18SEP81	19OCT81	12FEB82	21	0	1	
92200	922A0	0		OPB 1 C7	904XX	EXHIBIT O MATERIAL COMPLETE		21SEP81	18SEP81	19APR82	16APR82	30	30	1	
92400	92600	12		OPB 1 C7	905	CONTINGENCY ANALYSIS		25MAY81	14AUG81	9NOV81	29JAN82	24	21	1	
A1200	A1600	9		FLC C110	1001	IMPACT OF NEW FERC REGULATIONS		2FEB81	3APR81	30NOV81	29JAN82	43	42	1	
A3200	A2600	4		FLC C110	10022	1ST UPDATE-REGULATORY REQ		2MAR81	27MAR81	22MAR82	16APR82	55	55	1	
A3300	A2600	4		FLC C110	10023	2ND UPDATE-REGULATORY REQ		30NOV81	25DEC81	22MAR82	16APR82	16	16	1	
A3600	A3800	5		FLC C110	1003	DATA FROM OTHERS		2FEB81	6MAR81	12APR82	14MAY82	62	0	1	

I-NODE	J-NODE	DUR		SELECT CODES			DESCRIPTION		E.S.	E.F.	L.S.	L.F.	T.F.	F.F.	CL	
A3800	A4000	0		FLC	C110	1003XX	EXHIBIT A B & C MATERIAL COMPLETE		9MAR81	6MAR81	17MAY82	14MAY82	62	62	1	
A1400	A1600	9	R	FLC	C110	1004	COORD EXHIBIT PREPARATION	ST	23NOV81	22JAN82	30NOV81	29JAN82	1	0	1	
A1600	A16A0	1		FLC	C110	1004	COORD EXHIBIT PREPARATION	CT-1	25JAN82	29JAN82	1FEB82	5FEB82	1	0	1	
A16A0	A1700	2		FLC	C110	1004	COORD EXHIBIT PREPARATION	CT-2	1FEB82	12FEB82	8FEB82	19FEB82	1	0	1	
A1700	A17A0	3		FLC	C110	1004	COORD EXHIBIT PREPARATION	CT-3	15FEB82	5MAR82	22FEB82	12MAR82	1	1	1	
A17A0	A17B0	2		FLC	C110	1004	COORD EXHIBIT PREPARATION	CT-4	15MAR82	26MAR82	15MAR82	26MAR82	0	0	1	CRITICAL
A17B0	A1800	3		FLC	C110	1004	COORD EXHIBIT PREPARATION	CT-5	29MAR82	16APR82	29MAR82	16APR82	0	0	1	CRITICAL
A1800	A2400	0		FLC	C110	1004	COORD EXHIBIT PREPARATION	FIN	19APR82	16APR82	19APR82	16APR82	0	0	1	CRITICAL
A0400	A0600	10		FLC	C110	10051	PREPARE EXHIBIT E		30NOV81	5FEB82	4JAN82	12MAR82	5	5	1	
A0700	A0900	10		FLC	C110	10052	PREPARE EXHIBIT D		30NOV81	5FEB82	8MAR82	14MAY82	14	14	1	
A0800	A1000	10		FLC	C110	1006	PREPARE EXHIBIT R	ST	30NOV81	5FEB82	8FEB82	16APR82	10	10	1	
A0000	A0200	6		FLC	C110	1007	PREPARE EXHIBIT T	ST	14SEP81	23OCT81	21SEP81	30OCT81	1	0	1	
A0200	A1100	4		FLC	C110	1007	PREPARE EXHIBIT T	FIN	26OCT81	20NOV81	2NOV81	27NOV81	1	0	1	
A2200	A2400	6		FLC	C110	1008	PREP APPLICATN FORM-DRAFT	ST	30NOV81	8JAN82	8MAR82	16APR82	14	14	1	
A2400	A2600	0		FLC	C110	1008	PREP APPLICATN FORM-DRAFT	FIN	19APR82	16APR82	19APR82	16APR82	0	0	1	CRITICAL
A2600	A2800	2		FLC	C110	1009	REVIEW AND CORRECT		19APR82	30APR82	19APR82	30APR82	0	0	1	CRITICAL
A2800	A3000	2		FLC	C110	1010	EXTERNAL REVIEW		3MAY82	14MAY82	3MAY82	14MAY82	0	0	1	CRITICAL
A3000	A3400	6		FLC	C110	10XXX	PRINT LICENSE APPLICATION		17MAY82	25JUN82	17MAY82	25JUN82	0	0	1	CRITICAL
B0000	B0200	71	R	FLC	C210	1101	PROJECT OVERVIEW		2FEB81	11JUN82	16FEB81	25JUN82	2	2	1	
B0400	B0600	63	R	FLC	C210	1102	INTERNAL REPORTS		2FEB81	16APR82	2FEB81	16APR82	0	0	1	CRITICAL
B0600	B06A0	0		FLC	C210	1102XX	EXHIBIT U MATERIAL COMPLETE		19APR82	16APR82	19APR82	16APR82	0	0	1	CRITICAL
B1200	B1400	49	R	FLC	C210	1103	SUSITNA BASE PLAN RISK ANALY	ST	2FEB81	8JAN82	23FEB81	29JAN82	3	0	1	
B1400	B1600	0		FLC	C210	1103	SUSITNA BASE PLAN RISK ANALY	FIN	11JAN82	8JAN82	1FEB82	29JAN82	3	0	1	
B1600	B1800	21		FLC	C210	1104	SUSITNA BASE PLAN EXTEN/REVIS		11JAN82	4JUN82	1FEB82	25JUN82	3	3	1	
B2000	B2200	30		FLC	C210	1105	SUSITNA FINANCE RISK ANALYSIS		6JUL81	29JAN82	30NOV81	25JUN82	21	21	1	
B2400	B2600	24		FLC	C210	1106	RESOLUTION TAX ISSUE		2FEB81	17JUL81	11JAN82	25JUN82	49	49	1	
B2800	B3000	30		FLC	C210	1107	IDENTIFY PARTIES INTEREST		6JUL81	29JAN82	30NOV81	25JUN82	21	21	1	
B3200	B3400	30		FLC	C210	1108	REVENUE ASSURANCE		6JUL81	29JAN82	21SEP81	16APR82	11	0	1	
B3600	B3800	61	R	FLC	C210	1109	LIAISON APA BOND UNDERWRITER		2FEB81	2APR82	16FEB81	16APR82	2	2	1	
B3400	B34A0	0		FLC	C210	1109XX	EXHIBIT G MATERIAL COMPLETE		1FEB82	29JAN82	19APR82	16APR82	11	11	1	
C0600	C0800	4		OPB	1 C810	12022	CONDUCT PUBLIC MEETING #2		30MAR81	24APR81	30NOV81	25DEC81	35	0	1	
C1200	C1400	4		OPB	1 C810	12023	CONDUCT PUBLIC MEETING #3		20JUL81	14AUG81	22MAR82	16APR82	35	35	1	
C0200	C0400	3	R	OPB	1 C810	12031	CONDUCT WORKSHOPS 1,2,3		2FEB81	20FEB81	9NOV81	27NOV81	40	5	1	
C0800	C1000	12		OPB	1 C810	12032	CONDUCT WORKSHOPS 4,5,6		27APR81	17JUL81	28DEC81	19MAR82	35	0	1	
C1600	D1200	72	R	OPB	1 C810	1204	PREP PUBLISH DISTRIB MATERIAL		2FEB81	18JUN82	9FEB81	25JUN82	1	1	1	
C1800	D1200	72	R	OPB	1 C810	1205	PREP MAINTAIN ACTION LIST		2FEB81	18JUN82	9FEB81	25JUN82	1	1	1	
D1000	D1200	27	R	PSB	2 C310	13013	PROJECT PROCED MANUAL-UPDATE		2FEB81	7AUG81	21DEC81	25JUN82	46	46	1	
D2200	D2400	72	R	PSB	2 C310	13042	SCHEDULE CONTROL SYS UPDATE		2FEB81	18JUN82	9FEB81	25JUN82	1	1	1	
D2800	D3000	72	R	PSB	2 C310	13052	COST CONTROL SYSTEM-OP		2FEB81	18JUN82	9FEB81	25JUN82	1	1	1	
D3400	D3600	72	R	PSB	2 C310	13062	MANPOWER LOADING SCHED-UPDATE		2FEB81	18JUN82	9FEB81	25JUN82	1	1	1	
D3800	D4000	72	R	PSB	2 C310	1310	SUB CONTRACT ADMINISTRATION		2FEB81	18JUN82	9FEB81	25JUN82	1	1	1	
D1200	D1300	0			10	XXX	PROJECT COMPLETE XXX		28JUN82	25JUN82	28JUN82	25JUN82	0	20	1	CRITICAL

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                    ACRES AMERICAN SUSITNA HYDRO-ELECTRIC PROJECT                                     PAGE      1
                                                  C P M   SCHEDULE                              TIME NOW  2FEB81
   REMAINING WORK:                                ----------------
 FROM FEBRUARY 2, 1981                          81                                              82
                                          FEB MAR   APR MAY JUN  JUL AUG   SEP OCT NOV   DEC JAN FEB MAR   APR MAY   JUN JUL AUG   SEP OCT
                                          00120012301220112001220122011230122011200123012201120012001220112O.123012201120012301220112
                                          2963296306307418518529630730741741852962963074184185185218529529630741741852962963063074185
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2022   FIELD CAMP OPERATIONS              XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXL
203    RESUPPLY & EMERGENCY SERVICE       XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXL
204XX  EXHIBIT F MATERIAL COMPLETE        .                                          L
205    LAND AQUISITION ANALYSIS           .  XXXXX                                                           L
206    RIGHT OF ENTRY                 FIN XXXXXXXXXXXXXXXXXXXXX                                              L
207    SITE SPECIFIC SURVEYS          CT-1XXXXL
207    SITE SPECIFIC SURVEY           FIN .   XXXXXXX          L
2081   AIR PHOTOS & MAPPING-1980      FIN XXX    L
2082   AIR PHOTOS & MAPPING-1981          XXXXXXXXXX                            L
210    ACCESS ROAD                    ST  XXXXX                 L
210    ACCESS ROAD                    CT-1.    XX                         L
210    ACCESS ROAD                    FIN .              XXXXXXXXXX                 L
212    FIELD RECON FOR RSRVR CLEAR    ST  XXX      L
212    FIELD RECON FOR RSRVR CLEAR    FIN .  XXXXXX     L
213    MRKTBILITY AND DISPOSAL STDY       XXXXX                                            L
214    CST ESTMTS RSVR CLEARING       ST  XX                                               L
214    CST ESTMTS RSVR CLEARING       FIN .        XXX                                        L
215    SLOPE EROSION & STBLTY STUDY   ST  XXXX          L
215    SLOPE EROSION & STBLTY STUDY   FIN .        XXXX     L
216    HYDROGRAPHIC SURVEYS           FIN XXX L
3022   FIELD DATA INDEX OPERATION         XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX     L
3032   FIELD DATA COLLECTION 80-81    FIN CCCCCL
3033   FIELD DATA COLLECTION 81-82    ST  .     XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXL
3033   FIELD DATA COLLECTION 81-82    FIN .                                    XXXXXXXXXXXXXXXXXXXXXXL
3041   WATER RSRCS-FLOW EXTENSION     FIN XX                                       L
3042   WATER RSRCS-FREQ ANALYSIS          XXXX                                     L
3043   WATER RSRCS-RESERVOIR STUDY    CT-1XXXXXXXXXXL
3043   WATER RSRCS-RESERVOIR STUDY    CT-2.         XXXXXXL
3043   WATER RSRCS-RESERVOIR STUDY    CT-3.               XXXXXXXXXXXXXXXXXXXXXXXXL
3043   WATER RSRCS-RESERVOIR STUDY    FIN .                                        XXXXXXXXL
3044   WATER RSRCS-PRE&POST PROJECT   ST  .                                        XXXX    L
3044   WATER RSRCS-PRE&POST PROJECT   FIN .                                                XXXXL
3045   EVAPORATION STUDIES                XXXXXXXX             L
3046   WATER RSRCS-GLACIAL STUDIES        CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCL
304XX  EXHIBIT H MATERIAL COMPLETE        .                                                            L
304XX  EXHIBIT I MATERIAL COMPLETE        .                                                            L
3051   FLOODS-FREQUENCY ANALYSIS          XX         L
3052   FLOODS PMF REVIEW                  XX         L
3053   FLOODS-RESERVOIR ROUTING       CT-1.XXXXXX                                   L
3053   FLOODS-RESERVOIR ROUTING       FIN .                               XXXXX                L
3061   HYDRLS&ICE-CHANNEL WTR LVLS    CT-1CCCCL
3061   HYDRLS&ICE-CHANNEL WTR LVLS    FIN .    CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCL
3062   HYDR&ICE RSRVR FREEBRD             .XXXXXX    L
3063   HYDR&ICE-RESER SLIDE SURGE     ST  XXXL
3063   HYDR&ICE-RESER SLIDE SURGE     FIN .  XXXXXXXXL
3064   HYDR&ICE-RSVR TEMP REGIME          .XXXXXXXX  L
3071   SEDIMENT YIELD & DEPOSITION    ST  XXX                 L
3071   SEDIMENT YIELD & DEPOSITION    FIN .  XXXXXX                                      L
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                 ACRES AMERICAN SUSITNA HYDRO-ELECTRIC PROJECT                                                        PAGE     2
                                                     C P M   SCHEDULE                                             TIME NOW  2FEB81
ACSB190                                             ------------------

                                           81                                              82
          D E S C R I P T I O N         FEB MAR  APR MAY JUN  JUL AUG  SEP OCT NOV  DEC JAN FEB MAR  APR MAY  JUN JUL AUG  SEP OCT
                                        00120012301220112001220122011230122011200123012201120012001220112011230122011200123012201120112
                                        29632963063074185185296307307417418529629630741841851852185295296307417418529629630630741 85

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3072   RIVER MORPHOLOGY             ST  .     XXXXXXXXXXXX                              L
3072   RIVER MORPHOLOGY             CT-1.                 XXXX                              L
3072   RIVER MORPHOLOGY             FIN .                                                   XXXXL
3082   TRANSMSN LINE-DET PARAMTR    ST  XXXX L
3082   TRANSMSN LINE-DET PARAMTR    FIN .     CCCL
309    ACCESS ROADS HYDROLOGY           .    XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX                  L
3101   LWR SUSITNA STUDIES-PRELIM   FIN CCCCL
3102   LWR SUSITNA STUDIES-FOLLOWUP     .    CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCL
406    PRELIM EVAL & REPORT DRAFT   FIN XX                                   L
408    DAM STABILITY                CT-1XXXXXXXXXXXXXXXXXXX  L
408    DAM STABILITY                FIN .                  XXXXXX                                                L
409    LONG TERM MONITORING PROGRAM     .                      XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX                   L
410    RESERVOIR INDUCED SEISMICITY     XXXXX                                  L
411    SEISMIC GEOLOGY-FIELD STUDY      XXXXXXXXXXXXXXXXXXXXXXX L
412    EVALUATION & REPORT DRAFT    ST  CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCL
412    EVALUATION & REPORT DRAFT    CT-1.                                     CL
412    EVALUATION & REPORT DRAFT    FIN .                                       CCCL
413    GROUND MOTION STUDIES        ST  XXXXXXXXXXXXXXX         L
413    GROUND MOTION STUDIES        FIN .                      XXXXXXXXXXXXXXX L
414    DAM STABILITY CONSULTING         XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX       L
415    SOIL SUSCEPTITY-SEISMIC FAIL     XXXXXXXXXXXXXXXXXXXXXX                     L
502    AIR PHOTO INTERPRETATION     FIN XX          L
505    1981 PROGRAM DESIGN          FIN XX        L
506    1981 EXPLORATION PROGRAM     ST  XXXXXXXX  L
506    1981 EXPLORATION PROGRAM     FIN .       XXXXXXXXXXXXXXXXXXXX  L
507    1982-4 PROGRAM DESIGN            .                     XXXXXXXXX                           L
5081   DATA ASSEMBLY-1980-DRAFT     ST  XX          L
5081   DATA ASSEMBLY-1980-DRAFT     FIN . X            L
5082   DATA ASSEMBLY-1981-DRAFT     ST  XXX                          L
5082   DATA ASSEMBLY-1981-DRAFT     FIN .  XX                          L
5083   DATA ASSEMBLY FINAL-DRAFT        .                           XXXXXXX                            L
602    INVESTIGATE TUNNEL ALTERNATIVES  XXXX L
6052   SELECT REPORT FINAL DRAFT    ST  .   L
6052   SELECT REPORT FINAL DRAFT    CT-1.    L
6052   SELECT REPORT FINAL DRAFT    FIN .     CL
6053   SELECT REPORT FINAL EDITION      .       CCL
606    STAGED DEVELOPMENT ALTS      FIN X    L
607    PRELIM WATANA DAM ALTERNATES CT-2. XXXXXXXX ,        L
607    PRELIM WATANA DAM ALTERNATES CT-3.          X         L
607    PRELIM WATANA DAM ALTERNATES FIN .                    L
608    PRELIM DEVIL CANYON DAM ALT  CT-2.  XXXXXX            L
608    PRELIM DEVIL CANYON DAM ALT  FIN .                    L
609    ESTAB WATANA DESIGN CRITERIA CT-1.  XXXX                L
609    ESTAB WATANA DESIGN CRITERIA CT-2.                  XXXXXXX    L
609    ESTAB WATANA DESIGN CRITERIA FIN .                           X  L
610    ESTAB DEVIL CANYN DESGN CRIT CT-1.  XXXX                 L
610    ESTAB DEVIL CANYN DESGN CRIT CT-2.                  XXXXXXX     L
610    ESTAB DEVIL CANYN DESGN CRIT FIN .                           X   L
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ACRES AMERICAN SUSITNA HYDRO-ELECTRIC PROJECT

C P M SCHEDULE

ACSB190 TIME NOW 2FEB81

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                                           81                                                 82
        D E S C R I P T I O N            FEB MAR  APR MAY JUN  JUL AUG  SEP OCT NOV  DEC JAN FEB MAR  APR MAY  JUN JUL AUG  SEP OCT
                                         0012001230122011200122012201123012201120012301220112001200122011201123012201120012301220112
                                         2963296306307418518529630730741741852962963074184185185218529529630741741852962963063074185
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611     PRELIM DESIGN WATANA DAM     ST  .                  XXXXXXXXXXX  L
611     PRELIM DESIGN WATANA DAM     CT-1.                             XXXXXXXXXXX   L
611     PRELIM DESIGN WATANA DAM     FIN .                                            CCCL
612     PREL DESIGN DEVIL CANYON DAM ST  .                  XXXXXXXXXXX  L
612     PREL DESIGN DEVIL CANYON DAM CT-1.                             XXXXXXXXXXX   L
612     PREL DESIGN DEVIL CANYON DAM FIN .                                            CCCL
613     DAM SELECTION REPORT-DRAFT   ST  .                  XXXXXXXXXXX                  L
613     DAM SELECTION REPORT-DRAFT   FIN .                                                CCCCL
614     SPILLWAY DESIGN CRITERIA     ST  .XXX       L
614     SPILLWAY DESIGN CRITERIA     FIN .          XXXXXXXXL
615     WATANA SPILLWAY ALTERNATIVES FIN .                        XXXXXXXXXXL
615     WATANA SPILLWAY ALTERNATIVES ST  .                  XXXXXXL
616     DEVL CAN SPILLWAY ALTERNATVE ST  .                  XXX L
616     DEVL CAN SPILLWAY ALTERNATVE FIN .                     XXXXXXXX L
617     PRELIM DESGN WATANA SPILLWAY ST  XXXX                                L
617     PRELIM DESGN WATANA SPILLWAY CT-1.                                   XXXXL
617     PRELIM DESGN WATANA SPILLWAY FIN .                                       XXXXXXXXXXXXXL
618     PRELIM DES DEVIL CAN SPILWAY ST  .                             XXXXXX L
618     PRELIM DES DEVIL CAN SPILWAY FIN .                                    XXXXXXXXXXXXXXX L
619     SPILLWAY SELECTN REPRT-DRAFT ST  .                                  XXXXXX            L
619     SPILLWAY SELECTN REPRT-DRAFT FIN .                                                    XXXXXL
620     ACCESS & CAMP FACILITIES     ST  XXX                                         L
620     ACCESS & CAMP FACILITIES     FIN .                        XXXXXXXX                   L
621     WATANA DIVERSION SCHEMES     ST  XXXXXX                               L
621     WATANA DIVERSION SCHEMES     FIN .                                   XXXXXXXXXX L
622     DEVIL CANYON DIVERSN SCHEMES ST  XXXXXXXXXXX                                    L
622     DEVIL CANYON DIVERSN SCHEMES FIN .                                              L
623     OPT WATANA POWER DEVELOPMENT ST  .                  XXXXXX       L
623     OPT WATANA POWER DEVELOPMENT CT-1.                            XXXXXXXXXX   L
623     OPT WATANA POWER DEVELOPMENT FIN .                                      XXXXX   L
624     OPT DEVL CANYN POWER DEVELOP ST  .                            XXXXXX       L
624     OPT DEVL CANYN POWER DEVELOP FIN .                                 XXXXX        L
625     OPTIMIZE DAM HEIGHTS         ST  XXXXXX                                         L
625     OPTIMIZE DAM HEIGHTS         CT-1.                                           XXXXX   L
625     OPTIMIZE DAM HEIGHTS         FIN .                                                   L
626     PREL DESGN WATAN POWER DEVEL ST  .                            XXXXXXXXXXXXXXXX   L
626     PREL DESGN WATAN POWER DEVEL FIN .                                             XXXXX  L
627     PREL DES DEVL CAN POWR DEVEL ST  .                            XXXXXXXXXXXXXXX    L
627     PREL DES DEVL CAN POUR DEVEL FIN .                                            XXXXX   L
628     POWER DEVELOPMNT REPRT-DRAFT ST  .                            XXXXX                  L
628     POWER DEVELOPMNT REPRT-DRAFT CT-1.                                                    L
628     POWER DEVELOPMNT REPRT-DRAFT CT-2.                                                     L
628     POWER DEVELOPMNT REPRT-DRAFT FIN .                                                      CCCL
629     WATANA GENERAL ARRANGEMENT   ST  .                                             XXXXXX L
629     WATANA GENERAL ARRANGEMENT   FIN .                                                    XXXXXL
629XX   EXHIBIT J MATERIAL COMPLETE      .                                                              L
630     DEVL CAN GENERAL ARRANGEMENT ST  .                             XXXXXX                 L
630     DEVL CAN GENERAL ARRANGEMENT FIN .                                                    XXXXXL
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                                           81                                          82
        D E S C R I P T I O N             FEB MAR  APR MAY JUN  JUL AUG  SEP OCT NOV  DEC JAN FEB MAR  APR MAY  JUN JUL AUG  SEP OCT
                                          0012001230122011200122012201123012201120012301220112001200122011201123012201120012301220112
                                          2963296306307418518529630730741741852962963074184185185218529529630741741852962963063074185
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630XX  EXHIBIT K MATERIAL COMPLETE        .                                                                 L
630XX  EXHIBIT M MATERIAL COMPLETE        .                                                                     L
631    PROJECT FEASIBL REPORT-DRAFT ST    .                           X                                L
631    PROJECT FEASIBL REPORT-DRAFT CT-1.                                                               CCCL
631    PROJECT FEASIBL REPORT-DRAFT CT-2.                                                                   L
631    PROJECT FEASIBL REPORT-DRAFT CT-3.                                                                    L
631    PROJECT FEASIBL REPORT-DRAFT CT-4.                                                                     CCCL
631    PROJECT FEASIBL REPORT-DRAFT FIN .                                                                        L
631XX  EXHIBIT L MATERIAL COMPLETE        .                                                                      L
6342   ENVIRONMENT ASSESSMENT-FINAL       X  L
635    LOAD MANAGE & CONSERVE             X  L
6362   GENERAT PLAN ANALY & REPORT  CT-2L
6362   GENERAT PLAN ANALY & REPORT  FIN .CCL
637    UPDATE GENERATION PLAN             XXXXX                                                                   L
638    LIAISON POWER ALTS CONSULTANT      XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXL
7011   STUDY COORD-ALTERNATIVE SITE FIN L
7012   STUDY COORD-PRELIM ALTERNATV ST   .CCCCCCCCCCCCCCCCCCL
7012   STUDY COORD-PRELIM ALTERNATV FIN  .                  L
7013   STUDY COORD-OPTIMIZED DESIGN       .                   XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX L
702    MONITOR FIELD ACTIVITIES     CT-1XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
702    MONITOR FIELD ACTIVITIES     FIN  .                                                                         L
7041   WATER RESOURCE ALT SITES          L                                                                          L
7042   WTR RES-PRE WAT&DEVL CAN ALT      .XXXXXXXXXXXXXXXXXXL
7043   WTR RES-OPT WAT&DEVL CAN DES      .                   CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCL
705    SOCIOECONOMIC ANALYSIS       ST   XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXL
705    SOCIOECONOMIC ANALYSIS       FIN  .                                                           L
7061   CULTURAL-ALTERNATIVE SITES   ST   XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX L
7061   CULTURAL-ALTERNATIVE SITES   FIN  .                                 L
7062   CULTURAL PRELIM ALTERNATIVES ST   XXXXXXXX                          L
7062   CULTURAL PRELIM ALTERNATIVES CT-1.                                XXXXXXXXXX L
7062   CULTURAL PRELIM ALTERNATIVES FIN  .                                          L
7063   CULTURAL-OPTIMIZED DESIGN    ST   XXXXXXXXXXXXXXX                            L
7063   CULTURAL-OPTIMIZED DESIGN    CT-1.                                          XXXXXXXXXXXXXXXXXXXX L
7063   CULTURAL-OPTIMIZED DESIGN    FIN  .                                                              L
706XX  EXHIBIT V MATERIAL COMPLETE       .                                                              L
7071   LAND USE ALTERNATIVE SITES   ST   XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX          L
7071   LAND USE ALTERNATIVE SITES   FIN  .                                          L
7072   LAND USE PRELIM ALTERNATIVES ST   XXXXXXXX                                  L
7072   LAND USE PRELIM ALTERNATIVES CT-1.                                XXXXXXXXXX          L
7072   LAND USE PRELIM ALTERNATIVES FIN  .                                                   L
7073   LAND USE OPTIMIZED DESIGN    ST   XXXXXXXXXXXXXXX                                     L
7073   LAND USE OPTIMIZED DESIGN    CT-1.                                         XXXXXXXXXXXXXXXXXXXX          L
7073   LAND USE OPTIMIZED DESIGN    FIN  .                                                                      L
708    RECREATION PLANNING          ST   XXXXXXXXXXXXXX                                     L
708    RECREATION PLANNING          FIN  .                                                   CCCCL
7091   TRANS LINE ASSESS SCREENING       XXX  L
7092   TRANS LINE ASSESS RTE SELECTN     .  XXXXXXXXXXXX                    L
7101   FISH ECOLOGY ALTERNATV SITES ST   XXXXXXXXXXXX                    L
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ACRES AMERICAN SUSITNA HYDRO-ELECTRIC PROJECT

ACSB190 — C P M SCHEDULE — PAGE 5 — TIME NOW 2FEB81

	DESCRIPTION		81 FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC	82 JAN FEB MAR APR MAY JUN JUL AUG SEP OCT
7101	FISH ECOLOGY ALTERNATV SITES	CT-1.	XXXXXXXXXXX	L
7101	FISH ECOLOGY ALTERNATV SITES	FIN .		L
7102	FISH ECOLOGY PRELIM ALTERNAT	ST	XXXXXXXX	L
7102	FISH ECOLOGY PRELIM ALTS	CT-1.	XXXXXXXXXX	L
7102	FISH ECOLOGY PRELIM ALTERNAT	FIN .		L
7103	FISH ECOLOGY OPTIMIZED DESGN	ST	XXXXXXXXXXXXXXX	L
7103	FISH ECOLOGY OPTIMIZED DESGN	CT-1.		XXXXXXXXXXXXXXXXXXXXL
7103	FISH ECOLOGY OPTIMIZED DESGN	FIN .		L
7111	WILDLIFE ECOLOGY ALTER SITES	ST	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	L
7111	WILDLIFE ECOLOGY ALTER SITES	FIN .		L
7112	WILDLIFE ECOLOGY PRELM ALTER	ST	XXXXXXXX	L
7112	WILDLIFE ECOLOGY PRELM ALTER	CT-1.	XXXXXXXXXX	L
7112	WILDLIFE ECOLOGY PRELM ALTER	FIN .		L
7113	WILDLIFE ECOLOGY OPTIM DESGN	ST	XXXXXXXXXXXXXXX	L
7113	WILDLIFE ECOLOGY OPTIM DESGN	CT-1.		XXXXXXXXXXXXXXXXXXX L
7113	WILDLIFE ECOLOGY OPTIM DESGN	FIN .		L
7121	PLANT ECOLOGY ALTERNTV SITES	ST	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	L
7121	PLANT ECOLOGY ALTERNTV SITES	FIN .		L
7122	PLANT ECOLOGY PRELM ALTERNAT	ST	XXXXXXXX	L
7122	PLANT ECOLOGY PRELM ALTERNAT	CT-1.	XXXXXXXXXX	L
7122	PLANT ECOLOGY PRELM ALTERNAT	FIN .		L
7123	PLANT ECOLOGY OPTIMIZD DESGN	ST	XXXXXXXXXXXXXXX	L
7123	PLANT ECOLOGY OPTIMIZD DESGN	CT-1.		XXXXXXXXXXXXXXXXXXX L
7123	PLANT ECOLOGY OPTIMIZD DESGN	FIN .		L
714	ACCESS RD ENVIRONMENT ANALYS		XXXXXXXXXXXXXXX L	
715	PREP FOR FERC EXHIBIT-DRAFT	ST	XXXXXXXXX	L
715	PREP FOR FERC EXHIBIT-DRAFT	CT-1.		CCCCCL
715	PREP FOR FERC EXHIBIT-DRAFT	FIN .		L
715XX	EXHIBIT W MATERIAL COMPLETE			L
715XX	EXHIBIT S MATERIAL COMPLETE			L
801	SELECT INITIAL CORRIDORS	FIN .	XX L	
8021	LOAD FLOW ANALYSIS	ST	XX L	
8021	LOAD FLOW ANALYSIS	FIN .	XXXXXX L	
80221	PRELIMINARY ELEC SYSTEM	ST	CCCCCCCCCL	
80221	PRELIMINARY ELEC SYSTEM	CT-1.	CCCCCCCL	
80221	PRELIMINARY ELEC SYSTEM	FIN .	L	
80222	RECOMMEND ELEC SYS		CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCL	
803	FINAL ROUTE SELECTION 1981	ST	XXXXXXXXXXXXXXXXXXXXXX L	
803	FINAL ROUTE SELECTION 1981	CT-1.	XXXXXX L	
803	FINAL ROUTE SELECTION 1981	CT-2.	XXXXXX L	
803	FINAL ROUTE SELECTION 1981	FIN .	L	
804	TOWER HARDWRE&CONDUCTR STUDY	ST	XXXXXXX L	
804	TOWER HARDWRE&CONDUCTR STUDY	CT-1.	XX L	
804	TOWER HARDWRE&CONDUCTR STUDY	FIN .	XXXXXXXXXX L	
805	SUBSTATIONS	ST	XXXXXXXX L	
805	SUBSTATIONS	FIN .	XXXXXXXX L	
806	DISPATCH CTR & COMMUNICATNS	ST	XXXXXXXX L	
806	DISPATCH CTR & COMMUNICATNS	FIN .	XXXXXXXX L	

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             ACRES AMERICAN SUSITNA HYDRO-ELECTRIC PROJECT                                                   PAGE     6
ACSB190                                       C P M   SCHEDULE                                              TIME NOW  2FEB81
                                              ------------------
                                           81                                                 82
         D E S C R I P T I O N             FEB MAR  APR MAY JUN  JUL AUG  SEP OCT NOV  DEC JAN FEB MAR  APR MAY  JUN JUL AUG  SEP OCT
                                         001200123012201120012201220112301220112001230122011200120012201120112301220112001230122 0112
                                         296329630630741851852963073074174185296296307418418518521852952963074174185296296306 3074185
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807    TRANS LINE COST ESTIMATES     ST  X                                                  L
807    TRANS LINE COST ESTIMATES     FIN .                                                XXXXXX  L
901    ASSEMBLE COST-SCHEDULE DATA   ST  .       XX                     L
901    ASSEMBLE COST-SCHEDULE DATA   FIN .         XXXX                       L
902    PREP PRELIM CST ESTIMATES         .         XXXXXX                     L
903    COST ESTIMATE UPDATES             .               XXXXXXXXXXXXXXXXX                     L
903XX  EXHIBIT N MATERIAL COMPLETE       .                                                               L
9041   ENGR COST & SCHEDULE PRELIM       .         XXXXXX                     L
9042   ENGR COST & SCHEDULE FINAL        .               XXXXXXXXXXXXXXXXX                     L
904XX  EXHIBIT O MATERIAL COMPLETE       .                                                               L
905    CONTINGENCY ANALYSIS              .               XXXXXXXXXXXX                        L
1001   IMPACT OF NEW FERC REGULATIONS    XXXXXXXXX                                           L
10022  1ST UPDATE-REGULATORY REQ         .   XXXX                                                        L
10023  2ND UPDATE-REGULATORY REQ         .                                           XXXX                L
1003   DATA FROM OTHERS                  XXXXX                                                               L
1003XX EXHIBIT A B & C MATERIAL COMPLETE.                                                                    L
1004   COORD EXHIBIT PREPARATION     ST  .                                          XXXXXXXXXL
1004   COORD EXHIBIT PREPARATION     CT-1.                                                   XL
1004   COORD EXHIBIT PREPARATION     CT-2.                                                    XXL
1004   COORD EXHIBIT PREPARATION     CT-3.                                                      XXXL
1004   COORD EXHIBIT PREPARATION     CT-4.                                                          CL
1004   COORD EXHIBIT PREPARATION     CT-5.                                                            CCL
1004   COORD EXHIBIT PREPARATION     FIN .                                                              L
10051  PREPARE EXHIBIT E                 .                                           XXXXXXXXXX    L
10052  PREPARE EXHIBIT D                 .                                           XXXXXXXXXX              L
1006   PREPARE EXHIBIT R             ST  .                                           XXXXXXXXXX         L
1007   PREPARE EXHIBIT T             ST  .                                XXXXXXL
1007   PREPARE EXHIBIT T             FIN .                                      XXXXL
1008   PREP APPLICATN FORM-DRAFT     ST  .                                           XXXXXX             L
1008   PREP APPLICATN FORM-DRAFT     FIN .                                                              L
1009   REVIEW AND CORRECT                .                                                               CL
1010   EXTERNAL REVIEW                   .                                                                 CL
10XXX  PRINT LICENSE APPLICATION         .                                                                   CCCCCL
1101   PROJECT OVERVIEW                  XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX L
1102   INTERNAL REPORTS                  CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCL
1102XX EXHIBIT U MATERIAL COMPLETE       .                                                              L
1103   SUSITNA BASE PLAN RISK ANALY ST   XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX  L
1103   SUSITNA BASE PLAN RISK ANALY FIN  .                                                   L
1104   SUSITNA BASE PLAN EXTEN/REVIS     .                                                 XXXXXXXXXXXXXXXXXXXXX   L
1105   SUSITNA FINANCE RISK ANALYSIS     .                     XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX                      L
1106   RESOLUTION TAX ISSUE              XXXXXXXXXXXXXXXXXXXXXXXX                                                  L
1107   IDENTIFY PARTIES INTEREST         .                     XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX                      L
1108   REVENUE ASSURANCE                 .                     XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX           L
1109   LIAISON APA BOND UNDERWRITER      XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX L
1109XX EXHIBIT G MATERIAL COMPLETE       .                                                              L
12022  CONDUCT PUBLIC MEETING #2         .       XXXX                                   L
12023  CONDUCT PUBLIC MEETING #3         .                        XXXX                                  L
12031  CONDUCT WORKSHOPS 1,2,3           XXX                                        L
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                                         C P M   SCHEDULE                                   TIME NOW  2FEB81
ACSB190                                  ----------------
                                          81                                               82
         D E S C R I P T I O N          FEB MAR  APR MAY JUN  JUL AUG  SEP OCT NOV  DEC JAN FEB MAR  APR MAY  JUN JUL AUG  SEP OCT
                                        0012001230122011200122012201123012201120012301220112001200122011201123012201120012301220112
                                        2963296306307418518529630730741741852962963074184185185218529529630741741852962963063074185
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12032  CONDUCT WORKSHOPS 4,5,6          .           XXXXXXXXXXXX                                  L
1204   PREP PUBLISH DISTRIB MATERIAL    XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXL
1205   PREP MAINTAIN ACTION LIST        XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXL
13013  PROJECT PROCED MANUAL-UPDATE     XXXXXXXXXXXXXXXXXXXXXXXXXXX                                             L
13042  SCHEDULE CONTROL SYS UPDATE      XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXL
13052  COST CONTROL SYSTEM-OP           XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXL
13062  MANPOWER LOADNG SCHED-UPDATE     XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXL
1310   SUB CONTRACT ADMINISTRATION      XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXL
XXX    PROJECT COMPLETE   XXX           .                                                                       L
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ACTIVITIES PRIOR TO LICENSE APPLICATION — ACTIVITIES PRIOR TO AWARD OF CONSTRUCTION LICENSING

TASK NO	DESCRIPTION
1.00	POWER STUDIES
1.01	REVIEW OF METHODOLOGIES
1.02	FORECAST PEAK LOAD DEMAND TRANS.
1.03	IDENTIFICATION OF POWER ALT
1.08	TERMINATION REPORT
2.00	SURVEYS AND SITE FACILITIES
2.02	FIELD CAMP SET-UP AND OPERATIONS
2.03	RESUPPLY AND EMERGENCY SERVICE
2.04	LAND STATUS SEARCH
2.05	LAND ACQUISITION ANALYSIS
2.06	RIGHT OF ENTRY
2.07	SITE SPECIFIC SURVEY
2.08	AIR PHOTOS AND MAPPING
2.09	CONTROL NETWORK SURVEYS
2.10	ACCESS ROAD
2.11	MAP AND PHOTO SEARCH
2.12	FIELD RECON FOR RESERVOIR CLEAR.
2.13	MARKETABILITY AND DISPOSAL STUDY
2.14	COST EST. FOR RESERVOIR CLEARING
2.15	SLOPE EROSION AND STABILITY STUDY
2.16	HYDROGRAPHIC SURVEYS
3.00	HYDROLOGY
3.01	REVIEW OF AVAILABLE MATERIAL
3.02	FIELD DATA INDEX OPERATION
3.03	FIELD DATA COLLECTION 80 - 82
3.04	WATER RESOURCES - STUDIES
3.05	FLOOD STUDIES
3.06	HYDRAULIC AND ICE STUDIES
3.07	SEDIMENT YIELD AND RIVER MORPHOLOGY
3.08	TRANSMISSION LINE-PRELIM PARAMETER
3.09	ACCESS ROAD HYDROLOGY
3.10	LOWER SUSITNA STUDIES
4.00	SEISMIC STUDIES
4.01	REVIEW AVAILABLE DATA
4.02	SHORT TERM MONITORING PROGRAM
4.03	PRELIM RESERVOIR INDUCED SEISMIC
4.04	REMOTE SENSING IMAGE ANALYSIS
4.05	SEISMIC GEOLOGY RECONNAISSANCE
4.06	PRELIM EVALUATION AND REPORT
4.07	PRELIM GROUND MOTION STUDIES
4.08	DAM STABILITY
4.09	LONG TERM MONITORING PROGRAM
4.10	RESERVOIR INDUCED SEISMICITY
4.11	SEISMIC GEOLOGY FIELD STUDY
4.12	EVALUATION AND REPORT
4.13	GROUND MOTION STUDIES
4.14	DAM STABILITY (CONSULTING)
4.15	SOIL SUSCEPTIBILITY TO SEISMIC FAILURE
5.00	GEOTECH EXPLORATION
5.01	DATA COLLECTION
5.02	AIR PHOTO INTERPRETATION
5.03	1980 PROGRAM DESIGN
5.04	1980 EXPLORATION PROGRAM
5.05	1981 PROGRAM DESIGN
5.06	1981 EXPLORATION PROGRAM
5.07	1982-84 PROGRAM DESIGN
5.08	DATA COMPILATION

LEGEND

- WORK COMPLETED TO FEBRUARY 1, 1981
- WORK REMAINING FROM FEBRUARY 1, 1981
- CONTINUED WORK FOLLOWING LICENSE APPLICATION

SUSITNA HYDROELECTRIC PROJECT
PLAN OF STUDY MASTER SCHEDULE

ARLIS

FIGURE 1 OF 3

TASK NO	DESCRIPTION
600	DESIGN DEVELOPMENT
601	REVIEW PREVIOUS STUDIES
602	INVESTIGATE TUNNEL ALTERNATIVES
603	EVALUATE ALTERNATE SUSITNA DEVEL
604	DEVIL CANYON ARCH DAM EVALUATION
605	SELECT DRAFT TO FINAL REPORT
606	STAGED DEVELOPMENT ALTERNATIVES
607	PRELIM WATANA DAM ALTERNATIVES
608	PRELIM DEVIL CANYON DAM ALTERNATIVES
609	ESTABLISH WATANA DESIGN CRITERIA
610	ESTAB DEVIL CANYON DESIGN CRITERIA
611	PRELIM DESIGN WATANA DAM
612	PRELIM DESIGN DEVIL CANYON DAM
613	DAM SELECTION REPORT
614	SPILLWAY DESIGN CRITERIA
615	WATANA SPILLWAY ALTERNATIVES
616	DEVIL CANYON SPILLWAY ALTERNATIVES
617	PRELIM DESIGN WATANA SPILLWAY
618	PRELIM DESIGN DEVIL CANYON SPILLWAY
619	SPILLWAY SELECTION REPORT-DRAFT
620	ACCESS AND CAMP FACILITIES
621	WATANA DIVERSION SCHEMES
622	DEVIL CANYON DIVERSION SCHEMES
623	OPTIMIZE WATANA POWER DEVELOP
624	OPTIMIZE DEVIL CANYON POWER DEVELOP
625	OPTIMIZE DAM HEIGHTS
626	PRELIM. DESIGN WATANA POWER DEVELOP
627	PRELIM DESIGN DEVIL CANYON POWER DEV
628	POWER DEVELOPMENT REPORT-DRAFT
629	WATANA GENERAL-ARRANGEMENT
630	DEVIL CANYON GENERAL ARRANGEMENT
631	PROJECT FEASABILITY REPORT
632	THERMAL GENERATION PLAN
633	HYDRO GENERATION REPORT
634	ENVIRONMENT ASSESSMENT
635	LOAD MANAGE AND CONSERVE
636	GENERATION PLAN, ANALYSIS AND REPORT
637	UPDATE GENERATION PLAN
638	LIASON POWER ALTERNATIVES CONSULTANT
700	ENVIRONMENTAL STUDIES
701	STUDY COORDINATE ALTERNATIVE SITE
702	MONITOR FIELD ACTIVITIES
704	WATER RESOURCES ANALYSIS
705	SOCIOECONOMIC ANALYSIS
706	CULTURAL RESOURCE INVESTIGATION
707	LAND USE ANALYSIS
708	RECREATION PLANNING
709	TRANS LINE ROUTE SELECTION
710	FISH ECOLOGY
711	WILDLIFE ECOLOGY
712	PLANT ECOLOGY
714	ACCESS ROAD ENVIROMENT ANALYSIS
715	PREPARATION FOR FERC EXHIBIT
800	TRANSMISSION
801	SELECT INITIAL CORRIDORS
802	LOAD FLOW AND ELEC SYSTEM ANALYSIS
803	FINAL ROUTE SELECTION 1981
804	TOWER, HARDWARE AND CONDUCTOR STUDY
805	SUBSTATIONS
806	DISPATCH CENTER AND COMMUNICATIONS
807	TRANSMISSION LINE COST ESTIMATE

ACTIVITIES PRIOR TO LICENSE APPLICATION

ACTIVITIES PRIOR TO AWARD OF CONSTRUCTION: LICENSING

1980 J F M A M J J A S O N D

1981 J F M A M J J A S O N D

1982 J F M A M J J A S O N D

1983 J/F/M A/M/J J/A/S O/N/D

1984 J/F/M A/M/J J/A/S O/N/D

1985 J/F/M A/M/J J/A/S O/N/D

LEGEND

WORK COMPLETED TO FEBRUARY 1, 1981

WORK REMAINING FROM FEBRUARY 1, 1981

CONTINUED WORK FOLLOWING LICENSE APPLICATION

SUSITNA HYDROELECTRIC PROJECT

PLAN OF STUDY MASTER SCHEDULE

ACRES

FIGURE 2 OF 3

TASK NO	DESCRIPTION
9.00	CONST. COST ESTIMATES AND SCHEDULES
9.01	ASSEMBLE COST-SCHEDULE DATA
9.02	PREPARE PRELIM COST ESTIMATE
9.03	PREPARE COST ESTIMATE UPDATE
9.04	DEVELOP ENGR/CONST. SCHEDULE
9.05	PERFORM CONTINGENCY ANALYSIS
10.00	LICENSING
10.01	IMPACT OF NEW FERC REGULATION
10.02	UPDATE REGULATORY REQUIREMENT
10.03	DATA FROM OTHERS
10.04	COORDINATE EXHIBIT PREP.
10.05	PREPARE EXHIBIT E AND D
10.06	PREPARE EXHIBIT R
10.07	PREPARE EXHIBIT T
10.08	PREP. APPLICATION FORM-DRAFT
10.09	REVIEW AND CORRECT
10.10	EXTERNAL REVIEW
10.11	PRINT LICENSE APPLICATION
11.00	MARKETING AND FINANCE
11.01	PROJECT OVERVIEW
11.02	INTERNAL REPORTS
11.03	SUSITNA BASE PLAN INITIAL RISK ANALYSIS
11.04	SUSITNA BASE PLAN EXTENSION AND REV.
11.05	SUSITNA FINANCE RISK ANALYSIS
11.06	RESOLUTION OF TAX EXEMPT BOND ISSUE
11.07	IDENTIFY PARTIES INTEREST
11.08	REVENUE ASSURANCE PROCEDURES
11.09	LIASON APA BOND UNDERWRITERS
12.00	PUBLIC PARTICIPATION
12.02	CONDUCT PUBLIC MEET #1,#2, AND #3
12.03	CONDUCT PUBLIC WORKSHOPS #1-#6
12.04	PREP. PUBLISH DISTRIB. MATERIALS
12.05	PREP. MAINTAIN ACTION LIST
13.00	ADMINISTRATION
13.01	PROJECT PROCEDURE MANUAL
13.02	FINANCIAL CONTROL PROCEDURES
13.03	PROJECT MASTER SCHEDULE
13.04	SCHED. CONTROL SYSTEM-DEV. & UPDATE
13.05	COST CONTROL SYSTEM-DEV. AND UPDATE
13.06	MANPOWER LOADING FOR DEVOPER
13.07	DEVELOP ACCOUNTING POLICIES
13.08	DOCUMENTATION CONTROL
13.10	SUB CONTRACT ADMINISTRATION

ACTIVITIES PRIOR TO LICENSE APPLICATION

ACTIVITIES PRIOR TO AWARD OF CONSTRUCTION LICENSING

1980 | 1981 | 1982 | 1983 | 1984 | 1985

J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J/F/M A/M/J J/A/S O/N/D J/F/M A/M/J J/A/S O/N/D J/F/M A/M/J J/A/S O/N/D

LEGEND

WORK COMPLETED TO FEBRUARY 1, 1981

WORK REMAINING FROM FEBRUARY 1, 1981

CONTINUED WORK FOLLOWING LICENSE APPLICATION

SUSITNA HYDROELECTRIC PROJECT
PLAN OF STUDY MASTER SCHEDULE

FIGURE 3 OF 3

ACRES