

ALASKA POWER AUTHORITY

SUSITNA HYDROELECTRIC PROJECT

PROGRESS REPORT

FOR

NOVEMBER 1981

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ALASKA POWER AUTHORITY  
SUSITNA HYDROELECTRIC PROJECT  
MONTHLY PROGRESS REPORT

REPORT No. 21

Period: November, 1981

Progress Report No. 21 covers the activities on the Susitna Hydroelectric Project for the month of November, 1981.

Task 1, Power Studies, is complete.

Task 2, Survey and Site Facilities, continued with a declining camp population being serviced during the month. The tent camps were serviced on an intermittent basis. Helicopter requirements decreased as planned. The final Bell 206B was released until February 1, 1982. Charter aircraft will be utilized to satisfy the minimum field requirements of the camp. The Access Road Subtask continued with a review and evaluation of the various subcontractor's reports. The recommended access route is a road access commencing on the Parks Highway near Hurricane and proceeding to Gold Creek along the Indian River. From Gold Creek the road to the Devil Canyon site is located south of the Susitna River. At Devil Canyon the road crosses the river and runs north of the river to the Watana site.

Work on the camps continued with arrangement drawings reaching 60 percent completion, as did the first draft of the design transmittal.

CIRI/H&N activities continued as winterization activities were carried out. The only problem was that the camp's groundwater supply was not adequate for the camp population. Supplemental supply was pumped from below the frozen surface of a nearby lake.

R&M activities completed the channel geometry surveys, water surface profiles, velocity measurements and the river description at Devil Canyon. The contour mapping, the selected access route, removal of flight panels from the field and the close out report remain in the Aerial Photography Subtask. The access corridors final report will be revised in December.

Task 3, Hydrology, continued with a review of R&M submitted processed climate data. Reservoir operation is being analyzed to best satisfy both operation and environmental requirements for Watana. Probable maximum flood studies are complete and documentation is underway. Revised operation incorporating multilevel intake at Watana was analyzed to bring post-project water temperatures to acceptable limits. Post-project winter temperatures could result in open water regions almost to the Talkeetna confluence. Lower Susitna studies continued with downstream flows being analyzed for the revised Watana development.

R&M activities continued with stream gage, and climatic station operation and readings. Water surface elevations were obtained at most sites. R&M and Peterson & Associates are evaluating available water quality data for the

Susitna River Basin. Evaporation readings were discontinued for the winter and glacial data collection is complete for 1981. Estimates of reservoir evaporation draft reports were completed. Additional test runs of the HEC-2 Water Surface Profile Model were completed as was a draft report for the Manning's "n" determination.

Task 4, Seismic Studies, continued by providing recommendations to WCC on the Long Term Seismologic Monitoring Network Manual. Acres consulting panel met on November 18 to review the project to date.

WCC Activities continued with a meeting at Stanford University which discussed the terrain earthquake and the regional historical seismicity. The result of the meeting was that Dr. Sykes considers a terrain or floating earthquake of  $M_s$  6.25 to 6.5 to be an appropriate design consideration. WCC believes a terrain earthquake of  $M_s$  5.5 to 6.0 should be the maximum earthquake whose source may not be detected. Data for the seismic exposure analysis has been provided to the earthquake engineers. A draft report of WCC review at a December 1 meeting is being prepared on earthquake data assessment task. A draft report on earthquake evaluation and reporting is scheduled to be sent to Acres on December 23. Acres and WCC have agreed that a probabilistic assessment of ground motion parameters should be conducted. This assessment is due for completion by mid-December and will include the seismic exposure analysis, the effects of the RIS, and the likelihood of exceedance of ground motion parameters.

Task 5, Geotechnical Investigations, continued with data reduction and report preparation for the Task 5 and Feasibility Reports. WCC will issue their final 1981 seismic report to Acres in the first week of January. Preliminary indications are that the bedrock in the Fog Lakes area drops below the proposed reservoir level in several areas. However, the projected flow path and gradients are extremely long and low suggesting this area should pose no problem relative to reservoir seepage. Mapping of the Devil Canyon and Watana reservoirs was undertaken during the months. Final maps and reports will be completed by mid-December. The data compilation task received extensive work during the month. Drawing lists were developed and graphics and text for task 5 and the Feasibility Report were started and are to be completed in early January.

R&M activity continued with the completion of the Fog Lakes area seismic refraction survey. Laboratory testing for priority samples for the access road were completed. Reduction of data continued during the period.

Task 6, Design Development, continued with the establishment of a typical cross-section for the Watana dam based on available borrow material. The arrangement for drainage and grouting galleries has been finalized. The saddle dam to the right abutment has been eliminated due to a reservoir level below the abutment saddle. The Devil Canyon arch dam geometry is being finalized in response to the latest sound rock foundation. After finalization, all analysis will be rerun to determine static, dynamic, and temperature stress distribution corresponding to the final dam slope. The Devil Canyon saddle dam is similar in cross-section to the former Watana saddle dam cross-section. The Watana and Devil Canyon spillway designs are being finalized. Drafting of the general arrangement drawings has commenced. The design of the Watana and Devil Canyon

diversion schemes has been finalized as described in last months report. The Watana inlet and outlet portal design has commenced. The typical upstream cofferdam section is undergoing final review. The Devil Canyon portal structures have been located with considerable reduction in the length of tunnel required. Design of the structures is almost complete and drafting of final drawings has begun. The final optimization of the Watana dam height has lowered the dam height 30' to elevation 2210'. Preliminary design of the Watana and Devil Canyon Power Facilities has commenced during the month.

Task 7, Environmental Studies, continued with Acres forwarding considerable information on project design and generation to TES. Also, numerous discussions were held with TES concerning report schedules, fish and wildlife mitigation, and land use. Acres also held discussions with FOA regarding preliminary socioeconomic impacts and affects of the access options. Work sessions were held with TES to review the environmental writing routing. Acres interacted with the Fisheries and Wildlife Mitigation groups regarding project information, impact issues and mitigation recommendations.

TES Activities continued by forwarding to Acres annotated lists of environmental considerations and recommendations concerning cleaning of the impoundment zones. FOA completed the baseline analysis and completed sections of the feasibility report on Socioeconomic Analysis. The University of Alaska Museum has nearly completed its portion of the feasibility report. Final analysis has been completed. The correlation of archeological sites and ash layers makes the series of sites found in the study area significant. TES prepared a draft report on navigational use. The University of Alaska worked on the feasibility report on Recreational Resources. Acres and TES met to discuss issues affecting the environmental routing analysis. The Fish Ecology Study Team dealt with impact analysis and the preparation of possible mitigation options. The Wildlife Ecology Group finalized results of the habitat value analysis to be used in impact analysis and mitigation planning. The Plant Ecology Group forwarded a report to Acres which rated the environmental sensitivities of the various borrow areas. A revised outline of the TES Feasibility Report and License Application was issued in early November.

Stephen R. Braund Activities continued with forwarding to Acres Addendum Number 1 of the Access Report relating to the land owners between Gold Creek and Parks Highway. Preparations of the final summary report and the appendix on McKinley and Cantwell also commenced during the month.

Task 8, Transmission, continued by completing a draft of the corridor selection report and by commencing work on the Feasibility Report. A final draft of the planning memorandum entitled "Preliminary Transmission System Analysis" was completed. Transmission line routing alternatives continued to be reviewed taking into account geological input. The termination of the transmission tie at Anchorage is under study as the routing portion of the environmental assessment report. Work continued to refine the tower hardware and configuration.

Task 9, Construction Cost Estimates and Schedules, continued with preparation of an information package for use by EBASCO in preparing an independent estimate.

A meeting was held with EBASCO on November 20 to discuss Acres approach to the project estimate and Acres information package. Both the Watana and Devil Canyon schedules were updated, as was the computerized code of accounts used for the estimate.

Task 12, Public Participation, continued with Acres review of articles for the next newsletter. Individual subtask reports were formally submitted to government agencies for review and comment.

Task 13, Administration, continued with Ammendment Number 2 of the APA/Acres contract being forwarded to the client for approval. When approved, the budget and estimate to complete schedules will be revised accordingly.

Task 14, ADF&G Support, continued with routine activities during the month.

## TASK 1 - POWER STUDIES

Task 1 complete.

## TASK 2 - SURVEY AND SITE FACILITIES

### ACRES ACTIVITIES

#### Subtask 2.02 - Provision of Field Camps and Associated Logistic Support

A declining camp population was serviced during this period, reflecting the end of the summer field program. Camp services also continued to be made available on an intermittent basis to those field personnel based at nearby tent camps. Camp occupancy averaged 10.2 per day, for a total of 305 people for the month.

In addition to its regular operation, maintenance, and related inspection of camp facilities, CIRI/H&N carried out winterization activities in preparation for the upcoming season.

Helicopter requirements also decreased as planned with only 2.8 hours/day, for a total of 84.1 hours. The remaining Bell 206B will be released on December 15th with a scheduled return on February 1, 1982. During this 45 day period charter aircraft will be utilized to satisfy minimum field requirements of the R&M snow teams and the University of Alaska furbearer people.

#### Subtask 2.08 - Aerial Photography and Photogrammetric Mapping

R&M completed aerial photo interpretation of the transmission line corridor. Completed terrain unit maps were forwarded to Buffalo for review and comment.

#### Subtask 2.10 - Access Roads

Work on the Access Road continued during the report period. The reports received from the various subcontractors addressing engineering, environmental, and social impacts of the alternative routes along with comments and information gathered at the meetings in Alaska in October were reviewed and evaluated. The evaluation conducted along with the selection process resulted in a recommended route. The recommended route is a road access commencing on the Parks Highway near Hurricane and proceeding to Gold Creek along the Indian River. From Gold Creek the road to Devil Canyon site is located south of the Susitna River. At Devil Canyon the road crosses the Susitna River and is located north of the river to the Watana site.

One agency contact meeting was held with the Commander, Support Services Bureau of the Alaska State Troopers. Enforcement and potential housing requirements during the dam construction period was discussed.

Work on the camps at the Watana and Devil Canyon damsites continued during the report period. The layout drawings of the camps, temporary and permanent villages, progressed to approximately 60 percent completion. The first draft of the Camps Design Transmittal progressed to approximately 60 percent completion.

## CIRI/H&N ACTIVITIES

A low, yet unexpected, camp population was served by CIRI/H&N during this period. Unfortunately, the camp's ground water supply was not capable of supporting this population. Consequently, limited supplemental quantities of potable water were appropriated from a nearby lake which is normally used only during late spring and summer. With the presence of winter conditions, the availability of a supplemental surface supply was limited and could only be obtained through the pumping of unfrozen water from underneath the lake's frozen surface.

After several November meetings between Acres American and CIRI-H&N, it was decided that the anticipated winter camp population at Watana Camp will be handled by a two-person crew working on a base 56-hour work week. Other direct cost expenditures will also be kept at a minimum in order to accommodate reallocations in Acres' overall project budget.

## R&M ACTIVITIES

### Subtask 2.07 - Site Specific Surveys

Channel geometry survey, water profiles, velocity measurements, and description of the river in Devil Canyon has been completed. Five additional river cross-sections have been field surveyed just below the turbulent portion of Devil Canyon. This data is contained in the Subtask 2.08 Closeout Report which has been submitted to Acres.

### Subtask 2.08 - Aerial Photography and Photogrammetric Mapping

This subtask is essentially complete. However, the contour mapping of the selected corridor, the removal of flight panels from the field and the closeout report remain to be completed.

### Subtask 2.10 - Access Corridors

The draft final report covering alternative access plans has been submitted and reviewed. Comments have been received and incorporated in the draft report. The final report is in the process of being published and should be available for distribution within two weeks.

Preliminary design of the approved plan will be accomplished as soon as the plan is selected and the 1" = 400' mapping completed.

### Subtask 2.16 - Hydrographic Surveys

This subtask is completed and a draft Closeout Report has been submitted to Acres. Final closeout report is almost complete.

## TASK 3 - HYDROLOGY

### ACRES ACTIVITIES

#### Subtask 3.03 - Field Data Collection and Processing

Routine monitoring of R&M field work and processing of data continued. Processed climate data collected during 1980-1981 have been received from R&M and is under review.

#### Subtask 3.04 - Water Resources Study

Several modes of reservoir operation to take account of downstream flow requirements for fisheries are being analyzed to arrive at the most acceptable operation to satisfy energy and environmental requirements for revised Watana development.

#### Subtask 3.05 - Flood Studies

Studies on the probable maximum flood in the basin have been substantially completed. Documentation of the study is underway. A variety of flood routing analyses was completed to finalize discharge capacities of spillway and other discharge facilities for the refined Watana and Devil Canyon developments.

#### Subtask 3.06 - Hydraulic and Ice Studies

Revised operations incorporating multilevel intake at Watana were analyzed to bring post-project summer temperatures to environmentally acceptable levels in the reach between Devil Canyon & Talkeetna. Winter post-project temperatures indicate the possibility of open water regime almost up to Talkeetna confluence and the impact on fisheries and environment is being studied. The possibility of potential open water regime below Talkeetna is being studied.

#### Subtask 3.07 - Sediment Yield and River Morphology

R&M interim report was reviewed and a meeting is scheduled to be held in December to finalize the report.

#### Subtask 3.08 - Climatic Studies for Transmission Lines

Preliminary studies made earlier in the year were reviewed with data from climatic stations collected during 1980-1981. Revised design values for wind speeds and icing for the transmission lines have been finalized.

#### Subtask 3.10 - Lower Susitna Studies

Downstream flows were analyzed for revised Watana development.

### R&M ACTIVITIES

#### Subtask 3.03 - Field Data Collection and Processing

All USGS stream gages and the Watana stream gage were operating. The Watana



gage was left in place through freeze-up. Water surface elevations were obtained at most sites. At Gold Creek, a flow of 4,000 cfs was recorded. R&M and Peterson & Associates are interpreting available water quality data for the Susitna River basin. All climatic stations are operating routinely. Evaporation readings have been discontinued for the winter. Glacial studies data collection for 1981 has been completed. Ice study observations were made in early and mid-November when large amounts of frazil ice appeared in the Susitna River.

#### Subtask 3.04 - Water Resources Studies

Estimates of reservoir evaporation were made and a draft report completed. A draft report of the glacial studies was completed and submitted by Dr. Will Harrison.

#### Subtask 3.05 - Flood Studies

Comments received from Acres on the report, and minor modifications made.

#### Subtask 3.06 - Hydraulic and Ice Studies

Additional calibration and verification runs of the HEC-2 Water Surface Profile Model were completed for the river between Devil Creek and Deadman Creek. A draft report for the Manning's "n" determination was completed.

#### Subtask 3.07 - Sediment Yield & River Morphology Studies

Additional data on the morphology of several sloughs above Talkeetna have been reduced by ADF&G, and analysis conducted to assess the impact of reduced flows.

#### Subtask 3.10 - Lower Susitna Studies

Revisions of the earlier draft of the 3.10 report were made, incorporating more recent data.

## TASK 4 - SEISMIC ACTIVITIES

### ACRES ACTIVITIES

Acres activities were limited to general coordination and direction of WCC activities. Recommendations were transmitted to WCC on the preparation of Long-Term Seismologic Monitoring Network Manual, and the approach to Assessment of Fault Activity (probabilistic seismic exposure analysis). WCC was advised on proposed geological and seismological meetings with UAGI after consultations with the APA. WCC report preparation, review and final printing schedule was reviewed and agreed upon.

Acres consulting panel met on November 18, 1981 in Buffalo, New York. Dr. Peck and Dr. Hendron attended this meeting and were presented with task and study results to that date.

### WCC ACTIVITIES

#### Subtask 4.08 - Preliminary Dam Stability Analysis

Included as part of Subtask 4.13.

A meeting was held at Stanford University on 23 November 1981 with Dr. Lynn Sykes. Paul Guptill, Jon Lovegreen, and Woody Savage of Woodward-Clyde Consultants (WCC) attended the meeting to discuss the terrain earthquake and the regional historical seismicity. The discussion included WCC's review of a data set of worldwide historical earthquakes which both have and have not had surface rupture analysis of historical earthquakes in the site region, including the 1929 and 1943 earthquakes of magnitude 6.25 and 7.3, respectively, and remotely sensed data interpretation conducted to date in the epicentral region of the 1943 earthquake.

The result of the discussion with Dr. Sykes is that Dr. Sykes still considers a terrain or floating earthquake of  $M_s$  6.25 to 6.5 to be appropriate for design considerations, while WCC believes a terrain earthquake of  $M_s$  5.5 to 6.0 should be the maximum earthquake whose source may not be detected.

Work on the network monitoring manual is continuing and is now expected to be completed in December 1981. Written guidance from Acres is expected in December 1981.

#### Subtask 4.10 - Reservoir-Induced Seismicity

Work on this subtask is being conducted as a part of the seismic exposure analysis. In this manner, the effect of RIS on ground motion is being evaluated.

#### Subtask 4.11 - Seismic Geology Field Studies

Field review comments by the WCC internal reviewers have been finalized and will be distributed to the reviewers at the draft report meeting on 1 December 1981.

#### Subtask 4.12 - Evaluation and Reporting

Data for the seismic exposure analysis has been provided to the earthquake engineers. These data include assessment of the maximum (credible) earthquake, recurrence, slip rate, b-slope, and likelihood that a fault is active have been completed for the Talkeetna Terrain boundary faults and the 13 local features.

A draft report was sent to the WCC Project Review Team on 23 November 1981. A meeting to discuss review comments is scheduled for 1 December 1981. The draft report for Acres' review is scheduled for transmittal on 23 December 1981.

#### Subtask 4.13 - Gound Motion Studies

Acres and WCC have agreed that a probabilistic assessment of ground motion parameters should be conducted. The seismic exposure analysis has commenced and is expected to be completed by mid-December 1981. This approach includes the effects of RIS as well as the potential contribution of any inactive fault on the likelihood of exceedence of ground motion parameters.

#### Subtask 4.14 - Dam Stability Consulting Services

Consulting services were provided by Maurice Power, as requested by Acres.

#### Subtask 4.15 - Transmission Line Evaluation

Transmission line and access routes have been reviewed on remotely sensed data. Potential areas of instability have been identified and included as a section of the draft report.

### TASK 5 - GEOTECHNICAL INVESTIGATIONS

#### ACRES ACTIVITIES

##### General

Acres work on Task 5 through the month of November involved data reduction and report preparation for the Task 5 and Feasibility Reports.

#### Subtask 5.06 - Exploratory Program (1981)

Work on the additional seismic line in the Fog Lakes area was completed by WCC during the month. WCC is finalizing and reducing their data and will issue their final 1981 seismic report to Acres in the first week of January. Preliminary indications are that the bedrock in the Fog Lakes area drops below the proposed reservoir level in several areas. However, the projected flow path and gradients are extremely long and low suggesting that this area should pose no problem relative to reservoir seepage.

Geologic logging of the Bureau of Reclamation core for Devil Canyon was completed during the month.

Mapping of Devil Canyon and Watana reservoirs was undertaken during the month. Mapping was performed using aerial photographs with plotting of the data on base maps of 1:2000'. Final maps and report will be completed by mid-December.

WCC completed field work for seismic refraction survey in vicinity of Fog Lakes. Approximately 29,000 lineal feet of seismic lines were shot. The data is currently being reduced and a final report is in preparation. It is anticipated that the report will be available by December 15th.

Completed installation of piezometer and thermistor string in BH-3 at Watana site. The planned instrumentation for BH-12 and BH-4 at Watana was not installed as both holes were blocked at depth. Attempts were made to clear both holes using a hand-portable drill and flushing with water under pressure, but these proved unsuccessful. A large drill rig, similar to that which was used this summer, will be required to ream out these holes and allow installation of instrumentation.

R&M survey crew completed field work required to determine coordinates and elevations of new seismic line in Fog Lakes area and all remaining auger holes in Borrow area 'D', 'E', and 'H'. The field data is presently being reduced and should be available early in December.

#### Subtask 5.08 - Data Compilation

Extensive work was devoted to this subtask. Drawing lists were developed and graphics for the Task 5 Feasibility Report was started. Portions of the text were started. A draft of the Task 5 report is expected to be completed in the first week of January.

Summary logs were completed of the 1978 Corps of Engineers core and the 1980-1981 Acres core. Draft logs were forwarded to Buffalo for review and comment.

Began slope stability studies of both the Devil Canyon and Watana reservoirs.

#### R&M ACTIVITIES

##### Subtask 5.02 - Photo Interpretation

Final maps and Closeout Report submitted in October.

##### Subtask 5.05 - Exploratory Program Design, 1981

Planning, scheduling, and preparation for additional field programs was completed.

##### Subtask 5.06 - Exploratory Program, 1981

The seismic refraction survey in the Fog Lakes area was completed. A thermistor string and a pneumatic piezometer were installed in BH-3 at the Watana dam site. Laboratory testing for priority samples for the access road was completed. Reduction of survey elevations and coordinates was on-going, and final logs, permeability data and core photos were in preparation for submittal.

## TASK 6 - DESIGN DEVELOPMENT

### ACRES ACTIVITIES

#### Subtask 6.11 - Preliminary Design of Watana Dam

The typical cross-section of the main dam has been established following a review of available impervious filter and support materials and borrow area locations. River gravel materials have been selected for the upstream and downstream shells. The crest elevation has been established as described under subtask 6.25.

The overall layout for drainage and grouting galleries has been established and is being reviewed in more detail.

The saddle dam adjacent to the right abutment has been eliminated as the maximum reservoir level has been lowered below the abutment saddle.

#### Subtask 6.12 - Preliminary Design of Devil Canyon Dam

The arch dam geometry is being revised to accord with the latest information on the sound rock foundation. Once the geometry has been established all analysis will be rerun to determine static, temperature and dynamic stress distribution corresponding to the final dam slope.

The saddle dam cross-section has been finalized based on a similar section to the Watana Dam.

#### Subtask 6.17 - Preliminary Design of Watana

The design of the Watana spillways is underway. The overall alignment and layout of the main spillway components have been finalized and design of the control structure, chute and flip bucket is proceeding. The emergency spillway alignment has been determined, running in a straight line from adjacent to the right abutment saddle towards Tsusena Creek. Preparation of the drawing of the emergency spillway for the feasibility report has commenced.

#### Subtask 6.18 - Preliminary Design of Devil Canyon Spillway

The layout of the main spillway component has been finalized and the design of the control structure and the concrete lined chute is nearing completion. Drafting of the general arrangement drawings of the overall spillway and of the control structure has commenced.

The alignment of the emergency spillway has been determined. The height of the errodible fuse plug has been reduced to 30 ft and the plug has been widened. Details of the spillway design are proceeding.

#### Subtask 6.21 - Watana Diversion Scheme

The concept for the Watana diversion has been established as described in last

month's report. Review of the inlet and outlet portal locations has commenced and the design of these structures is in progress.

The typical upstream cofferdam section is undergoing final review.

#### Subtask 6.22 - Devil Canyon Diversion Scheme

The Devil Canyon diversion has been developed as described last month. The upstream and downstream portal structures have been located with a considerable reduction in the length of the tunnel. The design of the upstream gate structure is nearing completion and drafting of the final drawing of the general arrangement and concrete structures has commenced.

#### Subtask 6.25 - Optimize Dam Height

A final optimization of the Watana dam has been completed based on up to date energy forecasts, alternative energy prices and the latest Watana project costs. The center of the dam has been lowered to elevation 2,210 feet, 30 feet below the elevation established previously by an interim study based on preliminary data.

#### Subtask 6.27 - Preliminary Design of Watana Power Facilities

Following selection of a six unit underground powerhouse installation, the orientation of the caverns and water passages has been studied. The final configuration has an upstream transformer gallery and a single downstream surge chamber serving the twin tailrace tunnels.

The alignment of these facilities with the intake structures is being examined and the layout within the individual cavern is being developed.

Some work has been done on the design of the intake but finalization of this design is awaiting confirmation of reservoir drawdown and temperature requirements of the discharges.

#### Subtask 6.28 - Preliminary Design of Devil Canyon Facilities

A four unit layout discharging one mile downstream through a single tailrace tunnel has been determined. Compensatory water for Devil Canyon flows is provided by two 250 cfs pumps, pumping water from the tailrace.

### TASK 7 - ENVIRONMENTAL STUDIES

#### ACRES ACTIVITIES

##### Subtask 7.01 - Administration

Considerable information on project design and operation was forwarded to TES. Numerous discussions were held with TES regarding report schedules, fish and wildlife mitigation, transmission line route selection, land use and socio-economic analysis.

#### Subtask 7.05 - Socioeconomic Analysis

Sociocultural report requirements from S. Braund were clarified and arrangements for information transfer to TES agreed upon. Further discussions were held with Frank Orth and Associates regarding preliminary socioeconomic impact and affects on various access options.

#### Subtask 7.07 - Land Use Analysis

Land Use and Aesthetic Resource components of the feasibility report were discussed with TES.

#### Subtask 7.08 - Recreation Planning

The mechanism for finalizing the recreation plan and the schedule for release of the final recreation questionnaire were discussed in relation to the access road discussion.

#### Subtask 7.09 - Transmission Analysis

Work sessions were held with TES to review the environmental routing analysis.

#### Subtask 7.10 - Fish Ecology Studies

Additional information on downstream flows and temperatures was supplied to the Fisheries Mitigation Task Force. Impact issues and mitigation options were also reviewed.

#### Subtask 7.11 - Wildlife Ecology Studies

Acres interacted with the Wildlife Mitigation Task Force in the supply of project information review of mitigation recommendations and identification of impact issues.

#### Subtask 7.12 - Plant Ecology Studies

Information was forwarded to TES regarding the location of project facilities and borrow areas. Considerable discussion related to various construction techniques and the reclamation of borrow areas.

#### Subtask 7.14 - Access Road Environmental Analysis

TES was informed of Acres access road recommendation and instructed to proceed on the assumption that the recommendation would be accepted.

#### Subtask 7.15 - Preparation of FERC Application

The details of report outline, content and schedule for the Feasibility Report and License Application were discussed with TES.

## TES ACTIVITIES

### Subtask 7.01 - Administration

TES prepared, and submitted to Acres, annotated lists of environmental considerations and recommendations concerning clearing of the impoundment zones.

TES forwarded notes of agency contact meeting to Acres. The TES Resident Manager attended Department of Natural Resources meetings on the Navigability of Alaskan waters and a public presentation of a draft plan for the Willow sub-basin.

TES met with Acres in Buffalo to discuss a wide variety of issues, including report schedules, fisheries programs, transmission line studies and Phase I budgets.

### Subtask 7.05 - Socioeconomic Analysis

Frank Orth & Associates completed the baseline forecast (WP 4) and initiated the "with Susitna" forecast (WP 5). Work also progressed on assembling fish and wildlife valuation methods (WP 7). FO&A completed sections of the draft feasibility report on Socioeconomic Analysis.

### Subtask 7.06 - Cultural Resources

The feasibility report has been nearly completed by the University of Alaska Museum. Work is continuing on the Phase I report. Faunal analysis has been completed. Radio carbon dating material collected during the 1981 sampling season has been received.

Preliminary dates have been put on the three volcanic ash layers found in the study area. The correlation of archeological sites and ash layers makes the series of sites found in the study area significant. Drafts of report graphics have been completed. Lithic analysis is underway.

### Subtask 7.07 - Land Use Analysis

The University of Alaska land use team worked on preparation of draft feasibility reports on Land Use and Aesthetic Resources for submittal to TES in December. TES prepared a preliminary draft report on navigational use.

### Subtask 7.08 - Recreation Planning

The University of Alaska worked on development of the feasibility report on Recreational Resources.

### Subtask 7.09 - Transmission Line Corridor Assessment

Work progressed on the selection of recommended routes within each study area. TES met with Acres to discuss issues affecting environmental routing analysis.



Among topics covered were width of recommended route, engineering configuration, substations/termini and scheduling of work products.

#### Subtask 7.10 - Fish Ecology

The primary activity of the Fish Ecology Study Team dealt with impact analysis and the preparation of possible mitigation options. Preparations for writing the Feasibility Report and the License Application were also made. Information is being collected on temperature effects on egg incubation in order to better evaluate potential changes in the Susitna temperature regime.

#### Subtask 7.11 - Wildlife Ecology

During November the Wildlife Ecology Group Leader organized the recommendations made by members of the mitigation core group and forwarded them to the core group for review and comment. The Group Leader also finalized the results of the habitat value analysis and organized the results in a fashion usable in regard to impact analysis and mitigation planning. A considerable amount of time was devoted to the transmittal of information received from Acres to the appropriate subcontractors and consultants for their use in impact analysis.

Field data collection continued during November and concentrated on the monitoring of mustelids and red foxes. One additional pine marten was trapped and radiocollared on November 12. The second half of the month was spent in tabulating and analyzing data and in preparing Feasibility Report sections on furbearers, birds and non-game mammals.

#### Subtask 7.12 - Plant Ecology Studies

Most of the effort during the month centered around the preparation on the Feasibility Report. There were a number of interactions with Acres concerning facility locations for the dams and borrow areas. A report was prepared for Acres which rated the environmental sensitivities of the various borrow areas and provided general comments on the different areas under consideration.

#### Subtask 7.14 - Access Road Environmental Analysis

TES received information on the Access Plan which was to be recommended by Acres to the APA.

TES responded to a request from R&M to provide environmental input regarding potential access route borrow areas. This input was sent to R&M in early November, and maps locating these borrow areas were forwarded to TES subcontractors for their information.

#### Subtask 7.15 - Preparation of FERC Application

A revised outline for the TES Feasibility Report and License Application was issued in early November. Work continued on Chapter 1 of the Feasibility Report

and License Application - General Description of the Locale. In addition, a request was sent to all subcontractors and consultants concerning format for listing authorities. Discussions regarding the Feasibility Report (and License Application) outline, content, and format were made between Acres, TES, and TES subcontractors and consultants, and mutual agreement has been reached on most items.

#### STEPHEN R. BRAUND & ASSOCIATES ACTIVITIES

Access Report Addendum Number 1 was prepared and provided to Acres during the month. This addendum related to land owners between Gold Creek and the Parks Highway. Preparations of this final summary report and the appendix on McKinley and Cantwell also commenced during the report period. Numerous meetings were held with Tom Lonner on his report draft during November.

#### TASK 8 - TRANSMISSION

##### ACRES ACTIVITIES

##### Subtask 8.01 - Transmission Line Corridor Screening

A final draft of the closeout report was completed and already sent to APA for their comment and review. Work started on the feasibility report and a preliminary draft for corridor selection was completed.

##### Subtask 8.02 - Electric System Studies

A final draft of the planning memorandum entitled "Preliminary Transmission System Analysis" was completed. The memorandum reviewed all the work completed on electric system studies up to June 15, 1981.

##### Subtask 8.03 - Transmission Line Route Selection

Work continued to select the most feasible right-of-way. Geological input was studied to identify adverse geological features and geotechnical conditions that would affect the design or construction.

The termination of the transmission line at Anchorage is under study. Environmental assessment report is under preparation to study the impacts of using a corridor parallel to that proposed by Chugach Electric Associates for their 220 kv system which crosses Knik Arm by submarine cables.

##### Subtask 8.04 - Tower, Hardware and Conductor Studies

Study continues on the various configurations of towers. Computer work was done to study the structural behavior when subjected to different loading conditions. Climatologic reports (Task 3) were reviewed and climatologic parameters were established for the transmission line design. Weight and wind spans have been determined to reflect economy and flexibility of plotting the structures.

### Subtask 8.05 - Substations

Preliminary work continued with single line diagrams and switchyard arrangements.

### TASK 9 - CONSTRUCTION COST ESTIMATES AND SCHEDULES

#### ACRES ACTIVITIES

Work continued on preparation of the preliminary project estimate and schedule. An information package was prepared for use by EBASCO in preparing an independent estimate. A day long meeting was held with EBASCO representatives on November 20, 1981 to discuss Acres' approach to the project estimate and the transmittal of information to EBASCO.

Preliminary schedules for both the Watana and Devil Canyon Developments were updated and issued.

Work continued on preparation of the computerized code of accounts with continued updating as more information was made available.

### TASK 12 - PUBLIC PARTICIPATION

#### ACRES ACTIVITIES

Interviews with expert consultants and other proposed articles for the next newsletter were reviewed by Acres and TES.

Individual subtask reports were formally submitted to government agencies for review and comment.

### TASK 13 - ADMINISTRATION

#### ACRES ACTIVITIES

#### Subtask 13.05 - Cost Control

Administration continued to function routinely during November. During the month, Amendment 2 of the APA/Acres contract was forwarded to the client for approval. Upon acceptance, the cost report will be modified to reflect changes in the budget and the estimate to complete schedules.

### TASK 14 - ADF&G SUPPORT

#### ACRES ACITIVITIES

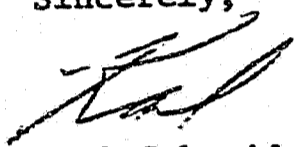
Purchasing and support activities for ADF&G continued routinely during the month.



The highlight of field activities was wolf and wolverine tagging. Two separate tagging efforts were conducted in November and early December. A total of 24 wolves and 6 wolverine were radio-collared. Most important is the fact that we established contact with 4 or 5 new wolf packs, filling in some of the most glaring data gaps. We believe that there are one or two packs adjacent to impoundment areas that still are not radioed.

We had a mishap when the engine on a helicopter failed. The helicopter was badly damaged and the tagging crew had to spend the night at the crash site, but no one was hurt.

Sincerely,



Karl Schneider  
Research Coordinator  
Division of Game

# STATE OF ALASKA

## DEPARTMENT OF FISH AND GAME

JAY S. HAMMOND, GOVERNOR

333 RASPBERRY ROAD  
ANCHORAGE, ALASKA 99502

December 9, 1981

03-81-7.10-0.4

RECEIVED

DEC 23 1981

ACRES AMERICAN INCORPORATED

Dr. John Hayden  
Technical Study Director  
Acres American, Incorporated  
The Liberty Bank Building  
Buffalo, New York 14202

Dear Dr. Hayden:

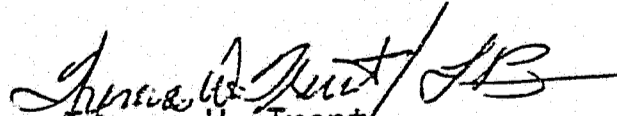
Re: Monthly Report - November 1981

There was no field activity during the month of November, all available personnel being concentrated on data reduction and species/subject report composition. Reports on Adult Anadromous and Aquatic Habitat subject matter were submitted during the latter half of the month.

The early winter season has been subject to alternating cold, dry and warm, wet weather conditions that have resulted in poor ice conditions on area streams. The ice cover is now starting to firm up and field investigations are expected to resume in early December.

Tom Trent attended a series of project related meetings in addition to his more routine administrative duties. Other support personnel were engaged with routine administrative requirements or assisting the field project personnel with the species/subject report preparation.

Sincerely,

  
Thomas W. Trent  
Aquatic Studies Coordinator  
Su Hydro Aquatic Studies  
Telephone 274-7583

cc: V. Lucid  
J. Gill  
D. Schmidt  
D. Wozniak  
M. Warner

ALASKA POWER AUTHORITY SUSITNA			
FILE P5700 . 11.70			
SEQUENCE NO. F 2205			
ACTION	INFORM.	DISTRIB.	INITIAL
		DCW	
	✓	JDL	
		CAD	
		JDG	
	✓	JWH	
		JPS	
		IPGH	
		ENS	
		SNT	
		DWL	
		MRV	
		HRC	
	✓	AK	
		MMG	
		KRY	
	✓	FILE	

CPM ANALYSIS LISTING

I-NODE	J-NODE	DUR	SELECT	CODES	DESCRIPTION	E.S.	E.F.	L.S.	L.F.	T.F.	F.F.	CL	
20400	20000	28 R	OFA	C2	2022	FIELD CAMP OPERATIONS	7DEC81	18JUN82	14DEC81	25JUN82	1	1	1
20400	20400	28 R	OFA	C2	203	RESUPPLY & EMERGENCY SERVICE	7DEC81	18JUN82	14DEC81	25JUN82	1	1	1
215A0	215B0	0	OFA	1 C3	204XX	EXHIBIT F MATERIAL COMPLETE	7DEC81	4DEC81	4JAN82	1JAN82	4	0	1
21000	21100	15 R	OFA	C2	206	RIGHT OF ENTRY	FIN 7DEC81	19MAR82	15MAR82	25JUN82	14	14	1
22400	22600	2	OFA	C3	210	ACCESS ROAD	CT-2 7DEC81	18DEC81	14DEC81	25DEC81	1	0	1
22600	22800	7	OFA	CC3	210	ACCESS ROAD	FIN 21DEC81	5FEB82	28DEC81	12FEB82	1	0	1
36700	36800	28 R	OPB	1 C4	3022	FIELD DATA INDEX OPERATION	FIN 7DEC81	18JUN82	14DEC81	25JUN82	1	1	1
37700	37800	20 R	OPB	1 C4	3033	FIELD DATA COLLECTION 81-82	FIN 7DEC81	23APR82	8FEB82	25JUN82	9	9	1
34500	34600	1 R	OPB	1 C4	3043	WATER RSRCS-RESERVOIR STUDY	CT-3 7DEC81	11DEC81	14DEC81	18DEC81	1	0	1
34600	34800	6	OPB	1 C4	3043	WATER RSRCS-RESERVOIR STUDY	FIN 14DEC81	22JAN82	21DEC81	29JAN82	1	1	1
35200	35400	3 R	OPB	1 C4	3044	WATER RSRCS-PRE&POST PROJECT	FIN 14DEC81	1JAN82	18JAN82	5FEB82	5	0	1
39600	39700	12 R	OPB	1 C4	3046	WATER RSRCS-GLACIAL STUDIES	ST 7DEC81	26FEB82	7DEC81	26FEB82	0	0	1
39700	39800	3	OPB	1 C4	3046	WATER RSRCS-GLACIAL STUDIES	FIN 1MAR82	19MAR82	29MAR82	16APR82	4	4	1
35400	354A0	0	OPB	1 C4	304XX	EXHIBIT H MATERIAL COMPLETE	4JAN82	1JAN82	19APR82	16APR82	15	15	1
35400	354B0	0	OPB	1 C4	304XX	EXHIBIT I MATERIAL COMPLETE	4JAN82	1JAN82	19APR82	16APR82	15	15	1
32000	32200	4 R	OPB	1 C4	3053	FLOODS-RESERVOIR ROUTING	FIN 7DEC81	1JAN82	7DEC81	1JAN82	0	0	1
30400	30600	4 R	OPB	1 C4	3061	HYDR&ICE & ICE WTR LVLS	FIN 7DEC81	1JAN82	7DEC81	1JAN82	0	0	1
39000	39100	8	OPB	1 C4	3063	HYDR&ICE-RESER SLIDE SURGE	FIN 7DEC81	29JAN82	21DEC81	12FEB82	2	2	1
35800	36000	1 R	OPB	1 C4	3071	SEDIMENT YIELD & DEPOSITION	FIN 7DEC81	11DEC81	28DEC81	1JAN82	3	0	1
33600	33800	3 R	OPB	1 C4	3072	RIVER MORPHOLOGY	CT-1 14DEC81	1JAN82	18JAN82	5FEB82	5	0	1
33800	34000	4	OPB	1 C4	3072	RIVER MORPHOLOGY	FIN 4JAN82	29JAN82	8FEB82	5MAR82	5	2	1
31100	31300	3 R	OPB	1 C4	309	ACCESS ROADS HYDROLOGY	7DEC81	25DEC81	14DEC81	1JAN82	1	0	1
31400	31700	6	OPB	1 C4	3102	LWR SUSITNA STUDIES-FOLLOWUP	FIN 4JAN82	12FEB82	18JAN82	26FEB82	2	2	1
31500	31400	3 R	OPB	1 C4	3102	LWR SUSITNA STUDIES-FOLLOWUP	CT-1 7DEC81	25DEC81	14DEC81	1JAN82	1	1	1
46000	46200	6	OPB	1 C1	408	DAM STABILITY	FIN 7DEC81	15JAN82	17MAY82	25JUN82	23	23	1
42800	43000	23 R	OFA	1 C4	409	LONG TERM MONITORING PROGRAM	7DEC81	14MAY82	18JAN82	25JUN82	6	6	1
40200	41800	2 R	OPB	1 C1	410	RESERVOIR INDUCED SEISMICITY	7DEC81	18DEC81	4JAN82	15JAN82	4	3	1
42400	42600	16 R	OFA	1 C4	411	SEISMIC GEOLOGY-FIELD STUDY	7DEC81	26MAR82	8MAR82	25JUN82	13	12	1
41400	41600	3 R	OPB	1 C1	412	EVALUATION & REPORT DRAFT	ST 7DEC81	25DEC81	14DEC81	1JAN82	1	0	1
41600	41800	2	OPB	1 C1	412	EVALUATION & REPORT DRAFT	CT-1 28DEC81	8JAN82	4JAN82	15JAN82	1	0	1
41800	42000	4	OPB	1 C1	412	EVALUATION & REPORT DRAFT	FIN 11JAN82	5FEB82	18JAN82	12FEB82	1	1	1
44600	41800	5 R	OPB	1 C1	413	GROUND MOTION STUDIES	FIN 7DEC81	8JAN82	14DEC81	15JAN82	1	0	1
45600	41800	5 R	OPB	1 C1	414	DAM STABILITY CONSULTING	7DEC81	8JAN82	14DEC81	15JAN82	1	0	1
45400	45700	6	OPB	1 C1	415	SOIL SUSCEPTBY-SEISMIC FAIL.	FIN 7DEC81	15JAN82	21DEC81	29JAN82	2	2	1
53800	54000	5 R	OPB	1 C1	507	1982-1984 PROGRAM DESIGN	7DEC81	8JAN82	14DEC81	15JAN82	1	0	1
53200	53300	3	OPB	1 C1	5082	DATA ASSEMBLY-1981 DRAFT	FIN 7DEC81	25DEC81	25JAN82	12FEB82	7	0	1
53400	53500	3	OPB	1 C1	5083	DATA ASSEMBLY FINAL-DRAFT	ST 7DEC81	25DEC81	25JAN82	12FEB82	7	0	1
53500	53600	4	OPB	1 C1	5083	DATA ASSEMBLY FINAL-DRAFT	FIN 28DEC81	22JAN82	15FEB82	12MAR82	7	7	1
60702	60704	0 H	OPB	1 C5	607	PRELIM WATANA DAM ALTERNATES	7DEC81	4DEC81	7DEC81	4DEC81	0	0	1
60802	60808	2 H	OPB	1 C6	608	PRELIM DEVL CANYON DAM ALT	7DEC81	18DEC81	7DEC81	15JAN82	4	0	1
60806	60808	2 R	OPB	1 C6	608	UPDATE DESIGN CRITERIA(DC)	FIN 7DEC81	18DEC81	4JAN82	15JAN82	4	0	1
60902	60912	5 H	OPB	1 C4	609	ESTAB WATANA DESIGN CRITERIA	7DEC81	8JAN82	7DEC81	15JAN82	1	0	1
60910	60912	5 R	OPB	1 C4	609	UPDATE CRIT&ASSUMPTIONS(WAT)	FIN 7DEC81	8JAN82	14DEC81	15JAN82	1	0	1
61002	61012	5 H	OPB	1 C4	610	ESTAB DEVL CANYON DESIGN CRITERIA	7DEC81	8JAN82	7DEC81	15JAN82	1	0	1
61010	61012	5 R	OPB	1 C4	610	UPDATE CRIT&ASSUMPTIONS(DC)	FIN 7DEC81	8JAN82	14DEC81	15JAN82	1	0	1
61102	61168	6 H	OPB	1 C5	611	PRELIM DESIGN WATANA DAM	7DEC81	15JAN82	7DEC81	15JAN82	0	0	1
61117	61118	2 R	OPB	1 C5	611	INCRP GENL AMENDMENTS (WAT)	CT-1 7DEC81	18DEC81	28DEC81	8JAN82	3	0	1
61118	61119	1	OPB	1 C5	611	INCRP GENL AMENDMENTS (WAT)	FIN 21DEC81	25DEC81	11JAN82	15JAN82	3	3	1
61140	61144	2 R	OPB	1 C5	611	OPTIMIZE DAM HEIGHT	7DEC81	18DEC81	4JAN82	15JAN82	4	4	1
61146	61150	4 R	OPB	1 C5	611	ADJUST ALIGNMENT(WAT)	FIN 7DEC81	1JAN82	14DEC81	8JAN82	1	0	1
61148	61154	4 R	OPB	1 C5	611	DAM FOUNDATION TREATMENT-WAT	FIN 7DEC81	1JAN82	14DEC81	8JAN82	1	0	1

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ACRES AMERICAN SUSITNA HYDRO-ELECTRIC PROJECT

CPM ANALYSIS LISTING

I-NODE	J-NODE	DUR	SELECT	CONES	DESCRIPTION	E.S.	E.F.	L.S.	L.F.	T.F.	F.F.	CL	
61162	61164	1	R	OPB 1 C5	611 DRAFT REPORT DRAWINGS(WAT)	CT-2	7DEC81	11DEC81	7DEC81	11DEC81	0	0	1 CRITICAL
61164	61168	5		OPB 1 C5	611 DRAFT REPORT DRAWINGS(WAT)	CT-3	14DEC81	15JAN82	14DEC81	15JAN82	0	0	1 CRITICAL
61168	61170	4		OPB 1 C5	611 DRAFT REPORT DRAWINGS(WAT)	CT-4	18JAN82	12FEB82	18JAN82	12FEB82	0	0	1 CRITICAL
61170	61172	4		OPB 1 C5	611 DRAFT REPORT DRAWINGS(WAT)	FIN	15FEB82	12MAR82	15FEB82	12MAR82	0	0	1 CRITICAL
61202	61264	6	H	OPB 1 C6	612 PRELIM DESIGN DEVIL CANYON DAM		7DEC81	15JAN82	7DEC81	15JAN82	0	0	1 CRITICAL
61249	61252	3	R	OPB 1 C6	612 DESIGN DAM(DC)	FIN	7DEC81	25DEC81	28DEC81	15JAN82	3	0	1
61250	61254	4	R	OPB 1 C6	612 FOUNDATION TREATMENT(DC)	FIN	7DEC81	1JAN82	14DEC81	8JAN82	1	0	1
61260	61262	1	R	OPB 1 C6	612 DRAFT REPORT DWGS(DC)	CT-2	7DEC81	11DEC81	7DEC81	11DEC81	0	0	1 CRITICAL
61262	61264	5		OPB 1 C6	612 DRAFT REPORT DWGS(DC)	CT-3	14DEC81	15JAN82	14DEC81	15JAN82	0	0	1 CRITICAL
61264	61266	4		OPB 1 C6	612 DRAFT REPORT DWGS(DC)	CT-4	19JAN82	12FEB82	18JAN82	12FEB82	0	0	1 CRITICAL
61266	61268	4		OPB 1 C6	612 DRAFT REPORT DWGS(DC)	FIN	15FEB82	12MAR82	15FEB82	12MAR82	0	0	1 CRITICAL
61325	61350	9	H	OPB C4	613 DAM SELECTION REPORT		7DEC81	5FEB82	14DEC81	12FEB82	1	0	1
61325	61330	2		OPB 1 C4	613 DAM SELECTION REPORT	ST	7DEC81	18DEC81	14DEC81	25DEC81	1	0	1
61330	61335	2		OPB 1 C4	613 DAM SELECTION REPORT	CT-1	21DEC81	1JAN82	28DEC81	8JAN82	1	0	1
61335	61340	2		OPB 1 C4	613 DAM SELECTION REPORT	CT-2	4JAN82	15JAN82	11JAN82	22JAN82	1	0	1
61340	61345	2		OPB 1 C4	613 DAM SELECTION REPORT	CT-3	18JAN82	29JAN82	25JAN82	5FEB82	1	0	1
61345	61350	1		OPB 1 C4	613 DAM SELECTION REPORT	FIN	1FEB82	5FEB82	8FEB82	12FEB82	1	0	1
61402	61412	5	H	OPB 1 C4	614 SPILLWAY DESIGN CRITERIA		7DEC81	8JAN82	7DEC81	15JAN82	1	0	1
61408	61410	3	R	OPB 1 C4	614 UPDATE CRIT&ASSUMPTIONS(SPWY)	CT-1	7DEC81	25DEC81	14DEC81	1JAN82	1	0	1
61410	61412	2		OPB 1 C4	614 UPDATE CRIT&ASSUMPTIONS(SPWY)	FIN	28DEC81	8JAN82	4JAN82	15JAN82	1	0	1
61502	61518	0	H	OPB 1 C5	615 WATANA SPILLWAY ALTERNATIVES		7DEC81	4DEC81	7DEC81	4DEC81	0	0	1 CRITICAL
61602	61626	0	H	OPB 1 C6	616 DEVIL CANYON SPILLWAY ALTERNATIVE		7DEC81	4DEC81	7DEC81	4DEC81	0	0	1 CRITICAL
61702	61786	6	H	OPB 1 C5	617 PRELIM DESIGN WATANA SPILLWAY		7DEC81	15JAN82	21DEC81	15JAN82	0	0	1 CRITICAL
61704	61705	3	R	OPB 1 C5	617 INCORP GENL AMENDMENTS (WAT)	CT-1	7DEC81	25DEC81	21DEC81	8JAN82	2	0	1
61705	61706	1		OPB 1 C5	617 INCORP GENL AMENDMENTS (WAT)	FIN	28DEC81	1JAN82	11JAN82	15JAN82	2	1	1
61732	61738	5	R	OPB 1 C5	617 OPT AGAINST DAM FREEBOARD	FIN	7DEC81	8JAN82	14DEC81	15JAN82	1	1	1
61733	61743	4	R	OPB 1 C5	617 PREL DESGN CONTRL STRUCTURES	FIN	7DEC81	1JAN82	21DEC81	15JAN82	2	2	1
61736	61744	2	R	OPB 1 C5	617 PREL DESGN CHUTE/ROCK ANCRS	FIN	7DEC81	18DEC81	4JAN82	15JAN82	4	4	1
61770	61776	4	R	OPB 1 C5	617 DESIGN CLOSURE/CONTRL STRUCT	FIN	7DEC81	1JAN82	21DEC81	15JAN82	2	2	1
61772	61774	2		OPB 1 C5	617 DESIGN ENERGY DISSIPATION	FIN	7DEC81	18DEC81	14DEC81	25DEC81	1	0	1
61782	61784	1	R	OPB 1 C5	617 DRAFT REPORT DRAWINGS(WAT)	CT-2	7DEC81	11DEC81	7DEC81	11DEC81	0	0	1 CRITICAL
61784	61786	5		OPB 1 C5	617 DRAFT REPORT DRAWINGS(WAT)	CT-3	14DEC81	15JAN82	14DEC81	15JAN82	0	0	1 CRITICAL
61786	61788	4		OPB 1 C5	617 DRAFT REPORT DRAWINGS(WAT)	CT-4	18JAN82	12FEB82	18JAN82	12FEB82	0	0	1 CRITICAL
61788	61790	4		OPB 1 C5	617 DRAFT REPORT DRAWINGS(WAT)	FIN	15FEB82	12MAR82	15FEB82	12MAR82	0	0	1 CRITICAL
61802	61870	6	H	OPB 1 C6	618 PRELIM DESIGN DEVIL CAN SPILLWAY		7DEC81	15JAN82	28DEC81	15JAN82	0	0	1 CRITICAL
61810	61838	3	R	OPB 1 C6	618 SPILLWAYS ENERGY DISSIPATINS		7DEC81	25DEC81	28DEC81	15JAN82	3	3	1
61828	61830	4	R	OPB 1 C6	618 PREL DESGN CONTRL STRUCT(DC)	FIN	7DEC81	1JAN82	21DEC81	15JAN82	2	2	1
61834	61840	3	R	OPB 1 C6	618 OPT AGAINST DAM FREEBRD(DC)	FIN	7DEC81	25DEC81	28DEC81	15JAN82	3	3	1
61836	61844	4	R	OPB 1 C6	618 PREL DESGN CHUTE/ROCK ANCRS	FIN	7DEC81	1JAN82	21DEC81	15JAN82	2	2	1
61842	61846	6		OPB 1 C6	618 PREL DESGN GROUTING/DRAINAGE		7DEC81	15JAN82	7DEC81	15JAN82	0	0	1 CRITICAL
61856	61860	2		OPB 1 C6	618 LL RELEASES ENERGY DISSIPATIN	FIN	7DEC81	18DEC81	4JAN82	15JAN82	4	4	1
61866	61868	1	R	OPB 1 C6	618 DRAFT REPORT DWGS(DC)	CT-2	7DEC81	11DEC81	7DEC81	11DEC81	0	0	1 CRITICAL
61868	61870	5		OPB 1 C6	618 DRAFT REPORT DWGS(DC)	CT-3	14DEC81	15JAN82	14DEC81	15JAN82	0	0	1 CRITICAL
61870	61872	4		OPB 1 C6	618 DRAFT REPORT DWGS(DC)	CT-4	18JAN82	12FEB82	18JAN82	12FEB82	0	0	1 CRITICAL
61872	61874	4		OPB 1 C6	618 DRAFT REPORT DWGS(DC)	FIN	15FEB82	12MAR82	15FEB82	12MAR82	0	0	1 CRITICAL
61925	61955	11	H	OPB C4	619 SPILLWAY SELECTION REPORT		7DEC81	19FEB82	21DEC81	5MAR82	2	0	1
61930	61935	2		OPB 1 C4	619 SPILLWAY SELECTION REPORT	CT-1	7DEC81	18DEC81	21DEC81	1JAN82	2	0	1
61935	61940	4		OPB 1 C4	619 SPILLWAY SELECTION REPORT	CT-2	21DEC81	15JAN82	4JAN82	29JAN82	2	0	1
61940	61945	2		OPB 1 C4	619 SPILLWAY SELECTION REPORT	CT-3	18JAN82	29JAN82	1FEB82	12FEB82	2	0	1
61945	61950	2		OPB 1 C4	619 SPILLWAY SELECTION REPORT	CT-4	1FEB82	12FEB82	15FEB82	26FEB82	2	0	1
61950	61955	1		OPB 1 C4	619 SPILLWAY SELECTION REPORT	FIN	15FEB82	19FEB82	1MAR82	5MAR82	2	0	1



ACRES AMERICAN SUSITNA HYDRO-ELECTRIC PROJECT

PAGE 3  
TIME NOW: 7DEC81

CPM ANALYSIS LISTING

I-NODE	J-NODE	DUR	SELECT	CODES	DESCRIPTION	E.S.	E.F.	L.S.	L.F.	T.F.	F.F.	CL
62010	62052	12	H	OPB 1 C5	620 ACCESS & CAMP FACILITIES	7DEC81	26FEB82	28DEC81	5MAR82	1	0	1
62029	62038	2	R	OPB 1 C5	620 DETERMINE AUX REQUIREMENTS FIN	7DEC81	18DEC81	28DEC81	8JAN82	3	0	1
62030	62040	2	R	OPB 1 C5	620 IDENTIFY & EVALUATE SITES	7DEC81	18DEC81	28DEC81	8JAN82	3	0	1
62032	62042	2	R	OPB 1 C5	620 PRELIM LAYOUT OF TOWNSITE	7DEC81	18DEC81	28DEC81	8JAN82	3	0	1
62044	62046	4	R	OPB 1 C5	620 REVISE & FINALIZE LOAD PARAMETERS	21DEC81	15JAN82	11JAN82	5FEB82	3	0	1
62046	62048	1	R	OPB 1 C5	620 PREP DESIGN TRANSMITTAL	18JAN82	22JAN82	8FEB82	12FEB82	3	2	1
62050	62052	3		OPB 1 C5	620 FINALIZE DESIGN TRANSMITTAL	8FEB82	26FEB82	15FEB82	5MAR82	1	0	1
62102	62132	10	H	OPB 1 C5	621 WATANA DIVERSION SCHEMES	7DEC81	12FEB82	7DEC81	12FEB82	0	0	1 CRITICAL
62118	62122	4		OPB 1 C5	621 DESIGN WATER PASSAGES-WAT FIN	7DEC81	1JAN82	21DEC81	15JAN82	2	2	1
62120	62121	4	R	OPB 1 C5	621 DESIGN COFFERDAM HEIGHT FIN	7DEC81	1JAN82	21DEC81	15JAN82	2	2	1
62126	62128	1	R	OPB 1 C5	621 DRAFT REPORT DRAWINGS(WAT) CT-2	7DEC81	11DEC81	7DEC81	11DEC81	0	0	1 CRITICAL
62128	62130	5		OPB 1 C5	621 DRAFT REPORT DRAWINGS(WAT) CT-3	14DEC81	15JAN82	14DEC81	15JAN82	0	0	1 CRITICAL
62130	62132	4		OPB 1 C5	621 DRAFT REPORT DRAWINGS(WAT) CT-4	18JAN82	12FEB82	18JAN82	12FEB82	0	0	1 CRITICAL
62132	62134	4		OPB 1 C5	621 DRAFT REPORT DRAWINGS(WAT) FIN	15FEB82	12MAR82	15FEB82	12MAR82	0	0	1 CRITICAL
62202	62236	10	H	OPB 1 C6	622 DEVIL CANYON DIVERSION SCHEMES	7DEC81	12FEB82	7DEC81	12FEB82	0	0	1 CRITICAL
62218	62222	5	R	OPB 1 C6	622 DESGN WATER PASSAGES(DC) FIN	7DEC81	8JAN82	14DEC81	15JAN82	1	1	1
62220	62224	5		OPB 1 C6	622 DESGN COFFERDAM HEIGHT(DC) FIN	7DEC81	8JAN82	14DEC81	15JAN82	1	1	1
62230	62232	1	R	OPB 1 C6	622 DRAFT REPORT DWGS(DC) CT-2	7DEC81	11DEC81	7DEC81	11DEC81	0	0	1 CRITICAL
62232	62234	5		OPB 1 C6	622 DRAFT REPORT DWGS(DC) CT-3	14DEC81	15JAN82	14DEC81	15JAN82	0	0	1 CRITICAL
62234	62236	4		OPB 1 C6	622 DRAFT REPORT DWGS(DC) CT-4	18JAN82	12FEB82	18JAN82	12FEB82	0	0	1 CRITICAL
62236	62238	4		OPB 1 C6	622 DRAFT REPORT DWGS(DC) FIN	15FEB82	12MAR82	15FEB82	12MAR82	0	0	1 CRITICAL
62302	62374	6	H	OPB 1 C4	623 OPT WATANA POWER DEVELOPMENT	7DEC81	15JAN82	7DEC81	15JAN82	0	0	1 CRITICAL
62341	62346	2	R	OPB 1 C4	623 REVIEW ALIGNMENTS-WAT FIN	7DEC81	18DEC81	4JAN82	15JAN82	4	4	1
62344	62358	3	R	OPB 1 C4	623 OPTIMIZE POWER FACILITIES	7DEC81	25DEC81	28DEC81	15JAN82	3	3	1
62356	62364	4	R	OPB 1 C4	623 PREL DESIGN INTAKE STRUCTURE FIN	7DEC81	1JAN82	21DEC81	15JAN82	2	2	1
62362	62368	6	R	OPB 1 C4	623 PREL DESIGN OF POWERHOUSE	7DEC81	15JAN82	7DEC81	15JAN82	0	0	1 CRITICAL
62372	62373	1	R	OPB 1 C4	623 DRAFT REPORT DRAWINGS(WAT) CT-2	7DEC81	11DEC81	7DEC81	11DEC81	0	0	1 CRITICAL
62373	62374	5		OPB 1 C4	623 DRAFT REPORT DRAWINGS(WAT) CT-3	14DEC81	15JAN82	14DEC81	15JAN82	0	0	1 CRITICAL
62374	62375	4		OPB 1 C4	623 DRAFT REPORT DRAWINGS(WAT) CT-4	18JAN82	12FEB82	18JAN82	12FEB82	0	0	1 CRITICAL
62375	62378	4		OPB 1 C4	623 DRAFT REPORT DRAWINGS(WAT) FIN	15FEB82	12MAR82	15FEB82	12MAR82	0	0	1 CRITICAL
62402	62470	6	H	OPB 1 C4	624 OPT DEVL CAN POWER DEVELOPMENT	7DEC81	15JAN82	7DEC81	15JAN82	0	0	1 CRITICAL
62441	62450	3		OPB 1 C4	624 REVIEW ALIGNMENTS(DC) FIN	7DEC81	25DEC81	28DEC81	15JAN82	3	3	1
62446	62458	2	R	OPB 1 C4	624 PREL DESIGN OF INTAKE	7DEC81	18DEC81	4JAN82	15JAN82	4	4	1
62448	62454	2	R	OPB 1 C4	624 PREL DESIGN WATER PASSAGES	7DEC81	18DEC81	4JAN82	15JAN82	4	4	1
62456	62460	4	R	OPB 1 C4	624 PREL DESIGN POWERHOUSE	7DEC81	1JAN82	4JAN82	29JAN82	4	4	1
62466	62468	1	R	OPB 1 C4	624 DRAFT REPORT DWGS(DC) CT-2	7DEC81	11DEC81	7DEC81	11DEC81	0	0	1 CRITICAL
62468	62470	5		OPB 1 C4	624 DRAFT REPORT DWGS(DC) CT-3	14DEC81	15JAN82	14DEC81	15JAN82	0	0	1 CRITICAL
62470	62472	4		OPB 1 C4	624 DRAFT REPORT DWGS(DC) CT-4	18JAN82	12FEB82	18JAN82	12FEB82	0	0	1 CRITICAL
62472	62474	4		OPB 1 C4	624 DRAFT REPORT DWGS(DC) FIN	15FEB82	12MAR82	15FEB82	12MAR82	0	0	1 CRITICAL
62502	62522	0	H	OPB 1 C4	625 OPTIMIZE DAM HEIGHTS	7DEC81	4DEC81	7DEC81	4DEC81	0	0	1 CRITICAL
62602	62664	6	H	OPB 1 C5	626 PREL DESGN WATANA POWER DEVEL	7DEC81	15JAN82	14DEC81	15JAN82	0	0	1 CRITICAL
62604	62605	4	R	OPB 1 C5	626 INCORP GENL AMENDMENTS (WAT) CT-1	7DEC81	1JAN82	14DEC81	8JAN82	1	0	1
62605	62606	1		OPB 1 C5	626 INCORP GENL AMENDMENTS (WAT) FIN	4JAN82	8JAN82	11JAN82	15JAN82	1	0	1
62616	62620	3		OPB 1 C5	626 LAYOUT SURFACE P/H T/R CHANNEL	7DEC81	25DEC81	28DEC81	15JAN82	3	3	1
62622	62624	1		OPB 1 C5	626 SELECT TYPE OF POWERHOUSE	7DEC81	11DEC81	11JAN82	15JAN82	5	0	1
62625	62626	1		OPB 1 C5	626 COST LAYOUT SURFACE U/G STRU FIN	7DEC81	11DEC81	11JAN82	15JAN82	5	0	1
62644	62652	4		OPB 1 C5	626 PREL DESIGN INTAKE STRUCTURE FIN	7DEC81	1JAN82	21DEC81	15JAN82	2	2	1
62650	62655	4	R	OPB 1 C5	626 PREL DESIGN OF POWERHOUSE(WAT)	7DEC81	1JAN82	21DEC81	15JAN82	2	2	1
62660	62662	1	R	OPB 1 C5	626 DRAFT REPORT DRAWINGS(DC) CT-2	7DEC81	11DEC81	7DEC81	11DEC81	0	0	1 CRITICAL
62662	62664	5		OPB 1 C5	626 DRAFT REPORT DRAWINGS(DC) CT-3	14DEC81	15JAN82	14DEC81	15JAN82	0	0	1 CRITICAL
62664	62666	4		OPB 1 C5	626 DRAFT REPORT DRAWINGS(DC) CT-4	18JAN82	12FEB82	18JAN82	12FEB82	0	0	1 CRITICAL

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62666	62668	4	OPB	1 C5	626 DRAFT REPORT DRAWINGS(DC) FIN	15FEB82	12MAR82	15FEB82	12MAR82	0	0	1 CRITICAL
62702	62750	6 H	OPB	1 C6	627 PREL DESGN DEVL CAN POWER DEVEL	7DEC81	15JAN82	28DEC81	15JAN82	0	0	1 CRITICAL
62721	62730	4 R	OPB	1 C6	627 REVIEW ALIGNMENTS(DC) FIN	7DEC81	1JAN82	21DEC81	15JAN82	2	2	1
62726	62738	4 R	OPB	1 C6	627 PREL DESIGN OF INTAKE	7DEC81	1JAN82	21DEC81	15JAN82	2	2	1
62728	62734	2 R	OPB	1 C6	627 PREL DESIGN WATER PASSAGES	7DEC81	18DEC81	4JAN82	15JAN82	4	4	1
62736	62740	9	OPB	1 C6	627 PREL DESGN POWERHOUSE	14DEC81	12FEB82	28DEC81	26FEB82	2	2	1
62746	62748	1 R	OPB	1 C6	627 DRAFT REPORT DWGS(DC) CT-2	7DEC81	11DEC81	7DEC81	11DEC81	0	0	1 CRITICAL
62748	62750	5	OPB	1 C6	627 DRAFT REPORT DWGS(DC) CT-3	14DEC81	15JAN82	14DEC81	15JAN82	0	0	1 CRITICAL
62750	62752	4	OPB	1 C6	627 DRAFT REPORT DWGS(DC) CT-4	18JAN82	12FEB82	18JAN82	12FEB82	0	0	1 CRITICAL
62752	62754	4	OPB	1 C6	627 DRAFT REPORT DWGS(DC) FIN	15FEB82	12MAR82	15FEB82	12MAR82	0	0	1 CRITICAL
62810	62860	9 H	OPB	C4	628 POWER DEVELOPMENT REPORT-DRAFT	4JAN82	5MAR82	4JAN82	5MAR82	0	0	1 CRITICAL
62810	62820	2	OPB	1 C4	628 POWER DEVELOPMENT REPORT ST	4JAN82	15JAN82	4JAN82	15JAN82	0	0	1 CRITICAL
62820	62830	2	OPB	1 C4	628 POWER DEVELOPMENT REPORT CT-1	18JAN82	29JAN82	18JAN82	29JAN82	0	0	1 CRITICAL
62830	62840	2	OPB	1 C4	628 POWER DEVELOPMENT REPORT CT-2	1FEB82	12FEB82	1FEB82	12FEB82	0	0	1 CRITICAL
62840	62850	2	OPB	1 C4	628 POWER DEVELOPMENT REPORT CT-3	15FEB82	26FEB82	15FEB82	26FEB82	0	0	1 CRITICAL
62850	62860	1	OPB	1 C4	628 POWER DEVELOPMENT REPORT FIN	1MAR82	5MAR82	1MAR82	5MAR82	0	0	1 CRITICAL
62902	62912	10 H	OPB	1 C5	629 WATANA GENERAL ARRANGEMENT	7DEC81	12FEB82	11JAN82	19MAR82	5	0	1
62906	62908	1 R	OPB	1 C5	629 DRAFT REPORT DWGS(DC) CT-2	7DEC81	11DEC81	11JAN82	15JAN82	5	0	1
62908	62910	5	OPB	1 C5	629 DRAFT REPORT DWGS(DC) CT-3	14DEC81	15JAN82	18JAN82	19FEB82	5	0	1
62910	62912	4	OPB	1 C5	629 DRAFT REPORT DWGS(DC) CT-4	18JAN82	12FEB82	22FEB82	19MAR82	5	0	1
62912	62914	4	OPB	1 C5	629 DRAFT REPORT DWGS(DC) FIN	15FEB82	12MAR82	23MAR82	16APR82	5	0	1
62914	62916	0	OPB	1 C5	629XX EXHIBIT J MATERIAL COMPLETE	15MAR82	12MAR82	19APR82	16APR82	5	5	1
63002	63014	18 H	OPB	1 C6	630 DEVL CANYON GENERAL ARRANGEMENT	7DEC81	9APR82	14DEC81	16APR82	1	0	1
63006	63008	5 R	OPB	1 C6	630 DRAFT REPORT DRAWINGS(DC) CT-2	7DEC81	8JAN82	14DEC81	15JAN82	1	0	1
63008	63010	5	OPB	1 C6	630 DRAFT REPORT DRAWINGS(DC) CT-3	11JAN82	12FEB82	18JAN82	19FEB82	1	0	1
63010	63012	4	OPB	1 C6	630 DRAFT REPORT DRAWINGS(DC) CT-4	15FEB82	12MAR82	22FEB82	19MAR82	1	0	1
63012	63014	4	OPB	1 C6	630 DRAFT REPORT DRAWINGS(DC) FIN	15MAR82	9APR82	22MAR82	16APR82	1	0	1
62860	62862	0	OPB	1 C4	630XX EXHIBIT M MATERIAL COMPLETE	8MAR82	5MAR82	19APR82	16APR82	6	0	1
63014	63016	0	OPB	1 C6	630XX EXHIBIT K MATERIAL COMPLETE	12APR82	9APR82	19APR82	16APR82	1	1	1
63125	63150	9 H	OPB	C4	631 PROJ FEASIBILITY REPORT	18JAN82	19MAR82	18JAN82	19MAR82	0	0	1 CRITICAL
63125	63130	2	OPB	1 C4	631 PROJ FEASIBILITY REPORT ST	18JAN82	29JAN82	18JAN82	29JAN82	0	0	1 CRITICAL
63130	63135	2	OPB	1 C4	631 PROJ FEASIBILITY REPORT CT-1	1FEB82	12FEB82	1FEB82	12FEB82	0	0	1 CRITICAL
63135	63140	2	OPB	1 C4	631 PROJ FEASIBILITY REPORT CT-2	15FEB82	26FEB82	15FEB82	26FEB82	0	0	1 CRITICAL
63140	63145	2	OPB	1 C4	631 PROJ FEASIBILITY REPORT CT-3	1MAR82	12MAR82	1MAR82	12MAR82	0	0	1 CRITICAL
63145	63150	1	OPB	1 C4	631 PROJ FEASIBILITY REPORT FIN	15MAR82	19MAR82	15MAR82	19MAR82	0	0	1 CRITICAL
63150	63152	0	OPB	1 C4	631XX EXHIBIT L MATERIAL COMPLETE	22MAR82	19MAR82	19APR82	16APR82	4	4	1
6C100	6C200	5 R	OPB	1 C2	637 UPDATE GENERATION PLAN	7DEC81	8JAN82	29MAR82	30APR82	16	24	1
6B800	6B900	28 R	OPB	1 C2	638 LIAISON POWER ALTS CONSULTANT	7DEC81	18JUN82	14DEC81	25JUN82	1	1	1
71400	71600	0	OPB	1 C8	7011 STUDY COORD-ALTERNATIVE SITE FIN	7DEC81	4DEC81	7DEC81	4DEC81	0	0	1 CRITICAL
71800	72000	0	OPB	1 C8	7012 STUDY COORD-PRELIM ALTERNATV FIN	7DEC81	4DEC81	7DEC81	4DEC81	0	0	1 CRITICAL
72100	72200	14 R	OPB	1 C8	7013 STUDY COORD-OPTIMIZED DESIGN FIN	7DEC81	12MAR82	11JAN82	16APR82	5	5	1
79300	79400	28 R	OPB	1 C8	702 MONITOR FIELD ACTIVITIES CT-1	7DEC81	18JUN82	14DEC81	25JUN82	1	0	1
79400	79500	0	OPB	1 C8	702 MONITOR FIELD ACTIVITIES FIN	21JUN82	18JUN82	28JUN82	25JUN82	1	1	1
72000	70600	15 R	OPB	1 C8	7043 WTR RES-OPT WAT&DEVL CAN DES	7DEC81	19MAR82	4JAN82	16APR82	4	4	1
73200	73400	9	OPB	1 C8	705 SOCIOECONOMIC ANALYSIS	15FEB82	16APR82	15FEB82	16APR82	0	0	1 CRITICAL
73300	73200	10 R	OPB	1 C8	705 SOCIOECONOMIC ANALYSIS CT-2	7DEC81	12FEB82	7DEC81	12FEB82	0	0	1 CRITICAL
79000	79100	1 R	OPB	1 C8	7062 CULTURAL PRELIM ALTERNATIVES CT-1	7DEC81	11DEC81	7DEC81	11DEC81	0	0	1 CRITICAL
79100	79700	0	OPB	1 C8	7062 CULTURAL PRELIM ALTERNATIVES FIN	14DEC81	11DEC81	14DEC81	11DEC81	0	0	1 CRITICAL
79700	79800	18	OPB	1 C8	7063 CULTURAL-OPTIMIZED DESIGN CT-1	14DEC81	16APR82	14DEC81	16APR82	0	0	1 CRITICAL
79800	79900	0	OPB	1 C8	7063 CULTURAL-OPTIMIZED DESIGN FIN	19APR82	16APR82	19APR82	16APR82	0	0	1 CRITICAL
79900	799A0	0	OPB	1 C8	706XX EXHIBIT V MATERIAL COMPLETE	19APR82	16APR82	19APR82	16APR82	0	0	1 CRITICAL

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76000	76100	5	R	OPB 1 C8	7072	LAND USE PRELIM ALTERNATIVES	CT-1	7DEC81	8JAN82	4JAN82	5FEB82	4	0	1
76100	76800	0		OPB 1 C8	7072	LAND USE PRELIM ALTERNATIVES	FIN	11JAN82	8JAN82	8FEB82	5FEB82	4	3	1
76700	76800	8	R	OPB 1 C8	7073	LAND USE OPTIMIZED DESIGN	ST	7DEC81	29JAN82	14DEC81	5FEB82	1	0	1
76800	76900	20		OPB 1 C8	7073	LAND USE OPTIMIZED DESIGN	CT-1	1FEB82	18JUN82	8FEB82	25JUN82	1	0	1
76900	77000	0		OPB 1 C8	7073	LAND USE OPTIMIZED DESIGN	FIN	21JUN82	18JUN82	28JUN82	25JUN82	1	1	1
72600	72800	5		OPB 1 C8	708	RECREATION PLANNING	FIN	8FEB82	12MAR82	15MAR82	16APR82	5	5	1
72700	72600	9	R	OPB 1 C8	708	RECREATION PLANNING	CT-2	7DEC81	5FEB82	14DEC81	12FEB82	1	0	1
73600	73680	19	R	OPB 1 C8	7092	TRANS LINE ASSESS R/E SELECTN	FIN	7DEC81	16APR82	7DEC81	16APR82	0	0	1
73700	74200	0		OPB 1 C8	7101	FISH ECOLOGY ALTERNATV SITES	FIN	7DEC81	4DEC81	21DEC81	18DEC81	2	2	1
74100	74200	2	R	OPB 1 C8	7102	FISH ECOLOGY PRELIM ALTERNAT	ST	7DEC81	18DEC81	7DEC81	18DEC81	0	0	1
74200	74300	10		OPB 1 C8	7102	FISH ECOLOGY PRELIM ALTERNAT	CT-1	21DEC81	26FEB82	21DEC81	26FEB82	0	0	1
74300	74600	0		OPB 1 C8	7102	FISH ECOLOGY PRELIM ALTERNAT	FIN	1MAR82	26FEB82	1MAR82	26FEB82	0	0	1
74500	74600	8	R	OPB 1 C8	7103	FISH ECOLOGY OPTIMIZED DESGN	ST	7DEC81	29JAN82	4JAN82	26FEB82	4	4	1
74600	74700	17		OPB 1 C8	7103	FISH ECOLOGY OPTIMIZED DESGN	CT-1	1MAR82	25JUN82	1MAR82	25JUN82	0	0	1
74700	74800	0		OPB 1 C8	7103	FISH ECOLOGY OPTIMIZED DESGN	FIN	28JUN82	25JUN82	28JUN82	25JUN82	0	0	1
75000	75100	8	R	OPB 1 C8	7111	WILDLIFE ECOLOGY ALTER SITES	FIN	7DEC81	29JAN82	14DEC81	5FEB82	1	0	1
75600	75700	8	R	OPB 1 C8	7112	WILDLIFE ECOLOGY PRELM ALTER	CT-1	7DEC81	29JAN82	14DEC81	5FEB82	1	0	1
75700	76400	0		OPB 1 C8	7112	WILDLIFE ECOLOGY PRELM ALTER	FIN	1FEB82	29JAN82	8FEB82	5FEB82	1	0	1
76300	76400	8	R	OPB 1 C8	7113	WILDLIFE ECOLOGY OPTIM DESGN	ST	7DEC81	29JAN82	14DEC81	5FEB82	1	0	1
76400	76500	20		OPB 1 C8	7113	WILDLIFE ECOLOGY OPTIM DESGN	CT-1	1FEB82	18JUN82	8FEB82	25JUN82	1	0	1
76500	76600	0		OPB 1 C8	7113	WILDLIFE ECOLOGY OPTIM DESGN	FIN	21JUN82	18JUN82	28JUN82	25JUN82	1	1	1
77500	77600	8	R	OPB 1 C8	7122	PLANT ECOLOGY PRELM ALTERNAT	CT-1	7DEC81	29JAN82	14DEC81	5FEB82	1	0	1
77600	77900	0		OPB 1 C8	7122	PLANT ECOLOGY PRELM ALTERNAT	FIN	1FEB82	29JAN82	8FEB82	5FEB82	1	0	1
77800	77900	8	R	OPB 1 C8	7123	PLANT ECOLOGY OPTIMIZD DESGN	ST	7DEC81	29JAN82	14DEC81	5FEB82	1	0	1
77900	78000	20		OPB 1 C8	7123	PLANT ECOLOGY OPTIMIZD DESGN	CT-1	1FEB82	18JUN82	8FEB82	25JUN82	1	0	1
78000	78100	0		OPB 1 C8	7123	PLANT ECOLOGY OPTIMIZD DESGN	FIN	21JUN82	18JUN82	28JUN82	25JUN82	1	1	1
71040	74400	8	R	OPB 1 C8	714	ACCESS RD ENVIRONMENT ANALY	CT-1	7DEC81	29JAN82	14DEC81	5FEB82	1	0	1
74400	74000	10		OPB 1 C8	714	ACCESS RD ENVIRONMENT ANALY	FIN	1FEB82	9APR82	8FEB82	16APR82	1	1	1
78200	78300	9		OPB 1 C8	715	PREP FOR FERC EXHIBIT-DRAFT	ST	7DEC81	5FEB82	4JAN82	5MAR82	4	1	1
78300	78400	6		OPB 1 C8	715	PREP FOR FERC EXHIBIT-DRAFT	CT-1	15FEB82	26MAR82	8MAR82	16APR82	3	3	1
78400	78500	0		OPB 1 C8	715	PREP FOR FERC EXHIBIT-DRAFT	FIN	19APR82	16APR82	19APR82	16APR82	0	0	1
78500	785A0	0		OPB 1 C8	715XX	EXHIBIT W MATERIAL COMPLETE		19APR82	16APR82	19APR82	16APR82	0	0	1
78500	785B0	0		OPB 1 C8	715XX	EXHIBIT S MATERIAL COMPLETE		19APR82	16APR82	17MAY82	14MAY82	4	4	1
82800	83000	0		OPB 1 C3	80221	PRELIMINARY ELEC SYSTEM	FIN	7DEC81	4DEC81	7DEC81	4DEC81	0	0	1
85700	85800	14	R	OPB 1 C3	80222	RECOMMEND ELEC SYS	ST	7DEC81	12MAR82	7DEC81	12MAR82	0	0	1
85800	85900	3		OPB 1 C3	80222	RECOMMEND ELEC SYS	FIN	15MAR82	2APR82	29MAR82	16APR82	2	2	1
80800	81000	1	R	OPB 1 C3	803	FINAL ROUTE SELECTION 1981	CT-1	7DEC81	11DEC81	14DEC81	18DEC81	1	0	1
81000	81200	4		OPB 1 C3	803	FINAL ROUTE SELECTION 1981	CT-2	14DEC81	8JAN82	21DEC81	15JAN82	1	0	1
81200	81400	0		OPB 1 C3	803	FINAL ROUTE SELECTION 1981	FIN	11JAN82	8JAN82	18JAN82	15JAN82	1	0	1
83400	83600	5	R	OPB 1 C3	804	TOWER HARDWARE&CONDUCTR STUDY	CT-1	7DEC81	8JAN82	14DEC81	15JAN82	1	0	1
83600	85400	2		OPB 1 C3	804	TOWER HARDWARE&CONDUCTR STUDY	FIN	11JAN82	22JAN82	18JAN82	29JAN82	1	1	1
84800	85400	8		OPB 1 C3	805	SUBSTATIONS	FIN	7DEC81	29JAN82	7DEC81	29JAN82	0	0	1
84200	85400	8		OPB 1 C3	806	DISPATCH CTR & COMMUNICATNS	FIN	7DEC81	29JAN82	7DEC81	29JAN82	0	0	1
85200	85400	1	R	OPB 1 C3	807	TRANS LINE COST ESTIMATES	ST	7DEC81	11DEC81	25JAN82	29JAN82	7	7	1
85400	85600	6		OPB 1 C3	807	TRANS LINE COST ESTIMATES	FIN	1FEB82	12MAR82	1FEB82	12MAR82	0	0	1
90308	91000	2	R	OPB 1 C7	902	PREP PRELIM CST ESTIMATES	FIN	7DEC81	18DEC81	7DEC81	18DEC81	0	0	1
91200	91213	2		OPB 1 C7	903	COST ESTIMATE UPDATES	ST	21DEC81	1JAN82	21DEC81	1JAN82	0	0	1
91213	91214	2		OPB 1 C7	903	COST ESTIMATE UPDATES	CT-1	4JAN82	15JAN82	4JAN82	15JAN82	0	0	1
91214	91216	2		OPB 1 C7	903	COST ESTIMATE UPDATES	CT-2	18JAN82	29JAN82	18JAN82	29JAN82	0	0	1
91216	91218	2		OPB 1 C7	903	COST ESTIMATE UPDATES	CT-3	1FEB82	12FEB82	1FEB82	12FEB82	0	0	1
91218	91400	2		OPB 1 C7	903	COST ESTIMATE UPDATES	FIN	15FEB82	26FEB82	15FEB82	26FEB82	0	0	1

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ACRES AMERICAN SUSITNA HYDRO-ELECTRIC PROJECT

CPM ANALYSIS LISTING

I-NODE	J-NODE	DUR	SELECT	CODES	DESCRIPTION	E.S.	E.F.	L.S.	L.F.	T.F.	F.F.	CL
91400	914A0	0	OPB	1 C7	903XX EXHIBIT N MATERIAL COMPLETE	1MAR82	26FEB82	19APR82	16APR82	7	7	1
91600	91800	2	R OPB	1 C7	9041 ENGR/CONST SCHEDULE PRELIM	7DEC81	18DEC81	7DEC81	18DEC81	0	0	1 CRITICAL
92000	92013	2	OPB	1 C7	9042 ENGR/CONST SCHEDULE FINAL	ST 21DEC81	1JAN82	21DEC81	1JAN82	0	0	1 CRITICAL
92013	92014	2	OPB	1 C7	9042 ENGR/CONST SCHEDULE FINAL	CT-1 4JAN82	15JAN82	4JAN82	15JAN82	0	0	1 CRITICAL
92014	92016	2	OPB	1 C7	9042 ENGR/CONST SCHEDULE FINAL	CT-2 18JAN82	29JAN82	18JAN82	29JAN82	0	0	1 CRITICAL
92016	92018	2	OPB	1 C7	9042 ENGR/CONST SCHEDULE FINAL	CT-3 1FEB82	12FEB82	1FEB82	12FEB82	0	0	1 CRITICAL
92018	92200	2	OPB	1 C7	9042 ENGR/CONST SCHEDULE FINAL	FIN 15FEB82	26FEB82	15FEB82	26FEB82	0	0	1 CRITICAL
92200	922A0	0	OPB	1 C7	904XX EXHIBIT O MATERIAL COMPLETE	1MAR82	26FEB82	19APR82	16APR82	7	7	1
92400	92600	10	OPB	1 C7	905 CONTINGENCY ANALYSIS	21DEC81	26FEB82	21DEC81	26FEB82	0	0	1 CRITICAL
A1200	A1600	8	R FLC	C110	1001 IMPACT OF NEW FERC REGULATIONS	7DEC81	29JAN82	7DEC81	29JAN82	0	0	1 CRITICAL
A3200	A2600	4	FLC	C110	10022 1ST UPDATE-REGULATORY REQ	7DEC81	1JAN82	22MAR82	16APR82	15	15	1
A3300	A2600	4	FLC	C110	10023 2ND UPDATE-REGULATORY REQ	7DEC81	1JAN82	22MAR82	16APR82	15	15	1
A3600	A3800	5	FLC	C110	1003 DATA FROM OTHERS	7DEC81	8JAN82	12APR82	14MAY82	18	0	1
A3800	A4000	0	FLC	C110	1003XX EXHIBIT A B & C MATERIAL COMPLETE	11JAN82	8JAN82	17MAY82	14MAY82	18	18	1
A1400	A1600	4	R FLC	C110	1004 COORD EXHIBIT PREPARATION	ST 7DEC81	1JAN82	4JAN82	29JAN82	4	4	1
A1600	A16A0	1	FLC	C110	1004 COORD EXHIBIT PREPARATION	CT-1 1FEB82	5FEB82	1FEB82	5FEB82	0	0	1 CRITICAL
A16A0	A1700	2	FLC	C110	1004 COORD EXHIBIT PREPARATION	CT-2 9FEB82	19FEB82	8FEB82	19FEB82	0	0	1 CRITICAL
A1700	A17A0	3	FLC	C110	1004 COORD EXHIBIT PREPARATION	CT-3 23FEB82	12MAR82	22FEB82	12MAR82	0	0	1 CRITICAL
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	7DEC81	12FEB82	4JAN82	12MAR82	4	4	1
A0700	A0900	10	FLC	C110	10052 PREPARE EXHIBIT D	7DEC81	12FEB82	8MAR82	14MAY82	13	13	1
A0800	A1000	10	FLC	C110	1006 PREPARE EXHIBIT F	7DEC81	12FEB82	8FEB82	16APR82	9	9	1
A0000	A0200	4	FLC	C110	1007 PREPARE EXHIBIT T	ST 7DEC81	1JAN82	8MAR82	2APR82	13	0	1
A0200	A1100	2	FLC	C110	1007 PREPARE EXHIBIT T	FIN 4JAN82	15JAN82	5APR82	16APR82	13	13	1
A2200	A2400	6	FLC	C110	1008 PREP APPLICATN FORM-DRAFT	ST 1MAR82	9APR82	8MAR82	16APR82	1	1	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	10XX EXHIBIT U MATERIAL COMPLETE	17MAY82	25JUN82	17MAY82	25JUN82	0	0	1 CRITICAL
B0000	B0200	28	R FLC	C210	1101 PROJECT OVERVIEW	7DEC81	18JUN82	14DEC81	25JUN82	1	1	1
B0400	B0600	18	R FLC	C210	1102 INTERNAL REPORTS	7DEC81	9APR82	14DEC81	16APR82	1	0	1
B0600	B06A0	0	FLC	C210	1102XX EXHIBIT U MATERIAL COMPLETE	12APR82	9APR82	19APR82	16APR82	1	1	1
B1200	B1400	15	R FLC	C210	1103 SUSITNA BASE PLAN RISK ANALY ST	7DEC81	19MAR82	21DEC81	2APR82	2	0	1
B1400	B1600	0	FLC	C210	1103 SUSITNA BASE PLAN RISK ANALY FIN	22MAR82	19MAR82	5APR82	2APR82	2	0	1
B1600	B1800	12	R FLC	C210	1104 SUSITNA BASE PLAN EXTEN/REVIS	22MAR82	11JUN82	5APR82	25JUN82	2	2	1
B2000	B2200	26	R FLC	C210	1105 SUSITNA FINANCE RISK ANALYSIS	7DEC81	4JUN82	28DEC81	25JUN82	3	3	1
B2400	B2600	24	FLC	C210	1106 RESOLUTION TAX ISSUE	7DEC81	21MAY82	11JAN82	25JUN82	5	5	1
B2800	B3000	26	R FLC	C210	1107 IDENTIFY PARTIES INTEREST	7DEC81	4JUN82	28DEC81	25JUN82	3	3	1
B3200	B3400	17	R FLC	C210	1108 REVENUE ASSURANCE	7DEC81	2APR82	21DEC81	16APR82	2	0	1
B3600	B3800	18	R FLC	C210	1109 LIAISON APA BOND UNDERWRITER	7DEC81	9APR82	14DEC81	16APR82	1	1	1
B3400	B34A0	0	FLC	C210	1109XX EXHIBIT G MATERIAL COMPLETE	5APR82	2APR82	19APR82	16APR82	2	2	1
C1200	C1400	4	OPB	1 C810	12023 CONDUCT PUBLIC MEETING #3	1MAR82	26MAR82	22MAR82	16APR82	3	3	1
C0800	C1000	12	OPB	1 C810	12032 CONDUCT WORKSHOPS 4,5,6	7DEC81	26FEB82	28DEC81	19MAR82	3	0	1
C1600	D1200	28	R OPB	1 C810	1204 PREP PUBLISH DISTRIB MATERIAL	7DEC81	18JUN82	14DEC81	25JUN82	1	1	1
C1800	D1200	28	R OPB	1 C810	1205 PREP MAINTAIN ACTION LIST	7DEC81	18JUN82	14DEC81	25JUN82	1	1	1
D1000	D1200	28	R PSB	2 C310	13013 PROJECT PROCED MANUAL-UPDATE	7DEC81	18JUN82	14DEC81	25JUN82	1	1	1
D2200	D2400	28	R PSB	2 C310	13042 SCHEDULE CONTROL SYS UPDATE	7DEC81	18JUN82	14DEC81	25JUN82	1	1	1
D2800	D3000	28	R PSB	2 C310	13052 COST CONTROL SYSTEM-OP	7DEC81	18JUN82	14DEC81	25JUN82	1	1	1
D3400	D3600	28	R PSB	2 C310	13062 MANPOWER LOADING SCHED-UPDATE	7DEC81	18JUN82	14DEC81	25JUN82	1	1	1

ACRES AMERICAN SUSITNA HYDRO-ELECTRIC PROJECT

TIME NOW: PAGE 7  
7DEC81

CPM ANALYSIS LISTING

I-NODE	J-NODE	DUR	SELECT	CODES	DESCRIPTION	E.S.	E.F.	L.S.	L.F.	T.F.	F.F.	CI
D3800	D4000	28	R	PSB 2 C310	1310							
D1200	D1300	0		10	XXX	7DEC81	18JUN82	14DEC81	25JUN82	1	1	1
						28JUN82	25JUN82	28JUN82	25JUN82	0	183	1 CRITICAL

WORK COMPLETED: TO DECEMBER 7, 1981

AGRES DAM/INLET SUBSINA HYDRO-ELECTRIC PROJECT

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TIME NOW: 10:00

WPH ANALYSIS LISTING

I-NODE	J-NODE	DUR	SELECT	CODES	DESCRIPTION	E.S.	E.F.	L.S.	L.F.	T.F.	P.F.	CL
10000	10000	0	C	OFA	1	01						COMPLETE
10100	10300	0	C	OFA	1	02						COMPLETE
11100	11600	0	C	OFA	1	03						COMPLETE
11600	11700	0	C	OFA	1	03						COMPLETE
20000	20300	0	C	OFA	02	01						COMPLETE
20300	20400	0	C	OFA	02	01						COMPLETE
21200	21500	0	C	OFA	02	02						COMPLETE
21500	21700	0	C	OFA	02	02						COMPLETE
21700	22010	0	C	OFA	02	02						COMPLETE
22010	22300	0	C	OFA	02	02						COMPLETE
23000	23100	0	C	OFA	02	02						COMPLETE
23100	23200	0	C	OFA	02	02						COMPLETE
23200	23400	0	C	OFA	02	02						COMPLETE
23400	23500	0	C	OFA	02	02						COMPLETE
23500	23600	0	C	OFA	02	02						COMPLETE
23600	23700	0	C	OFA	02	02						COMPLETE
23700	23800	0	C	OFA	02	02						COMPLETE
23800	23900	0	C	OFA	02	02						COMPLETE
23900	24100	0	C	OFA	02	02						COMPLETE
24100	24110	0	C	OFA	02	02						COMPLETE
24110	24200	0	C	OFA	02	02						COMPLETE
24200	24300	0	C	OFA	02	02						COMPLETE
24300	24400	0	C	OFA	02	02						COMPLETE
24400	24500	0	C	OFA	02	02						COMPLETE
24500	24600	0	C	OFA	02	02						COMPLETE
24600	24700	0	C	OFA	02	02						COMPLETE
24700	24800	0	C	OFA	02	02						COMPLETE
24800	24900	0	C	OFA	02	02						COMPLETE
24900	25000	0	C	OFA	02	02						COMPLETE
25000	25100	0	C	OFA	02	02						COMPLETE
25100	25200	0	C	OFA	02	02						COMPLETE
25200	25300	0	C	OFA	02	02						COMPLETE
25300	25400	0	C	OFA	02	02						COMPLETE
25400	25500	0	C	OFA	02	02						COMPLETE
25500	25600	0	C	OFA	02	02						COMPLETE
25600	25700	0	C	OFA	02	02						COMPLETE
25700	25800	0	C	OFA	02	02						COMPLETE
25800	25900	0	C	OFA	02	02						COMPLETE
25900	26000	0	C	OFA	02	02						COMPLETE
26000	26100	0	C	OFA	02	02						COMPLETE
26100	26200	0	C	OFA	02	02						COMPLETE
26200	26300	0	C	OFA	02	02						COMPLETE
26300	26400	0	C	OFA	02	02						COMPLETE
26400	26500	0	C	OFA	02	02						COMPLETE
26500	26600	0	C	OFA	02	02						COMPLETE
26600	26700	0	C	OFA	02	02						COMPLETE
26700	26800	0	C	OFA	02	02						COMPLETE
26800	26900	0	C	OFA	02	02						COMPLETE
26900	27000	0	C	OFA	02	02						COMPLETE
27000	27100	0	C	OFA	02	02						COMPLETE
27100	27200	0	C	OFA	02	02						COMPLETE
27200	27300	0	C	OFA	02	02						COMPLETE
27300	27400	0	C	OFA	02	02						COMPLETE
27400	27500	0	C	OFA	02	02						COMPLETE
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27600	27700	0	C	OFA	02	02						COMPLETE
27700	27800	0	C	OFA	02	02						COMPLETE
27800	27900	0	C	OFA	02	02						COMPLETE
27900	28000	0	C	OFA	02	02						COMPLETE
28000	28100	0	C	OFA	02	02						COMPLETE
28100	28200	0	C	OFA	02	02						COMPLETE
28200	28300	0	C	OFA	02	02						COMPLETE
28300	28400	0	C	OFA	02	02						COMPLETE
28400	28500	0	C	OFA	02	02						COMPLETE
28500	28600	0	C	OFA	02	02						COMPLETE
28600	28700	0	C	OFA	02	02						COMPLETE
28700	28800	0	C	OFA	02	02						COMPLETE
28800	28900	0	C	OFA	02	02						COMPLETE
28900	29000	0	C	OFA	02	02						COMPLETE
29000	29100	0	C	OFA	02	02						COMPLETE
29100	29200	0	C	OFA	02	02						COMPLETE
29200	29300	0	C	OFA	02	02						COMPLETE
29300	29400	0	C	OFA	02	02						COMPLETE
29400	29500	0	C	OFA	02	02						COMPLETE
29500	29600	0	C	OFA	02	02						COMPLETE
29600	29700	0	C	OFA	02	02						COMPLETE
29700	29800	0	C	OFA	02	02						COMPLETE
29800	29900	0	C	OFA	02	02						COMPLETE
29900	30000	0	C	OFA	02	02						COMPLETE
30000	30100	0	C	OFA	02	02						COMPLETE
30100	30200	0	C	OFA	02	02						COMPLETE
30200	30300	0	C	OFA	02	02						COMPLETE
30300	30400	0	C	OFA	02	02						COMPLETE
30400	30500	0	C	OFA	02	02						COMPLETE
30500	30600	0	C	OFA	02	02						COMPLETE
30600	30700	0	C	OFA	02	02						COMPLETE
30700	30800	0	C	OFA	02	02						COMPLETE
30800	30900	0	C	OFA	02	02						COMPLETE
30900	31000	0	C	OFA	02	02						COMPLETE
31000	31100	0	C	OFA	02	02						COMPLETE
31100	31200	0	C	OFA	02	02						COMPLETE
31200	31300	0	C	OFA	02	02						COMPLETE
31300	31400	0	C	OFA	02	02						COMPLETE
31400	31500	0	C	OFA	02	02						COMPLETE
31500	31600	0	C	OFA	02	02						COMPLETE
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31700	31800	0	C	OFA	02	02						COMPLETE
31800	31900	0	C	OFA	02	02						COMPLETE
31900	32000	0	C	OFA	02	02						COMPLETE
32000	32100	0	C	OFA	02	02						COMPLETE
32100	32200	0	C	OFA	02	02						COMPLETE
32200	32300	0	C	OFA	02	02						COMPLETE
32300	32400	0	C	OFA	02	02						COMPLETE
32400	32500	0	C	OFA	02	02						COMPLETE
32500	32600	0	C	OFA	02	02						COMPLETE
32600	32700	0	C	OFA	02	02						COMPLETE
32700	32800	0	C	OFA	02	02						COMPLETE
32800	32900	0	C	OFA	02	02						COMPLETE
32900	33000	0	C	OFA	02	02						COMPLETE
33000	33100	0	C	OFA	02	02						COMPLETE
33100	33200	0	C	OFA	02	02						COMPLETE
33200	33300	0	C	OFA	02	02						COMPLETE
33300	33400	0	C	OFA	02	02						COMPLETE
33400	33500	0	C	OFA	02	02						COMPLETE
33500	33600	0	C	OFA	02	02						COMPLETE
33600	33700	0	C	OFA	02	02						COMPLETE
33700	33800	0	C	OFA	02	02						COMPLETE
33800	33900	0	C	OFA	02	02						COMPLETE
33900	34000	0	C	OFA	02	02						COMPLETE
34000	34100	0	C	OFA	02	02						COMPLETE
34100	34200	0	C	OFA	02	02						COMPLETE
34200	34300	0	C	OFA	02	02						COMPLETE
34300	34400	0	C	OFA	02	02						COMPLETE
34400	34500	0	C	OFA	02	02						COMPLETE
34500	34600	0	C	OFA	02	02						COMPLETE
34600	34700	0	C	OFA	02	02						COMPLETE
34700	34800	0	C	OFA	02	02						COMPLETE
34800	34900	0	C	OFA	02	02						COMPLETE
34900	35000	0	C	OFA	02	02						COMPLETE
35000	35100	0	C	OFA	02	02						COMPLETE
35100	35200	0	C	OFA	02	02						COMPLETE
35200	35300	0	C	OFA	02	02						COMPLETE
35300	35400	0	C	OFA	02	02						COMPLETE
35400	35500	0	C	OFA	02	02						COMPLETE
35500	35600	0	C	OFA	02	02						COMPLETE
35600	35700	0	C	OFA	02	02						COMPLETE
35700	35800	0	C	OFA	02	02						COMPLETE
35800	35900	0	C	OFA	02	02						COMPLETE
35900	36000	0	C	OFA	02	02						COMPLETE
36000	36100	0	C	OFA	02	02						COMPLETE
36100	36200	0	C	OFA	02	02						COMPLETE
36200	36300	0	C	OFA	02	02						COMPLETE
36300	36400	0	C	OFA	02	02						COMPLETE
36400	36500	0	C	OFA	02	02						COMPLETE
36500	36600	0	C	OFA	02	02						COMPLETE
36600	36700	0	C	OFA	02	02						COMPLETE
36700	36800	0	C	OFA	02	02						



AGNES AMERICAN SUSITNA HYDRO-ELECTRIC PROJECT

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TIME ROW: 740031

CPM ANALYSIS LISTING

LINE	J-RIDE	DUR	SELECT	CODES	DESCRIPTION	E.S.	E.F.	L.S.	L.F.	T.F.	F.F.	CL
51400	51600	0	C	OFFB 1 C1	5081 DATA ASSEMBLY-1980 DRAFT							COMPLETE
51400	51600	0	C	OFFB 1 C1	5081 DATA ASSEMBLY-1980-DRAFT							COMPLETE
51400	53000	0	C	OFFB 1 C1	5082 DATA ASSEMBLY-1981-DRAFT							COMPLETE
53000	53200	0	C	OFFB 1 C1	5082 DATA ASSEMBLY-1981-DRAFT							COMPLETE
53200	50122	0	C	OFFB 1 C4	501 REVIEW PREVIOUS STUDIES							COMPLETE
50122	50125	0	C	OFFB 1 C4	501 REVIEW PREVIOUS STUDIES							COMPLETE
50125	50224	0	C	OFFB 1 C4	502 INVESTIGATE TUNNEL ALTERNATIVES							COMPLETE
50224	50330	0	C	OFFB 1 C4	503 EVAL ALT SUSITNA DEVELOPMENT							COMPLETE
50330	50335	0	C	OFFB 1 C4	503 EVAL ALT SUSITNA DEVELOPMENT							COMPLETE
50335	50340	0	C	OFFB 1 C4	503 EVAL ALT SUSITNA DEVELOPMENT							COMPLETE
50340	50345	0	C	OFFB 1 C4	503 EVAL ALT SUSITNA DEVELOPMENT							COMPLETE
50345	50420	0	C	OFFB 1 C4	504 DEVL CAN ARCH DAM EVALUATION							COMPLETE
50420	50430	0	C	OFFB 1 C4	504 DEVL CAN ARCH DAM EVALUATION							COMPLETE
50430	50520	0	C	OFFB 1 C4	505 SELECT REPORT DRAFT							COMPLETE
50520	50522	0	C	OFFB 1 C4	5052 SELECT FINAL REPORT DRAFT							COMPLETE
50522	50524	0	C	OFFB 1 C4	5052 SELECT FINAL REPORT DRAFT							COMPLETE
50524	50528	0	C	OFFB 1 C4	5052 SELECT REPORT FINAL DRAFT							COMPLETE
50528	50530	0	C	OFFB 1 C4	5053 SELECT REPORT FINAL EDITION							COMPLETE
50530	50614	0	C	OFFB 1 C4	506 STAGED DEVELOPMENT ALT							COMPLETE
50614	50616	0	C	OFFB 1 C4	506 STAGED DEVELOPMENT ALT							COMPLETE
50616	50618	0	C	OFFB 1 C4	506 STAGED DEVELOPMENT ALT							COMPLETE
50618	50703	0	C	OFFB 1 C3	507 DEVELOP CONCEPTUAL PLAN(WAT)							COMPLETE
50703	50704	0	C	OFFB 1 C3	507 DEVELOP CONCEPTUAL PLAN(WAT)							COMPLETE
50704	50804	0	C	OFFB 1 C3	508 UPDATE DESIGN CRITERIA(DC)							COMPLETE
50804	50806	0	C	OFFB 1 C3	508 UPDATE DESIGN CRITERIA(DC)							COMPLETE
50806	50808	0	C	OFFB 1 C3	508 OPTIMIZE DAM HEIGHTS(DC)							COMPLETE
50808	50903	0	C	OFFB 1 C4	509 UPDATE DESIGN CRITERIA(WAT)							COMPLETE
50903	50901	0	C	OFFB 1 C4	509 UPDATE DESIGN CRITERIA(WAT)							COMPLETE
50901	50902	0	C	OFFB 1 C4	509 UPDATE DESIGN CRITERIA(WAT)							COMPLETE
50902	50906	0	C	OFFB 1 C4	509 UPDATE DESIGN CRITERIA(WAT)							COMPLETE
50906	50908	0	C	OFFB 1 C4	509 UPDATE CRITERIAASSUMPTIONS(WAT)							COMPLETE
50908	50907	0	C	OFFB 1 C4	509 UPDATE CRITERIAASSUMPTIONS(WAT)							COMPLETE
50907	50910	0	C	OFFB 1 C4	509 UPDATE CRITERIAASSUMPTIONS(WAT)							COMPLETE
50910	51003	0	C	OFFB 1 C4	510 UPDATE DESIGN CRITERIA(WAT)							COMPLETE
51003	51004	0	C	OFFB 1 C4	510 UPDATE DESIGN CRITERIA(WAT)							COMPLETE
51004	51005	0	C	OFFB 1 C4	510 UPDATE DESIGN CRITERIA(WAT)							COMPLETE
51005	51006	0	C	OFFB 1 C4	510 UPDATE DESIGN CRITERIA(WAT)							COMPLETE
51006	51008	0	C	OFFB 1 C4	510 UPDATE CRITERIAASSUMPTIONS(DC)							COMPLETE
51008	51009	0	C	OFFB 1 C4	510 UPDATE CRITERIAASSUMPTIONS(DC)							COMPLETE
51009	51010	0	C	OFFB 1 C4	510 UPDATE CRITERIAASSUMPTIONS(WAT)							COMPLETE
51010	51103	0	C	OFFB 1 C3	511 DEV ENGRG SKCHS/LAYOTS(WAT)							COMPLETE
51103	51104	0	C	OFFB 1 C3	511 DEV ENGRG SKCHS/LAYOTS(WAT)							COMPLETE
51104	51105	0	C	OFFB 1 C3	511 DEV ENGRG SKCHS/LAYOTS(WAT)							COMPLETE
51105	51106	0	C	OFFB 1 C3	511 DEV ENGRG SKCHS/LAYOTS(WAT)							COMPLETE
51106	51110	0	C	OFFB 1 C3	511 DEV INRS/COST COMPARISON(WAT)							COMPLETE
51110	51111	0	C	OFFB 1 C3	511 DEV INRS/COST COMPARISON(WAT)							COMPLETE
51111	51112	0	C	OFFB 1 C3	511 DEV INRS/COST COMPARISON(WAT)							COMPLETE
51112	51113	0	C	OFFB 1 C3	511 DEV INRS/COST COMPARISON(WAT)							COMPLETE
51113	51117	0	C	OFFB 1 C3	511 INCRP GENL AMENDMENTS (WAT)							COMPLETE
51117	51120	0	C	OFFB 1 C3	511 DESIGN BANK(WAT)							COMPLETE
51120	51123	0	C	OFFB 1 C3	511 DAM FOUNDATION TREATMENT-WAT							COMPLETE



CPM ANALYSIS LISTING

I-NODE	J-NODE	RUR	SELECT	CODES	DESCRIPTION	E.S.	E.F.	L.S.	L.F.	T.F.	F.F.	CL
81128	81130	0	C	OPB 1 C5	811 OPTIMIZE DAM HEIGHT							COMPLETE
81132	81138	0	C	OPB 1 C5	811 ADJUST ALIGNMENT(WAT)							COMPLETE
81134	81142	0	C	OPB 1 C5	811 DAM FOUNDATION TREATMENT-WAT							COMPLETE
81136	81143	0	C	OPB 1 C5	811 DESIGN DAM(WAT)							COMPLETE
81138	81146	0	C	OPB 1 C5	811 ADJUST ALIGNMENT(WAT)							COMPLETE
81140	81147	0	C	OPB 1 C5	811 DESIGN DAM(WAT)							COMPLETE
81142	81156	0	C	OPB 1 C5	811 DESIGN DAM(WAT)							COMPLETE
81144	81150	0	C	OPB 1 C5	811 DRAFT REPORT DRAWINGS(WAT)							COMPLETE
81146	81152	0	C	OPB 1 C5	811 DRAFT REPORT DRAWINGS(WAT)							COMPLETE
81148	81204	0	C	OPB 1 C6	812 DEV ENGRG SKCHS/LAYOTS(DC)							COMPLETE
81150	81206	0	C	OPB 1 C6	812 DEV ENGRG SKCHS/LAYOTS(DC)							COMPLETE
81152	81208	0	C	OPB 1 C6	812 DEV ENGRG SKCHS/LAYOTS(DC)							COMPLETE
81154	81210	0	C	OPB 1 C6	812 DEV ENGRG SKCHS/LAYOTS(DC)							COMPLETE
81156	81214	0	C	OPB 1 C6	812 DEV DWSG/COST COMPRISN(DC)							COMPLETE
81158	81216	0	C	OPB 1 C6	812 DEV DWSG/COST COMPRISN(DC)							COMPLETE
81160	81218	0	C	OPB 1 C6	812 DEV DWSG/COST COMPRISN(DC)							COMPLETE
81162	81220	0	C	OPB 1 C6	812 DEV DWSG/COST COMPRISN(DC)							COMPLETE
81164	81223	0	C	OPB 1 C6	812 INCORP GENL AMENDMENTS(DC)							COMPLETE
81166	81224	0	C	OPB 1 C6	812 INCORP GENL AMENDMENTS(DC)							COMPLETE
81168	81226	0	C	OPB 1 C6	812 INCORP GENL AMENDMENTS(DC)							COMPLETE
81170	81227	0	C	OPB 1 C6	812 DESIGN DAM(DC)							COMPLETE
81172	81230	0	C	OPB 1 C6	812 DESIGN DAM(DC)							COMPLETE
81174	81234	0	C	OPB 1 C6	812 OPTIMIZE DAM HEIGHT(DC)							COMPLETE
81176	81240	0	C	OPB 1 C6	812 DESIGN DAM(DC)							COMPLETE
81178	81242	0	C	OPB 1 C6	812 FOUNDATION TREATMENT(DC)							COMPLETE
81180	81243	0	C	OPB 1 C6	812 OPTIMIZE DAM HEIGHT(DC)							COMPLETE
81182	81247	0	C	OPB 1 C6	812 DESIGN DAM(DC)							COMPLETE
81184	81253	0	C	OPB 1 C6	812 DRAFT REPORT DWSG(DC)							COMPLETE
81186	81250	0	C	OPB 1 C6	812 DRAFT REPORT DWSG(DC)							COMPLETE
81188	81403	0	C	OPB 1 C4	814 SPILLWAY DESIGN CRITERIA							COMPLETE
81190	81404	0	C	OPB 1 C4	814 SPILLWAY DESIGN CRITERIA							COMPLETE
81192	81405	0	C	OPB 1 C4	814 SPILLWAY DESIGN CRITERIA							COMPLETE
81194	81406	0	C	OPB 1 C4	814 SPILLWAY DESIGN CRITERIA							COMPLETE
81196	81407	0	C	OPB 1 C4	814 UPDATE CRITERIA ASSUMPTIONS(SFWY)							COMPLETE
81198	81505	0	C	OPB 1 C5	815 DEV ENGRG SKCHS/LAYOTS(WAT)							COMPLETE
81200	81507	0	C	OPB 1 C5	815 DEV ENGRG SKCHS/LAYOTS(WAT)							COMPLETE
81202	81508	0	C	OPB 1 C5	815 DEV ENGRG SKCHS/LAYOTS(WAT)							COMPLETE
81204	81512	0	C	OPB 1 C5	815 DEV ENGRG SKCHS/LAYOTS-WAT/ST							COMPLETE
81206	81513	0	C	OPB 1 C5	815 DEV ENGRG SKCHS/LAYOTS-WAT/ST							COMPLETE
81208	81514	0	C	OPB 1 C5	815 DEV DWSG/COST COMPRISN(WAT)							COMPLETE
81210	81514	0	C	OPB 1 C5	815 DEV DWSG/COST COMPRISN(WAT)							COMPLETE
81212	81516	0	C	OPB 1 C5	815 SELECT SPILLWAY FORAMT							COMPLETE
81214	81510	0	C	OPB 1 C5	815 SELECT SPILLWAY FORAMT							COMPLETE
81216	81504	0	C	OPB 1 C5	815 DEV ENGRG SKCHS/LAYOTS(DC)							COMPLETE
81218	81505	0	C	OPB 1 C5	815 DEV ENGRG SKCHS/LAYOTS(DC)							COMPLETE
81220	81509	0	C	OPB 1 C5	815 DEV ENGRG SKCHS/LAYOTS(DC)							COMPLETE
81222	81510	0	C	OPB 1 C5	815 DEV ENGRG SKCHS/LAYOTS(DC)							COMPLETE
81224	81514	0	C	OPB 1 C5	815 DEV DWSG/COST COMPRISN(DC)							COMPLETE
81226	81516	0	C	OPB 1 C5	815 DEV DWSG/COST COMPRISN(DC)							COMPLETE

CPM ANALYSIS LISTING

I-NODE	J-NODE	DUR	SELECT	CODES	DESCRIPTION	E.S.	E.F.	L.S.	L.F.	T.F.	F.F.	CL
61616	61618	0 C	OFB	1 C6	616 DEV DWSG/COST COMPRISN(DC)							COMPLETE
61618	61620	0 C	OFB	1 C6	616 DEV DWSG/COST COMPRISN(DC)							COMPLETE
61622	61624	0 C	OFB	1 C6	616 SELECT SPILLWAY FORMAT							COMPLETE
61621	61626	0 C	OFB	1 C6	616 SELECT SPILLWAY FORMAT							COMPLETE
61702	61704	0 C	OFB	1 C5	617 INCORP GENL AMENDMENTS (WAT)							COMPLETE
61703	61718	0 C	OFB	1 C5	617 ADJUST ALIGNMENTS							COMPLETE
61710	61720	0 C	OFB	1 C5	617 ENERGY DISSIPATION-WAT							COMPLETE
61712	61721	0 C	OFB	1 C5	617 PREL DESGN CHUTE/ROCK ANCRS							COMPLETE
61714	61723	0 C	OFB	1 C5	617 PREL DESGN CONTRL STRUCTURES							COMPLETE
61716	61726	0 C	OFB	1 C5	617 OPT AGAINST DAM FREEBRD							COMPLETE
61718	61734	0 C	OFB	1 C5	617 ADJUST ALIGNMENTS							COMPLETE
61720	61728	0 C	OFB	1 C5	617 ENERGY DISSIPATION-WAT							COMPLETE
61721	61722	0 C	OFB	1 C5	617 PREL DESGN CHUTE/ROCK ANCRS							COMPLETE
61723	61724	0 C	OFB	1 C5	617 PREL DESGN CONTRL STRUCTURES							COMPLETE
61724	61730	0 C	OFB	1 C5	617 PREL DESGN CONTRL STRUCTURES							COMPLETE
61726	61740	0 C	OFB	1 C5	617 ENERGY DISSIPATION-WAT							COMPLETE
61742	61746	0 C	OFB	1 C5	617 DESIGN GROUTING/DRAINAGE-WAT							COMPLETE
61748	61750	0 C	OFB	1 C5	617 CONFIRM CONCEPT/ALIGNMENTS							COMPLETE
61750	61754	0 C	OFB	2 C5	617 CONFIRM CONCEPT/ALIGNMENTS							COMPLETE
61752	61762	0 C	OFB	1 C5	617 DESIGN CLOSURE/CONTRL STRUCT							COMPLETE
61756	61760	0 C	OFB	1 C5	617 DESIGN WATER PASSAGES							COMPLETE
61758	61764	0 C	OFB	1 C5	617 DESIGN ENERGY DISSIPATION							COMPLETE
61760	61768	0 C	OFB	1 C5	617 DESIGN WATER PASSAGES							COMPLETE
61764	61766	0 C	OFB	1 C5	617 DESIGN ENERGY DISSIPATION							COMPLETE
61770	61780	0 C	OFB	1 C5	617 DRAFT REPORT DRAWINGS(WAT)							COMPLETE
61760	61762	0 C	OFB	1 C5	617 DRAFT REPORT DRAWINGS(WAT)							COMPLETE
61802	61803	0 C	OFB	1 C6	618 INCORP GENL AMENDMENTS(DC)							COMPLETE
61803	61804	0 C	OFB	1 C6	618 INCORP GENL AMENDMENTS(DC)							COMPLETE
61804	61805	0 C	OFB	1 C6	618 INCORP GENL AMENDMENTS(DC)							COMPLETE
61809	61814	0 C	OFB	1 C6	618 ADJUST ALIGNMENTS(DC)							COMPLETE
61812	61820	0 C	OFB	1 C6	618 PREL DESGN CHUTE/ROCK ANCRS							COMPLETE
61814	61832	0 C	OFB	1 C6	618 ADJUST ALIGNMENTS(DC)							COMPLETE
61816	61824	0 C	OFB	1 C6	618 OPT AGAINST DAM FREEBRD(DC)							COMPLETE
61818	61822	0 C	OFB	1 C6	618 PREL DESGN CONTRL STRUCT(DC)							COMPLETE
61822	61823	0 C	OFB	1 C6	618 PREL DESGN CONTRL STRUCT(DC)							COMPLETE
61824	61826	0 C	OFB	1 C6	618 OPT AGAINST DAM FREEBRD(DC)							COMPLETE
61826	61834	0 C	OFB	1 C6	618 OPT AGAINST DAM FREEBRD(DC)							COMPLETE
61828	61830	0 C	OFB	1 C6	618 CONFIRM CONCEPT							COMPLETE
61832	61854	0 C	OFB	1 C6	618 LE RELEASES ENERGY DISSIPATION							COMPLETE
61832	61834	0 C	OFB	1 C6	618 DRAFT REPORT DWSG(DC)							COMPLETE
61834	61836	0 C	OFB	1 C6	618 DRAFT REPORT DWSG(DC)							COMPLETE
61920	61930	0 C	OFB	1 C4	619 SPILLWAY SELECTION REPORT							COMPLETE
62010	62020	0 C	OFB	1 C5	620 ESTABLISH LOADING SCHEDULE							COMPLETE
62010	62022	0 C	OFB	1 C5	620 ESTAB PERMANENT OPERATING FORCE							COMPLETE
62024	62034	0 C	OFB	1 C5	620 DETERMINE SERVICES-H2O/ELEC/SENCE							COMPLETE
62024	62036	0 C	OFB	1 C5	620 DETERMINE HOUSING REQUIREMENT							COMPLETE
62026	62027	0 C	OFB	1 C5	620 DETERMINE AUX REQUIREMENTS							COMPLETE
62100	62104	0 C	OFB	1 C5	621 CONFIRM CONCEPT							COMPLETE
62106	62112	0 C	OFB	1 C5	621 DESIGN WATER PASSAGES-WAT							COMPLETE
62108	62114	0 C	OFB	1 C5	621 DESIGN COFFERDAM HEIGHT							COMPLETE
62110	62116	0 C	OFB	1 C5	621 DESIGN CLOSURE/CONTRL STRUCTURE							COMPLETE

CPM ANALYSIS LISTING

I-NODE	J-NODE	DUR	SELECT	CODES	DESCRIPTION	E.S.	E.F.	L.S.	L.F.	T.F.	F.F.	CL
82123	82124	0	C	OFB	1	05	821	DRAFT REPORT DRAWINGS(WAT)	ST			COMPLETE
82124	82125	0	C	OFB	1	05	821	DRAFT REPORT DRAWINGS(WAT)	CT-1			COMPLETE
82201	82204	0	C	OFB	1	06	822	CONFIRM CONCEPT(DC)				COMPLETE
82203	82212	0	C	OFB	1	06	822	DESIGN WATER PASSAGES(DC)	ST			COMPLETE
82205	82214	0	C	OFB	1	06	822	DESIGN COFFERDAM HEIGHT(DC)	ST			COMPLETE
82210	82216	0	C	OFB	1	06	822	CLOSURE CONTROL STRUCTURE(DC)				COMPLETE
82225	82228	0	C	OFB	1	06	822	DRAFT REPORT DWGS(DC)	ST			COMPLETE
82228	82230	0	C	OFB	1	06	822	DRAFT REPORT DWGS(DC)	CT-1			COMPLETE
82302	82303	0	C	OFB	1	04	823	DEV ENGRG SKCHS/LAYOTS(WAT)	ST			COMPLETE
82303	82304	0	C	OFB	1	04	823	DEV ENGRG SKCHS/LAYOTS(WAT)	CT-1			COMPLETE
82304	82305	0	C	OFB	1	04	823	DEV ENGRG SKCHS/LAYOTS(WAT)	CT-2			COMPLETE
82305	82306	0	C	OFB	1	04	823	DEV ENGRG SKCHS/LAYOTS(WAT)	FIN			COMPLETE
82308	82310	0	C	OFB	1	04	823	DEV DWGS/COST COMPRISN(WAT)	ST			COMPLETE
82310	82311	0	C	OFB	1	04	823	DEV DWGS/COST COMPRISN(WAT)	CT-2			COMPLETE
82311	82312	0	C	OFB	1	05	823	DEV DWGS/COST COMPRISN(WAT)	FIN			COMPLETE
82312	82314	0	C	OFB	1	04	823	DEV DWGS/COST COMPRISN(WAT)	FIN			COMPLETE
82315	82316	0	C	OFB	1	05	823	TAKEOFF FOR ALTNATIVE LAYOUT	ST			COMPLETE
82316	82318	0	C	OFB	1	05	823	TAKEOFF FOR ALTNATIVE LAYOUT	FIN			COMPLETE
82319	82323	0	C	OFB	1	04	823	REVIEW ALIGNMENTS-WAT	ST			COMPLETE
82323	82325	0	C	OFB	1	04	823	LAYOUT U/B P/H & TAILR L 800 MW				COMPLETE
82325	82327	0	C	OFB	1	04	823	REVIEW ALIGNMENTS-WAT	CT-1			COMPLETE
82327	82328	0	C	OFB	1	04	823	LAYOUT SURFACE P/H T/R L 800 MW				COMPLETE
82330	82331	0	C	OFB	1	04	823	COST LAYOUT IN 2 & 3	ST			COMPLETE
82331	82337	0	C	OFB	1	04	823	COST LAYOUT IN 2 & 3	CT-1			COMPLETE
82337	82338	0	C	OFB	1	04	823	SELECT TYPE OF POWER HOUSE				COMPLETE
82338	82339	0	C	OFB	1	04	823	COST LAYOUT IN 2 & 3	FIN			COMPLETE
82340	82341	0	C	OFB	1	04	823	REVIEW ALIGNMENTS-WAT	CT-2			COMPLETE
82341	82348	0	C	OFB	1	04	823	REVIEW INTAKE WATER PASSAGES				COMPLETE
82348	82353	0	C	OFB	1	04	823	FREL DESIGN INTAKE STRUCTURE	ST			COMPLETE
82353	82354	0	C	OFB	1	04	823	FREL DESIGN WATER PASSAGES	ST			COMPLETE
82370	82371	0	C	OFB	1	04	823	DRAFT REPORT DRAWINGS(WAT)	ST			COMPLETE
82371	82372	0	C	OFB	1	04	823	DRAFT REPORT DRAWINGS(WAT)	CT-1			COMPLETE
82402	82401	0	C	OFB	1	04	824	DEV ENGRG SKCHS/LAYOTS(DC)	ST			COMPLETE
82404	82406	0	C	OFB	1	04	824	DEV ENGRG SKCHS/LAYOTS(DC)	CT-1			COMPLETE
82406	82409	0	C	OFB	1	04	824	DEV ENGRG SKCHS/LAYOTS(DC)	CT-2			COMPLETE
82409	82410	0	C	OFB	1	04	824	DEV ENGRG SKCHS/LAYOTS(DC)	FIN			COMPLETE
82412	82414	0	C	OFB	1	04	824	DEV DWGS/COST COMPRISN(DC)	ST			COMPLETE
82414	82416	0	C	OFB	1	04	824	DEV DWGS/COST COMPRISN(DC)	CT-1			COMPLETE
82416	82418	0	C	OFB	1	04	824	DEV DWGS/COST COMPRISN(DC)	CT-2			COMPLETE
82418	82420	0	C	OFB	1	04	824	DEV DWGS/COST COMPRISN(DC)	FIN			COMPLETE
82422	82424	0	C	OFB	1	04	824	TAKEOFFS ALTERNATIVE LAYOUT	ST			COMPLETE
82424	82425	0	C	OFB	1	04	824	TAKEOFFS ALTERNATIVE LAYOUT	FIN			COMPLETE
82425	82429	0	C	OFB	1	04	824	REVIEW ALIGNMENTS(DC)	ST			COMPLETE
82429	82431	0	C	OFB	1	04	824	REVIEW ALIGNMENTS(DC)	CT-1			COMPLETE
82431	82434	0	C	OFB	1	04	824	LAYOUT U/B P/H & TAILR L 800 MW				COMPLETE
82434	82435	0	C	OFB	1	04	824	COST LAYOUT IN 2B				COMPLETE
82440	82441	0	C	OFB	1	04	824	REVIEW ALIGNMENTS(DC)	CT-2			COMPLETE
82441	82443	0	C	OFB	1	04	824	REVIEW INTAKE WATER PASSAGES				COMPLETE
82443	82444	0	C	OFB	1	04	824	OPTIMIZE POWER FACILITIES				COMPLETE
82444	82445	0	C	OFB	1	04	824	DRAFT REPORT DWGS(DC)	ST			COMPLETE
82445	82446	0	C	OFB	1	04	824	DRAFT REPORT DWGS(DC)	CT-1			COMPLETE

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ACORN AMERICAN SIBITWA HYDRO-ELECTRIC PROJECT

FABE  
TIME NOW: 7:00:22

CIN ANALYSIS LISTING

PROJ	INDEX	DUR	SELECT	CODES	DESCRIPTION	E.S.	E.F.	L.S.	L.F.	T.F.	F.F.	LL
62502	62504	0	C	OPB 1 C4	625 OPTIMIZE DAM HEIGHT							COMPLETE
62510	62512	0	C	OPB 1 C4	625 SELECT 2-LYOTS-DETAILED STDY							COMPLETE
62520	62521	0	C	OPB 1 C4	625 SELECT 2-LYOTS-DETAILED STDY	ST						COMPLETE
62531	62532	0	C	OPB 1 C4	625 SELECT 2-LYOTS-DETAILED STDY	FIN						COMPLETE
62503	62504	0	C	OPB 1 C5	625 INCORP GENL AMENDMENTS (WAT)	ST						COMPLETE
62508	62511	0	C	OPB 1 C5	625 REVIEW ALIGNMENTS	ST						COMPLETE
62510	62514	0	C	OPB 1 C5	625 LAYOUT U/S F/H & TAILR CHANNEL							COMPLETE
62511	62512	0	C	OPB 1 C5	625 REVIEW ALIGNMENTS	CT-1						COMPLETE
62518	62517	0	C	OPB 1 C5	625 COST LAYOUT SURFACE U/S STRU	ST						COMPLETE
62519	62525	0	C	OPB 1 C5	625 COST LAYOUT SURFACE U/S STRU	CT 1						COMPLETE
62528	62529	0	C	OPB 1 C5	625 REVIEW ALIGNMENTS	CT-2						COMPLETE
62529	62534	0	C	OPB 1 C5	625 REVIEW ALIGNMENTS	FIN						COMPLETE
62530	62536	0	C	OPB 1 C5	625 REVIEW INTAKE WATER PASSAGES							COMPLETE
62532	62545	0	C	OPB 1 C5	625 OPTIMIZE POWER FACILITIES							COMPLETE
62538	62544	0	C	OPB 1 C5	625 PREL DESIGN INTAKE STRUCTURE	ST						COMPLETE
62540	62542	0	C	OPB 1 C5	625 PREL DESIGN WATER PASSAGES	ST						COMPLETE
62542	62548	0	C	OPB 1 C5	625 PREL DESIGN INTAKED STRUCTURE	FIN						COMPLETE
62555	62559	0	C	OPB 1 C5	625 DRAFT REPORT DRAWINGS(DC)	ST						COMPLETE
62558	62560	0	C	OPB 1 C5	625 DRAFT REPORT DRAWINGS(DC)	CT-1						COMPLETE
62562	62563	0	C	OPB 1 C5	625 INCORP GENL AMENDMENTS(DC)	ST						COMPLETE
62563	62564	0	C	OPB 1 C5	625 INCORP GENL AMENDMENTS(DC)	CT-1						COMPLETE
62564	62565	0	C	OPB 1 C5	625 INCORP GENL AMENDMENTS(DC)	FIN						COMPLETE
62565	62569	0	C	OPB 1 C5	625 REVIEW ALIGNMENTS(DC)	ST						COMPLETE
62569	62572	0	C	OPB 1 C5	625 REVIEW ALIGNMENTS(DC)	CT-1						COMPLETE
62570	62574	0	C	OPB 1 C5	625 LAYOUT U/S F/H & TAILR CHAL							COMPLETE
62571	62575	0	C	OPB 1 C5	625 COST LAYOUT IN 2R							COMPLETE
62570	62521	0	C	OPB 1 C5	625 REVIEW ALIGNMENTS(DC)	CT-2						COMPLETE
62572	62523	0	C	OPB 1 C5	625 REVIEW INTAKE WATER PASSAGES							COMPLETE
62572	62544	0	C	OPB 1 C5	625 DRAFT REPORT DWSG(DC)	ST						COMPLETE
62574	62545	0	C	OPB 1 C5	625 DRAFT REPORT DWSG(DC)	CT-1						COMPLETE
62590	62591	0	C	OPB 1 C5	625 DRAFT REPORT DWSG(DC)	ST						COMPLETE
62591	62596	0	C	OPB 1 C5	625 DRAFT REPORT DWSG(DC)	CT-1						COMPLETE
63002	63004	0	C	OPB 1 C5	630 DRAFT REPORT DRAWINGS(DC)	ST						COMPLETE
63004	63006	0	C	OPB 1 C5	630 DRAFT REPORT DRAWINGS(DC)	CT-1						COMPLETE
63008	63000	0	C	OPB 1 C5	630 THERMAL GENERATION RESOURCE	ST						COMPLETE
63009	63000	0	C	OPB 1 C5	630 THERMAL GENERATION RESOURCE	CT1						COMPLETE
63000	63000	0	C	OPB 1 C5	630 THERMAL GENERATION RESOURCE	FIN						COMPLETE
63001	63000	0	C	OPB 1 C5	630 HYDRO GENERATION RESOURCES	ST						COMPLETE
63000	63000	0	C	OPB 1 C5	630 HYDRO GENERATION RESOURCES	CT-1						COMPLETE
63000	63000	0	C	OPB 1 C5	630 HYDRO GENERATION RESOURCES	FIN						COMPLETE
63000	63000	0	C	OPB 1 C5	630 ENVIRONMENT ASSESSMENT	ST						COMPLETE
63000	63000	0	C	OPB 1 C5	630 ENVIRONMENT ASSESSMENT	CT1						COMPLETE
63000	63000	0	C	OPB 1 C5	630 ENVIRONMENT ASSESSMENT	FIN						COMPLETE
63000	63000	0	C	OPB 1 C5	630 ENVIRONMENT ASSESSMENT-FINAL							COMPLETE
63000	63000	0	C	OPB 1 C5	630 LONG RANGE & CONSERVE							COMPLETE
63000	63000	0	C	OPB 1 C5	630 GENERATION PLAN PARAMETERS							COMPLETE
63000	63000	0	C	OPB 1 C5	630 GENERAT PLAN ANALY 1 REPORT	ST						COMPLETE
63000	63000	0	C	OPB 1 C5	630 GENERAT PLAN ANALY 1 REPORT	CT-1						COMPLETE
63000	63000	0	C	OPB 1 C5	630 GENERAT PLAN ANALY 2 REPORT	CT-2						COMPLETE
63000	63000	0	C	OPB 1 C5	630 GENERAT PLAN ANALY 2 REPORT	FIN						COMPLETE
71100	71400	0	C	OPB 1 C5	701 STUDY COORD-ALTERNATIVE SITE	CT-2						COMPLETE

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CFR ANALYSIS LISTING

I-NODE	J-NODE	DUR	SELECT	CODES	DESCRIPTION	E.S.	E.F.	L.S.	L.F.	T.F.	F.F.	CL
70800	71000	0	C	DFB 1 C8	7011	STUDY COORD-ALTERNATIVE SITE	ST					COMPLETE
71000	71200	0	C	DFB 1 C8	7011	STUDY COORD-ALTERNATIVE SITE	CT-1					COMPLETE
71500	71500	0	C	DFB 1 C8	7012	STUDY COORD-PRELIM ALTERNATV	ST					COMPLETE
72000	72100	0	C	DFB 1 C8	7013	STUDY COORD-OPTIMIZED DESIGN	ST					COMPLETE
72200	72300	0	C	DFB 1 C8	702	MONITOR FIELD ACTIVITIES	ST					COMPLETE
71000	71100	0	C	DFB 1 C8	7041	WATER RESOURCE ALT SITES						COMPLETE
71500	70000	0	C	DFB 1 C8	7042	WTR RES-PRE WAT&DEVL CAN ALT						COMPLETE
73000	73100	0	C	DFB 1 C8	705	SOCIOECONOMIC ANALYSIS	ST					COMPLETE
73100	73300	0	C	DFB 1 C8	705	SOCIOECONOMIC ANALYSIS	CT-1					COMPLETE
78200	78800	0	C	DFB 1 C8	7061	CULTURAL ALTERNATIVE SITES	ST					COMPLETE
78700	79000	0	C	DFB 1 C8	7061	CULTURAL ALTERNATIVE SITES	FIN					COMPLETE
78800	78700	0	C	DFB 1 C8	7061	CULTURAL ALTERNATIVE SITES	CT-1					COMPLETE
78900	79000	0	C	DFB 1 C8	7062	CULTURAL PRELIM ALTERNATIVES	ST					COMPLETE
79600	79700	0	C	DFB 1 C8	7063	CULTURAL-OPTIMIZED DESIGN	ST					COMPLETE
75200	75400	0	C	DFB 1 C8	7071	LAND USE ALTERNATIVE SITES	ST					COMPLETE
75300	76000	0	C	DFB 1 C8	7071	LAND USE ALTERNATIVE SITES	FIN					COMPLETE
75400	75300	0	C	DFB 1 C8	7071	LAND USE ALTERNATIVE SITES	CT-1					COMPLETE
75700	76000	0	C	DFB 1 C8	7072	LAND USE PRELIM ALTERNATIVES	ST					COMPLETE
73400	73500	0	C	DFB 1 C8	708	RECREATION PLANNING	ST					COMPLETE
72500	72700	0	C	DFB 1 C8	708	RECREATION PLANNING	CT-1					COMPLETE
71200	73500	0	C	DFB 1 C8	7091	TRANS LINE ASSESS SCREENING						COMPLETE
73300	73300	0	C	DFB 1 C8	7092	TRANS LINE ASSESS RTE SELCTN	CT-1					COMPLETE
73500	73500	0	C	DFB 1 C8	7092	TRANS LINE ASSESS RTE SELCTN	ST					COMPLETE
73600	73900	0	C	DFB 1 C8	7101	FISH ECOLOGY ALTERNATV SITES	ST					COMPLETE
73700	73700	0	C	DFB 1 C8	7101	FISH ECOLOGY ALTERNATV SITES	CT-1					COMPLETE
74900	74900	0	C	DFB 1 C8	7111	WILDLIFE ECOLOGY ALTER SITES	ST					COMPLETE
74700	75000	0	C	DFB 1 C8	7111	WILDLIFE ECOLOGY ALTER SITES	CT-1					COMPLETE
75000	75000	0	C	DFB 1 C8	7111	WILDLIFE ECOLOGY ALTER SITES	CT-2					COMPLETE
75800	75800	0	C	DFB 1 C8	7112	WILDLIFE ECOLOGY PRELIM ALTER	ST					COMPLETE
77100	77300	0	C	DFB 1 C8	7121	PLANT ECOLOGY ALTERNATV SITES	ST					COMPLETE
77100	77300	0	C	DFB 1 C8	7121	PLANT ECOLOGY ALTERNATV SITES	FIN					COMPLETE
77300	77200	0	C	DFB 1 C8	7121	PLANT ECOLOGY ALTERNATV SITES	CT-1					COMPLETE
77400	77500	0	C	DFB 1 C8	7122	PLANT ECOLOGY PRELIM ALTERNAT	ST					COMPLETE
71000	71000	0	C	DFB 1 C8	714	ACCESS RD ENVIRONMENT ANALY	ST					COMPLETE
80000	80200	0	C	DFB 1 C8	801	SELECT INITIAL CORRIDORS	ST					COMPLETE
80100	80100	0	C	DFB 1 C8	801	SELECT INITIAL CORRIDORS	CT-1					COMPLETE
80700	80900	0	C	DFB 1 C8	801	SELECT INITIAL CORRIDORS	FIN					COMPLETE
81500	81500	0	C	DFB 1 C8	8021	LOAD FLOW ANALYSIS	ST					COMPLETE
81500	81500	0	C	DFB 1 C8	8021	LOAD FLOW ANALYSIS	FIN					COMPLETE
82100	82300	0	C	DFB 1 C8	8021	PRELIMINARY ELEC SYSTEM	ST					COMPLETE
82300	81500	0	C	DFB 1 C8	8021	PRELIMINARY ELEC SYSTEM	CT-1					COMPLETE
80800	80800	0	C	DFB 1 C8	803	FINAL ROUTE SELECTION 1961	ST					COMPLETE
83200	83100	0	C	DFB 1 C8	804	TOWER HARDWARE&CONDUCTA STUDY	ST					COMPLETE
81000	81000	0	C	DFB 1 C8	805	SUBSTATIONS	ST					COMPLETE
81000	81200	0	C	DFB 1 C8	805	DISPATCH CTR & COMMUNICATIONS	ST					COMPLETE
90100	90100	0	C	JF 1 C7	901	ASSEMBLE COST-SCHEDULE DATA	ST					COMPLETE
90100	90000	0	C	DFB 1 C7	901	ASSEMBLE COST-SCHEDULE DATA	FIN					COMPLETE
90100	90100	0	C	DFB 1 C7	902	PREF PRELIM CST ESTIMATES	ST					COMPLETE
90200	90200	0	C	DFB 1 C7	902	PREF PRELIM CST ESTIMATES	CT-1					COMPLETE
90200	90200	0	C	DFB 1 C7	902	PREF PRELIM CST ESTIMATES	CT-2					COMPLETE
90200	90200	0	C	DFB 1 C7	902	PREF PRELIM CST ESTIMATES	CT-3					COMPLETE





















