DOCUMENT RESUME

04274 - [B3554812]

Alaska Power Administration: Financial Management and Program Operations. EMD-78-1; B-188151. December 20, 1977. 28 pp. + 14 enclosures (32 pp.).

Report to the Congress; by Elmer B. Staats, Comptroller General.

Issue Area: Accounting and Financial Reporting (2800).
Contact: Energy and Minerals Div.
Budget Function: Natural Resources, Environment, and Energy: Water Resources and Power (301).
Organization Concerned: Alaska Power Administration; Department of the Army; Department of Energy.
Congressional Relevance: House Committee on Public Works and Transportation; Senate Committee on Energy and Natural Resources; Congress.
Authority: Flood Control Act of 1944, sec. 5 (16 U.S.C. 825s). Eklutna Project Act (P.L. 81-628). Flood Control Act of 1962, sec. 204 (P.L. 87-874). Water Resources Development Act of 1976 (P.L. 94-587). Alaska Hydroelectric Power Development Act. P.L. 90-523. Department of the Interior Secretarial Order 2900.

The Alaska Power Administration (APA) operates two hydroelectric projects--Eklutna and Snettisham. Both projects require increases in power rates in order to pay back Federal investments. Recent legislation was enacted to encourage more rapid use of Snettisham power, but the legislation restricts the Administrator's ability to financially manage the repayment of the Federal ment in the project. Findings/Conclusions: The Alaska P[illegible]dministration's Federal Power Program, which is responsible [illegible]ting and maintaining the two hydroelectric g[illegible] projects and for power-marketing operations, had as[illegible] $109.2 million on June 30, 1976, and income from sellin[illegible]ric power of $2.1 million for fiscal year 1976. The A[illegible]cts investigations related to the future development and u[illegible]ater, power, and other resources. General investigations cost $652,000 in fiscal year 1976. The Federal Power Program lost $1.3 million net during fiscal year 1976 principally because of losses from operating the Snettisham project. Total net revenues from the program were $7 million on June 30, 1976. Recommendations: To maintain a consistent rate-setting review policy, the Congress should enact legislation requiring Federal Energy Regulatory Commission approval of the power rates established for the Snettisham project. The Congress should also closely monitor and review those provisions of the Water Resources Development Act of 1976 which limit repayment of the Federal investment, with particular attention to whether the law is encouraging rapid use of the surplus Snettisham power. (Author/SC)

REPORT TO THE CONGRESS

BY THE COMPTROLLER GENERAL OF THE UNITED STATES

Alaska Power Administration--Financial Management And Program Operations

The Alaska Power Administration operates two hydroelectric projects--Eklutna and Snettisham. Both require increases in power rates so that they can pay back the Federal investments.

Recent legislation was enacted to encourage more rapid use of Snettisham power but restricts, in GAO's opinion, the Administrator's ability to financially manage the repayment of the Federal investment in the project. The Congress should closely monitor the effect of this law on project repayment.

EMD-78-1

DECEMBER 20, 1977

COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON, D.C. 20548

B-188151

To the President of the Senate and the
Speaker of the House of Representatives

This report describes the status of the financial management and program operations of the Alaska Power Administration.

The review was made pursuant to the Budget and Accounting Act, 1921 (31 U.S.C. 53), and the Accounting and Auditing Act of 1950 (31 U.S.C. 67).

Copies of this report are being sent to the Director, Office of Management and Budget; the Secretaries of the Army and Energy; and the House and Senate committees and subcommittees having oversight responsibilities for the matters discussed in this report.

Comptroller General
of the United States

COMPTROLLER GENERAL'S
REPORT TO THE CONGRESS

ALASKA POWER ADMINISTRATION: FINANCIAL MANAGEMENT AND PROGRAM OPERATIONS

D I G E S T

The Alaska Power Administration's Federal Power Program--responsible for operating and maintaining two hydroelectric generating projects (Eklutna and Snettisham) and power-marketing operations--had assets of $109.2 million on June 30, 1976, and income from selling electric power of $2.1 million for fiscal year 1976.

The Alaska Power Administration also conducts investigations related to the future development and use of water, power, and other resources. General investigations cost $652,000 in fiscal year 1976.

PROGRAM OPERATIONS

The Federal Power Program lost $1.3 million, net, during fiscal year 1976, due principally to losses from operating the Snettisham project. Total net revenues from the program were $7 million on June 30, 1976.

Power operations in Alaska have been affected by natural disasters, such as the 1964 earthquake, low water years, and high winds. (See pp. 5, 7, and 9.)

The Corps of Engineers built part of the Snettisham project transmission line over Salisbury Ridge, a route previously rejected, without adequately evaluating the hazards. A supplementary study was not made by the Corps to evaluate the feasibility of this major change. Because of repeated transmission line failures, the Salisbury Ridge portion of the line was relocated in 1976 to the site originally recommended. This cost $11 million more. Power revenues lost due to failure of this transmission line are about $3.2 million.

When constructing power facilities, the Corps should prepare design memorandums to support major design changes. Approval of such changes

should be based on adequate engineering evaluations. (See p. 14.)

RATE AND REPAYMENT STUDIES

The Alaska Power Administration repaid approximately $9 million of the reimbursable Federal power investment through fiscal year 1976. About $100 million is still to be repaid. Increased power rates are required to repay the Federal investment in each project within the period set up by the Secretary of Energy and by recent legislation.

To maintain a consistent rate-setting review policy, the Congress should enact legislation requiring Federal Energy Regulatory Commission (formerly Federal Power Commission) approval of the power rates established for the Snettisham project. (See p. 26.)

EFFECT OF RECENT LEGISLATION ON REPAYMENT OF THE FEDERAL INVESTMENT IN THE SNETTISHAM PROJECT

The Water Resources Development Act of 1976 delays repayment of the Federal investment in the Snettisham project. The repayment period was increased from 50 to 60 years. For the next 10 years, repayment of principal on the Federal investment will be limited, and repayment of interest on the Federal investment has been deferred.

These rate provisions were intended to encourage more rapid use of presently surplus power and, thus, recover project cost quicker. The act, however, restricts the ability of the Administrator of the Alaska Power Administration to financially manage the repayment of the Federal investment in the project. The Congress should closely monitor and review those provisions of the law which limit repayment. Particular attention should be paid to whether the law is encouraging rapid use of surplus Snettisham power.

OPINION ON FINANCIAL STATEMENTS

In GAO's opinion, the financial statements present fairly the financial position of the Alaska

Federal Power Program at June 30, 1976, and June 30, 1975; the financial results of its power operations; and the changes in financial position for the years then ended, in conformity with accounting principles and standards prescribed by the Comptroller General of the United States. (See p. 28.)

AGENCY COMMENTS

Effective October 1, 1977, energy functions of the Department of the Interior were transferred to the newly created Department of Energy. Among the Federal programs included in the transfer was the Alaska Power Administration. Interior, however, was still the responsible Federal agency during the preparation of this report. Interior commented that it will pursue GAO's recommendations. Interior's comments were intended mainly as additional information on the issues raised in the report.

The Department of the Army commented that there was never any question that the Corps preferred the lower transmission line route to the higher route over Salisbury Ridge. It stated that:

--The limited time associated with building the Snettisham transmission line and objections of the Forest Service to the lower route contributed to their decision selecting the high route over Salisbury Ridge.

--The decision to build this line was not supported by a supplemental design change because it was a minor change from approved plans that did not have major engineering requirements.

GAO's review of documents relating to this decision shows that the Corps

--was aware of the potentially violent weather conditions associated with the high route and

--had a report from a consultant which highlighted the need to specially design transmission towers and foundations built over the ridge to protect them from snow slides and snow creep.

The Corps opted for the higher route because of pressures to have the line ready when the powerplant construction was completed, but they did not follow the consultant's advice to specially design stronger towers and foundations. GAO believes the consultant's report introduced major new engineering requirements and thus required the preparation of a supplementary design change. (See p. 11.)

Contents

ABBREVIATIONS

APA	Alaska Power Administration
FPC	Federal Power Commission
GAO	General Accounting Office
Kw	kilowatt
Kwh	kilowatt-hour
kv	kilovolt
NPD	Corps of Engineers, North Pacific Division

CHAPTER 1

INTRODUCTION

The Alaska Power Administration (APA) was established by Secretarial Order 2900, dated June 16, 1967, 1/ and is responsible for promoting the development and use of Alaska water, power, and related resources; operation and maintenance of Federal hydroelectric projects; and for marketing the power generated by these projects. The APA Administrator also serves as the Secretary of Energy's representative on power matters in Alaska. Prior to the establishment of APA, water resource development functions in Alaska were the responsibility of the Bureau of Reclamation.

Section 5 of the Flood Control Act of 1944 (16 U.S.C. 825s) provided that electric power generated at Corps plants and surplus to project needs be delivered to the Secretary of Interior for marketing. The act states that public bodies and cooperatives be given preference in the sale of power. The Secretary is required to establish rates to recover the cost of purchasing and transmitting power, including repayment of the Federal investment, over a reasonable period of years. Rate schedules generally become effective upon approval by the Federal Power Commission.

The Secretary has established that a reasonable repayment period is within 50 years of the date a hydroelectric project is placed into commercial service and becomes revenue producing. APA prepares rate and repayment studies to determine whether power rates are adequate to recover the Federal investment in hydroelectric projects within the repayment period established by the Secretary or as required by law.

Federal hydroelectric power projects in Alaska consist of the Eklutna project, which was constructed by the Bureau of Reclamation, and the Snettisham project, constructed by the Corps of Engineers but operated and maintained by APA. These single-purpose projects were

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1/Effective October 1, 1977, energy functions of the Department of the Interior were transferred to the newly created Department of Energy. Among the Federal programs included in this transfer from Interior was the Alaska Power Administration.

constructed at a total cost of about $109.8 million and have a combined capacity of 77,160 kilowatts. 1/

In 1962, the Departments of the Army and the Interior entered into an agreement which set forth the responsibilities of each agency for hydroelectric power development in Alaska. Under this agreement, the Corps assumed responsibility for designing and constructing hydroelectric projects. The Department of the Interior was to operate and maintain the projects and market the power.

The Corps designs and constructs hydroelectric projects in Alaska through its district office in Anchorage, Alaska, subject to general supervision provided by the North Pacific Division Office, Portland, Oregon. After project construction is completed, construction and design costs are transferred to APA for rate setting and repayment scheduling.

The Corps' district offices are headed by Army officers (district engineers) under the general direction of division engineers. The division engineers are responsible to the Chief of Engineers, Washington, D.C. In January 1955, the Comptroller General approved an accounting system for the civil functions of the Corps of Engineers, and on July 21, 1977, after extensive changes had been made, the system, together with a system for military functions, was reapproved by the Comptroller General.

APA's activities are conducted from offices in Juneau, Alaska. Operations are directed by an administrator, under authority delegated by the Secretary of Energy. The administrator is responsible to the Assistant Secretary of Energy for Resource Applications.

APA's financial statements relating to their power operations have not previously been audited by GAO. APA prepared the fiscal year 1975 and 1976 financial statements included in this report by consolidating its accounts with the Corps' records of the costs incurred in constructing the Snettisham project.

GAO approved stage I--the principles and standards--of the APA accounting system on April 21, 1971. APA plans to

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1/One thousand watts equals 1 kilowatt. One million kilowatts is the equivalent of the output of a large, modern, fossil-fueled or nuclear-generating plant.

submit documents to GAO for approval of stage II--accounting system design--subsequent to September 1977.

During fiscal year 1976, APA marketed 184.9 million kilowatt hours of energy from the Eklutna project near Anchorage and the Snettisham project, located near Juneau. Because of the relatively small population centers, difficult terrain, and vast distances separating the Eklutna and Snettisham projects, each project is operated as a separate system.

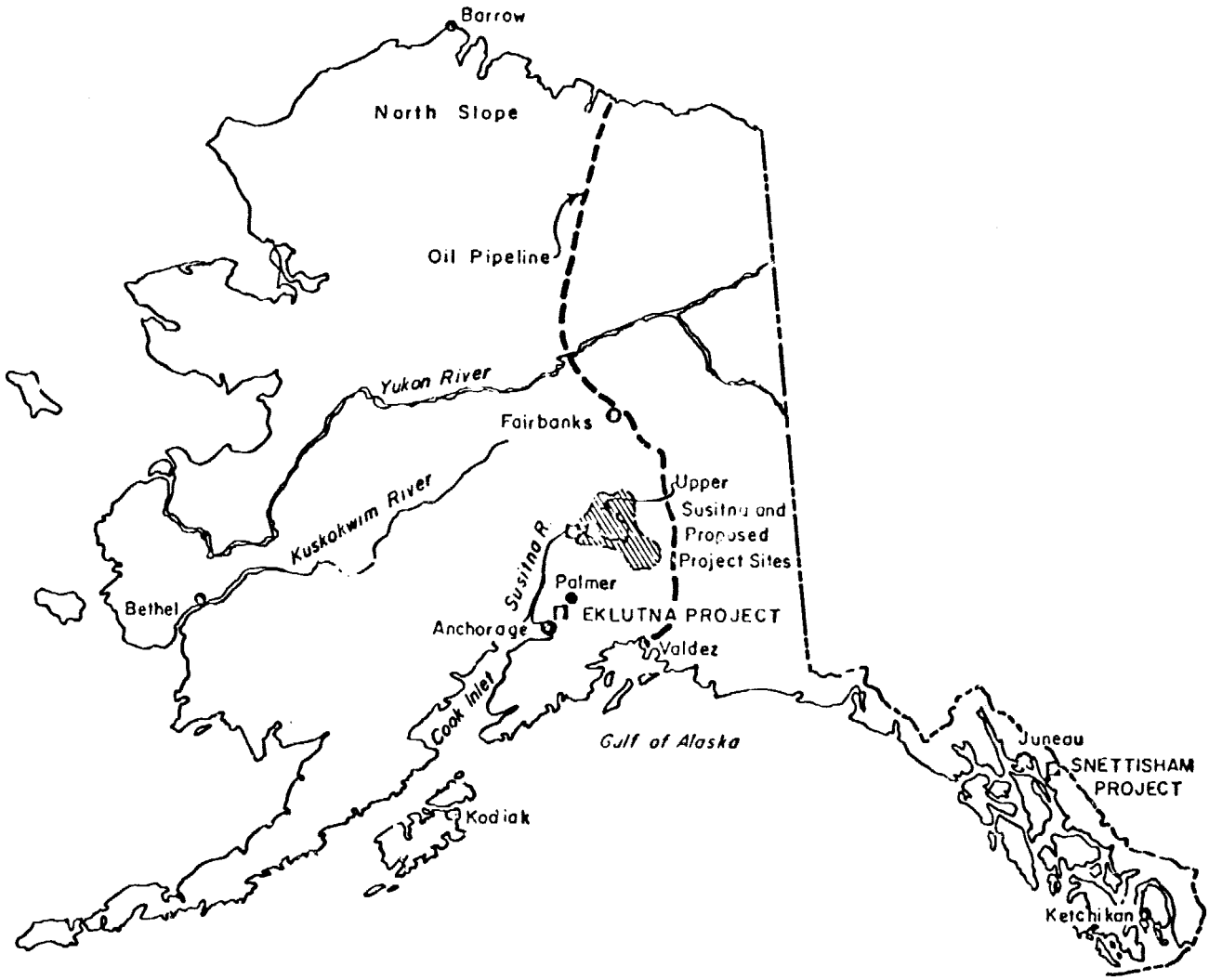
APA markets the energy from these projects to three utilities in the Anchorage area and to two utilities in the Juneau area. Firm power is sold by the kilowatt hour 1/ at both projects, rather than by capacity 2/ because each system lacks backup units to assure firm capacity. The utilities served by the Eklutna project are committed to accept all of the energy produced by the project. The Snettisham project is operated far below capacity and has no such commitment.

APA markets power over 3 miles of underwater cable and 100 miles of its own transmission line connected directly to the two projects and pays a service charge to a private utility for transmitting, or "wheeling," the Federal power over their lines to preference customers.

In addition to its responsibilities for power operations and marketing, APA conducts general water resource investigations in Alaska in cooperation with State, Federal, and local entities. This work is supplemented by cooperative studies with other agencies such as the Bureau of Reclamation, the Bonneville Power Administration, and the Geological Survey. Recent investigations include field studies for the Federal Power Commission (FPC), Alaska Power Survey, and an update of a prior hydroelectric feasibility study of Devil's Canyon in south-central Alaska. Projects included planning assistance for water and power aspects of the Alaska water resources assessment and other hydro-related power and intertie studies.

1/The power which a project produces over a given time, expressed in kilowatts per hour.

2/The power which a project can produce at a given time, expressed in kilowatts. A project can be operated above its nameplate capacity.


Barrow
North Slope
Oil Pipeline
Yukon River
Fairbanks
Kuskokwim River
Upper
Susitna and
Proposed
Project Sites
Susitna R.
Palmer
EKLUTNA PROJECT
Bethel
Anchorage
Valdez
Cook Inlet
Gulf of Alaska
Juneau
SNETTISHAM
PROJECT
Kodiak
Ketchikan

CHAPTER 2

PROGRAM OPERATIONS

The Alaska Power Administration Federal power program incurred a net loss of about $1.3 million in fiscal year 1976, consisting of $0.2 million of net revenues from the Eklutna project and a $1.5 million net loss from the Snettisham project. Accumulated net revenues from the sale of commercial power amounted to $7 million as of June 30, 1976. Power operations in Alaska have been significantly affected by high winds, the 1964 earthquake, and low water years, which have resulted in widely varying revenues from year to year. In addition, both the Eklutna and Snettisham projects had cost growth problems.

Appendix V shows the gross Federal commercial power revenues, expenses, and annual net revenues from power operations in Alaska since 1955.

EKLUTNA PROJECT OPERATIONS

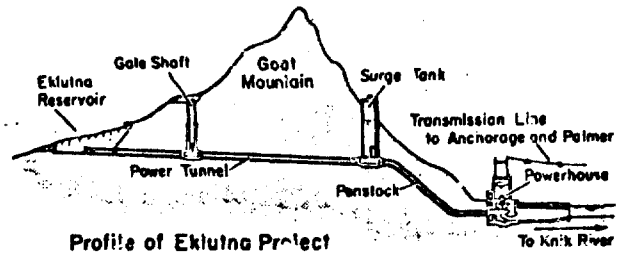
The Eklutna project was authorized for construction by the Eklutna Project Act, approved July 31, 1950, (Public Law 81-628) and constructed at a cost of $32 million. The project, which went on line in 1955, was constructed by the Bureau of Reclamation and is located in south-central Alaska, approximately 34 miles north of Anchorage. The facility includes a 213,000-acre-foot capacity reservoir; 23,800 feet of diversion tunnel--9 feet in diameter; two 15,000-kilowatt generators; and 43 miles of transmission lines. The following location map includes a schematic drawing of the principal features of this project.

APA operates the Eklutna project and markets the power to three interconnected utilities in the Anchorage area that have contracted for its full capacity.

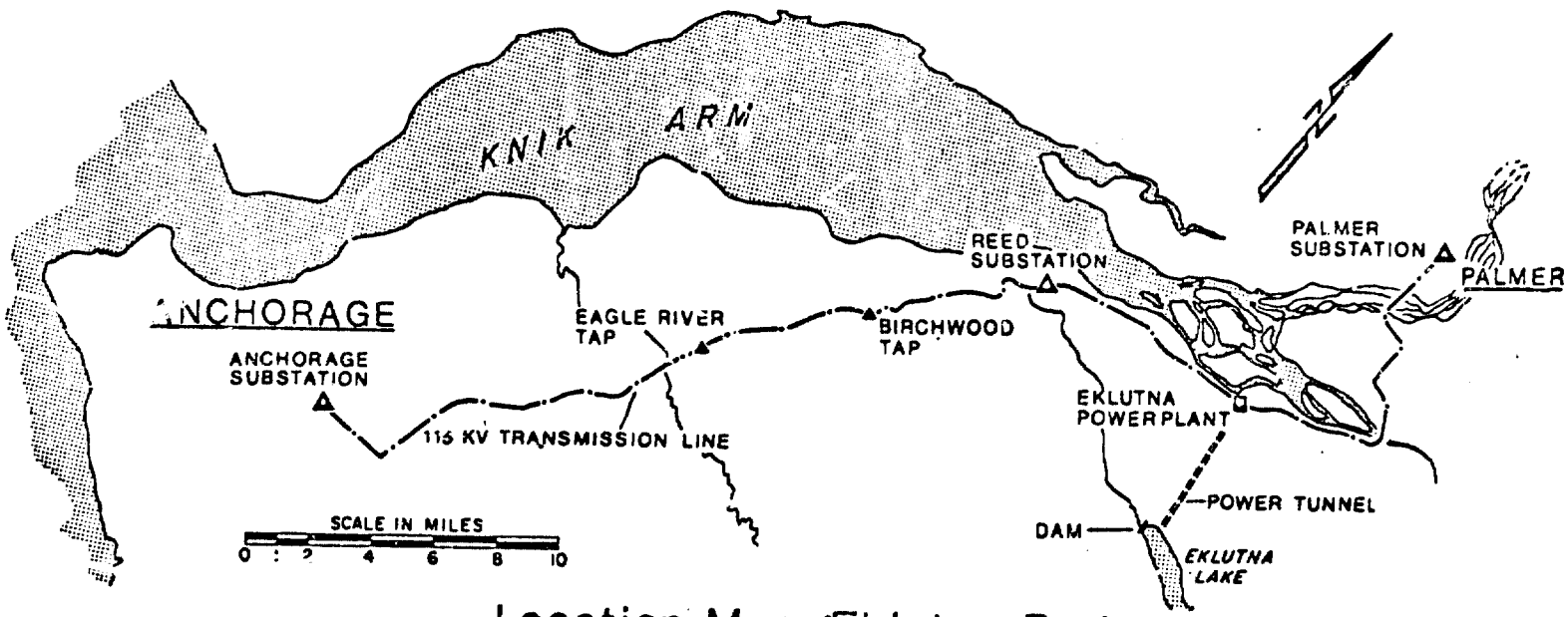
Damages and lost revenues due to earthquake

In March 1964, an earthquake caused approximately $2.9 million in damages to the Eklutna project. Actions taken by the Bureau of Reclamation to repair project facilities damaged by the earthquake included the following: construction of a new dam--$1.4 million; replacement of the intake structure and repair of the intake conduit to the power tunnel--$0.8 million; and emergency work plus replacement of the automotive repair shop--$0.7 million.

Public Law 90-523, approved September 26, 1968, provided that the costs incurred to repair the earthquake damage were nonreimbursable by the project beneficiaries.



Profile of Eklutna Project



Location Map-Eklutna Project

The project operated at reduced levels during 1964 and 1965, severely curtailing power production. Lost revenues due to the earthquake were estimated to be $238,000.

Lost revenues due to abnormally low runoff

From 1969 through 1975, Lake Eklutna experienced water inflows substantially below the average for the previous 13 years. Since the Eklutna project sells all the electricity it generates and has not spilled water over the dam since 1967, the low inflows resulted in substantially reduced revenues. Low water levels reduced gross revenues by an estimated $1.7 million, or 14 percent, during the period from 1969 to 1976.

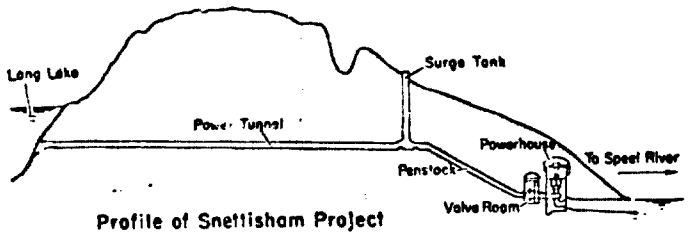
SNETTISHAM PROJECT OPERATIONS

The Snettisham project was authorized for construction in two phases by section 204 of the Flood Control Act of 1962 (Public Law 87-874, approved October 23, 1962) to meet a growing demand for electricity in the vicinity of Juneau. The Long Lake, phase I of the project, was constructed by the Corps at a cost of $77.8 million. 1/ The project is located near the mouth of the Speel River, approximately 28 miles southeast of Juneau. The facilities include a 252,000-acre-foot capacity reservoir; a powerhouse tunneled out of solid rock; two 23,580-kilowatt generating units; 9,885 feet of power tunnel and penstock; and 47.3 miles of 138,000 volt transmission line, including 3 miles of underwater cable. The following location map includes a schematic drawing of the principal features of the project.

Construction will not start on Crater Lake, phase II of the Snettisham project, prior to 1986 due to the lack of demand for additional power. These facilities would include an 81,000-acre foot storage reservoir, power and penstock tunnels 2/, and a 27,000-kilowatt generating unit. A separate economic feasibility analysis will be performed for phase II before construction funds are requested from the Congress.

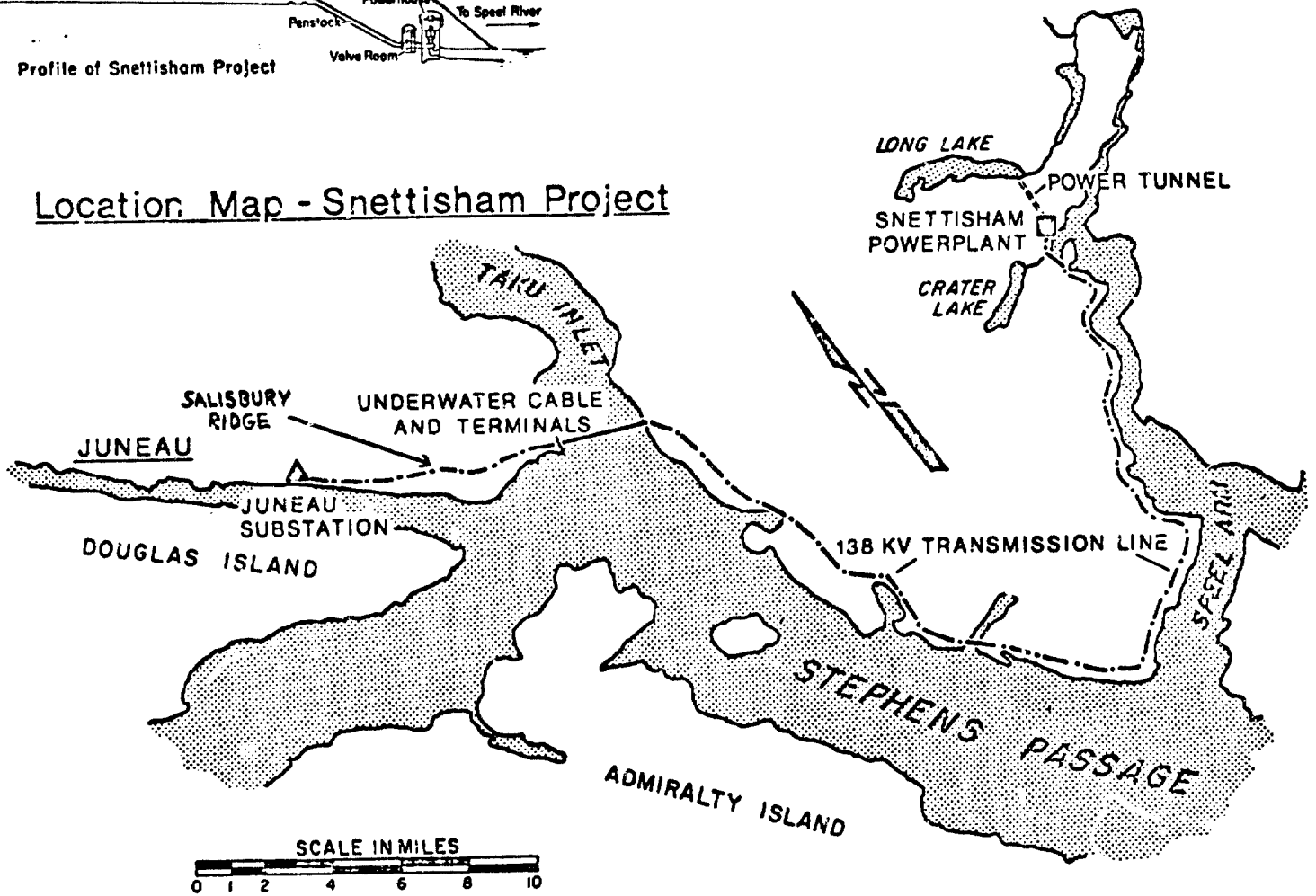
1/Excludes nonreimbursable costs. (See page 14 and exhibit 2 footnote 6.)

2/To eliminate the need for excavation work in the existing powerhouse when phase II is constructed, 200 feet of the penstock tunnel was bored and included in the cost of phase I of the project.



Profile of Snettisham Project

Location Map - Snettisham Project



APA has negotiated contracts and operating agreements with the two electric utilities servicing Juneau. When full demand is met, the project is expected to displace 600,000 barrels of diesel fuel per year.

Lost revenues due to transmission line failures

The Snettisham project began operation in December 1973. On November 30, 1973, APA signed a beneficial occupancy agreement with the Corps which provided for partial acceptance of the project by APA, subject to the Corps correcting certain known construction deficiencies. Under this agreement, APA was to operate the project and market the power, but have full maintenance responsibility for the project. The project was not formally transferred to APA until October 28, 1975.

In February 1974, the Salisbury Ridge portion of the transmission line failed. One tower was blown down because of a hardware failure caused by snow, ice, and high winds; within 1 week, two more towers collapsed. Extreme weather conditions delayed completion of temporary repairs to the transmission line until October 1974, a delay of 9 months. Two weeks after power was restored, a sequence of 26 outages occurring over a 4-1/2 months' period, began. Again, the problems were the result of adverse climatic conditions on Salisbury Ridge. During the 4-1/2 months, the project was offline 70 days and online 66 days. Temporary repairs to the line were made during the summer of 1975.

In March of 1976, the Corps began work on the permanent relocation of the 6-mile section of the transmission line over Salisbury Ridge. The line has been moved from the 1,900-foot level on Salisbury Ridge down to the 600-foot elevation.

Revenues lost due to the transmission line failures are estimated to be $3.2 million. The additional costs of relocating the Salisbury Ridge section of the transmission line totaled about $11 million and were made nonreimbursable by project beneficiaries under the provisions of the Water Resources Development Act of 1976 (Public Law 94-587, approved October 22, 1976). (See p. 23.)

CORPS PROCEDURES NOT ADHERED TO FOR CONSTRUCTION OF SNETTISHAM TRANSMISSION LINE

The segment of the Snettisham transmission line over Salisbury Ridge was constructed by the Corps without an adequate evaluation of the hazards involved. This route had previously been rejected by the Corps based on engineering

considerations. A supplementary study of the feasibility of this design change was not performed as required by Corps instructions. Because of extreme weather conditions which caused the line to fail repeatedly, the Snettisham transmission line was relocated in 1976 to the site originally recommended at an additional cost to the Government of about $11 million.

The Corps normally chooses the best way to construct its projects from among several detailed design memorandums. The general design memorandum prepared by the Corps in October 1965 recommended that the transmission line be constructed over the low route, the route to which the transmission line was subsequently relocated in 1976. This design memorandum specifically rejected the high route over Salisbury Ridge because of potentially less reliable service due to (1) high winds, (2) deep and drifting snow, and (3) conductor icing. Other adverse factors cited in the design memorandum were powerline problems experienced by private concerns in the area and the difficulty of servicing a line over Salisbury Ridge during the winter months.

In December 1966, the Corps prepared another design memorandum which contained the detailed specifications for construction of the Snettisham transmission line over the low route.

During the period from 1967 to 1970, the Corps and APA considered the feasibility of utilizing a direct current underwater cable from the powerplant to Juneau as an alternative to constructing the overland transmission line. However, this alternative was abandoned in 1970 because of cost considerations.

In 1970, the Corps engaged a consultant engineer to prepare a report on the most favorable transmission line routings between the Snettisham project and Juneau, including considerations of esthetics, climatic exposure, and other factors. In his report of April 1970, the consultant reported that the low route was the only feasible route between Juneau and the powerplant. However, he pointed out that by locating the line over Salisbury Ridge fewer trees would have to be cleared.

In May 1970, the Corps' Alaska District requested approval for the high route over Salisbury Ridge from the Corps' North Pacific Division (NPD) in order to award a contract for clearing the transmission line right-of-way subject to:

"Alignment changes * * * between Taku Harbor and Taku Inlet and * * * the Juneau substation at

Thane. These changes [to the high route] have been made to minimize penetration of the beach fringe trees, avoid destruction of the eagle nest trees. and place the route above the timber line * * *"

This request was approved by the North Pacific Division and headquarters offices of the Corps without requiring that a supplemental design memorandum be prepared to evaluate the impact of this change on the reliability of the line.

NPD officials acknowledged that a supplementary design memorandum should have been prepared for this change and that Corps regulations require that construction be in accordance with approved design studies. They also stated that the need to complete the transmission line in sequence with the powerhouse was a factor in not following established procedures.

APA involvement

The former APA Administrator was advised of the Corps' decision to route the transmission line over Salisbury Ridge, but because the route over Salisbury Ridge was not considered to be abnormally hazardous, APA did not review the design memorandums or suggest that the Corps do more research into the feasibility of the Salisbury Ridge route.

GAO conclusions

The Alaska District did not follow established Corps procedures when they elected to build the transmission line over Salisbury Ridge. Because the design memorandums previously developed by the Corps had rejected this route due to the potential hazards to reliable service, the decision to deviate from the design specifications represented a major change that should have been supported by a supplementary design memorandum.

The Corps' NPD and headquarters offices did not adequately review the Alaska District's plans to change the route of the transmission line. Neither organization questioned the absence of a supplementary design memorandum to support the change in transmission line routing.

Agency comments

In commenting on our proposed report, the Acting Assistant Secretary of the Army (Civil Works) stated that he did not believe adequate information was presented in the report explaining the decision to change to the higher route.

He stated that, from an economic and an engineering standpoint, there was no question that the lower route was preferable. The lower route, however, lies within the Tongass National Forest, which is under the jurisdiction of the U.S. Forest Service. The Forest Service objected to the lower route primarily because they felt it would be esthetically displeasing to boaters using nearby waterways. Because the Corps could not obtain concurrence from the Forest Service for the lower route without jeopardizing the power-on-line date, the Corps agreed to accept the higher route preferred by the Forest Service.

The Acting Assistant Secretary also stated that he did not concur with the context stated in our report that the decision to change from a lower route to the higher route for the transmission line was a major change which should have been supported by a supplementary design memorandum. He stated that information about the weather conditions on the higher route at the time the decision was made did not indicate conditions were nearly as severe as ultimately experienced. Actual experience later showed that wind velocities were in excess of twice those projected. He stated that had this and other factors been known at the time the decision was made to use the high route, a supplementary design change would have been prepared because of the major new engineering requirements. However, at that time, the change was considered to be a routine rerouting of a fairly short section of a transmission line. Accordingly, based on the available information, a decision was made to not require a supplementary design memorandum.

The Acting Assistant Secretary concluded that the Corps considers its regulations on reporting departures from approved design memorandums to be adequate and that changes are not needed. The preparation of a supplemental design memorandum hinges on professional judgment as to whether a major change in the plan is involved.

Effective October 1, 1977, energy functions of the Department of the Interior were transferred to the newly created Department of Energy. Among the Federal programs included in this transfer from Interior was the Alaska Power Administration. Interior, however, was still the responsible Federal agency during the preparation of this report. It said that APA, acting within its responsibilities for planning, operating, and maintaining power facilities, will seek to incorporate a more thorough review of the design adequacy of proposed new facilities.

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Our review of documents relating to the decision to build the Snettisham transmission line over Salisbury Ridge indicates that the Corps was aware of the potentially violent weather conditions associated with this route. According to a draft report 1/ discussing the construction of the transmission line prepared by a Corps engineer, the Corps had extensively studied the experience and difficulties of one company in building and maintaining its transmission line in the same area. The Corps knew this transmission line had failed numerous times and was difficult to maintain. All indications for a line over Salisbury Ridge pointed to problems in several areas--snow pack, high winds, periods of fog, and inaccessibility for making repairs.

Additionally the Corps had retained the services of a consultant who indicated that the lower route was the only feasible route between the Juneau area and the powerplant. He did, however, indicate that the higher route might be possible but more attention would have to be paid to protecting the towers from snow slides and snow creep. The consultant believed that tower footings could be designed to take any slides likely to occur on this slope. He noted that snow depths were reported to be 10 to 12 feet and stated that foundations and towers should be designed for these conditions; otherwise, the depth of snow would damage the towers. He recommended self-supporting towers for all deep snow areas.

The Corps opted for this higher route, apparently because of pressure to have the line ready when the powerplant was completed. The Corps did not, however, follow the consultant's advice to specially design towers over the ridge. We believe the consultant's report introduced major new engineering requirements and required the preparation of a supplementary design change.

We believe that the failure to adhere to established procedures in this case has resulted in unnecessary costs to the Government and that corrective action is needed to assure that similar situations are avoided in the future.

1/Richardson, Claude; Value Engineering Officer, Electrical Engineer; "Snettisham Project Alaska Transmission Line Location and Reliability," August 1975.

Recommendations to the Secretary of the Army

We recommend that the Secretary of the Army emphasize to the Chief of Engineers that Corps district personnel prepare supplementary design memorandums to support major design changes and that approval of such changes be based on adequate engineering evaluations.

COST INCREASES INCURRED IN CONSTRUCTION OF HYDROELECTRIC PROJECTS IN ALASKA

Due primarily to design modifications, general price level increases for labor and construction materials, and increased transportation charges, significant cost increases occurred on Federal hydroelectric projects in Alaska after the projects were initially authorized.

Snettisham project

Since the Snettisham project was authorized in 1962, total estimated project costs have increased from $41.6 million to $120.2 million. This significant increase totaling $78.6 million was due primarily to price increases for fuels, materials, and labor ($31 million) and to design changes of $36 million, including costs for restoration and subsequent relocation of the transmission line over Salisbury Ridge. The following tabulation summarizes the costs incurred for construction of phase I of the Snettisham project and APA's current cost estimate for phase II of the project:

		Millions
Phase I	Reimbursable costs as of 6/30/76	$ 77.8
	Nonreimbursable restoration and relocation costs through 6/30/76	7.4
	Additional nonreimbursable costs to be incurred in fiscal year 1977	3.5
	Total phase I costs	$ 88.7
Phase II	APA cost estimate as of 6/30/76	$ 31.5
	Total	$120.2

Eklutna project

The Eklutna project was authorized by the Congress in 1950. At that time, the project was estimated to cost $20.4 million. It was subsequently reauthorized in 1953 for construction at a cost of $33 million because contract costs were substantially in excess of the Bureau's initial cost estimate. The actual construction cost was $32 million.

CHAPTER 3

GENERAL INVESTIGATION STUDIES

APA conducts general investigations relating to the development and use of Alaskan water, power, and related resources. These investigations have been funded by congressional appropriations totaling $5.5 million since APA was established in 1967.

Appropriations for general investigations for fiscal year 1976 amounted to $652,000. A summary of appropriations made for these investigations in Alaska is shown in appendix VI. General investigation funds do not become reimbursable until the related hydroelectric project is authorized by the Congress. Thus, costs associated directly with the planning of power projects are accumulated by APA and become a part of project costs when construction is undertaken. During fiscal year 1976, the Water Resources Council also contributed $200,000 for the Alaska Water Assessment study.

Expenditures incurred for investigations and studies in fiscal year 1975 and 1976 were reviewed by us in connection with our audit of APA's Federal power program.

GENERAL STUDIES

APA participates along with State, private, and Federal agencies in conducting general water resource investigations in Alaska. In addition to providing personnel, APA also contributes to the funding of individual studies.

The following studies are representative of the work performed by APA.

Alaska Power Survey

This study assesses Alaska's population and economic growth, resources, electric power generation needs, and coordinated systems development and interconnection. The data will be used by FPC to prepare an overall report on the Alaska Power Survey.

Alaska Water Assessment Study

This study considers the potential for improving coordinated water and related land use planning activities by identifying existing and emerging water and related land resource problems, determining possible solutions, and making

recommendations for solving the problems. This study is part of the Water Resources Council's 1975 National Water Assessment of water and related land resources.

Alaska power statistics

APA gathers and processes data from throughout Alaska and condenses the information into a booklet entitled "Alaska Electric Power Statistics." The latest edition, covering 1960 through 1975, was published in July 1976.

PROJECTS AUTHORIZED BUT NOT YET CONSTRUCTED

Except for the Eklutna and Snettisham projects, the only other authorized hydroelectric projects in Alaska are the Bradley Lake and the Upper Susitna projects. Our comments on these projects, which have not yet been constructed, are set forth below.

Bradley Lake project

The Bradley Lake project is the only Alaskan hydroelectric project authorized for construction with Federal funds. This project was authorized by the Flood Control Act of 1962 (Public Law 87-874), approved October 23, 1962. Construction of the project was deferred, however, when low-cost natural gas became available in the Cook Inlet area of Alaska. Studies conducted by the Corps of Engineers in 1970 and 1971 concluded that requirements for peaking power did not merit immediate construction of the project. A further evaluation of the project is being considered in light of changing energy economics.

The project site is located 100 miles southwest of Anchorage on Kachemak Bay on the south-central Alaskan coast. As planned, it will have 118,000 kW capacity and furnish power to Homer and Kenai, with a transmission line intertie to the Anchorage electrical grid.

Upper Susitna Basin project

Preconstruction planning of the Susitna Basin project was authorized by section 160 of the Water Resources Development Act of 1976 (Public Law 94-587) at an estimated cost of $25 million. The Susitna project qualifies under the Alaska Hydroelectric Power Development Act (section 203 of Public Law 94-587), which authorizes the Corps to plan and construct projects in Alaska when at least 90 percent of the benefits will be attributable to hydroelectric power generation. The Corps may conduct preconstruction planning where

non-Federal authorities agree to reimburse the Corps if a project is reported favorably. The costs must be repaid before any favorable report is transmitted to Congress seeking authorization for construction. Construction costs are also reimbursed from non-Federal sources except that the Federal Government assures responsibility for certain cost overruns.

The Upper Susitna Basin is midway between Anchorage and Fairbanks, and it has a hydro potential of about 1550 megawatts and 6.9 billion kilowatt hours per year in a three dam development plan. The Upper Susitna Basin report accounted for a large share of the general investigation funds expended by APA in fiscal year 1976.

Devil Canyon Dam, with upstream storage at Watana Dam and transmission intertie lines to the Anchorage and Fairbanks load centers, has been recommended by APA and the Corps as the most desirable initial stage. The Devil Canyon powerplant could provide about 700 megawatts capacity and 3.0 billion kilowatt hours annual firm energy when completed.

CHAPTER 4

RATE AND REPAYMENT STUDIES

The present power rate structure for the Eklutna and Snettisham projects is inadequate to repay the Federal investment in these projects within the required repayment periods. Moreover, the Water Resources Development Act of 1976 has, in our opinion, precluded the APA Administrator from increasing the power rates for Snettisham during the next 10-year period. This action will increase the total repayment obligation of project beneficiaries and may also affect the project's long-term repayment ability, particularly if the planned move of the State capital materializes.

The Department of Energy has not established uniform methodology and guidelines for preparing rate and repayment studies. In addition, the power rates applicable to the Snettisham project do not require approval by the FPC.

APA prepares rate studies at least once every 5 years to determine the revenue levels needed to formulate wholesale power rates and prepares repayment studies annually to demonstrate whether existing power rates are adequate to repay all Federal power investment costs within the required repayment period.

APA prepares separate rate and repayment studies for the Eklutna and Snettisham projects. These studies show each project's actual revenues, expenses, amount repaid, cumulative repayment of investment, and remaining Federal investment through the end of the current fiscal year, as well as a projection of the same financial data for each year through the end of each project's repayment period. The Federal power investment in the Eklutna project must be repaid within 50 years from the date the project was placed in service and became revenue producing. Under the provisions of the Water Resources Development Act of 1976, the repayment period for the Snettisham project was established at 60 years.

POWER RATES

APA has used three wholesale power rates applicable to the sale of electric power by the Eklutna project, including one change in the method of computing electric rates. Pertinent information relating to these adjustments is summarized in the following schedule.

EKLUTNA PROJECT POWER RATES

Fiscal year	Firm power: Capacity charge (kW) (note a)	Firm power: Energy charge (kWh) (note b)	Firm power: Average energy charge (kWh)	Nonfirm power: Average energy charge (kWh)	Overall charge per (kWh)
1955 to 1969	$2.25/month/kW	6.0 mills	10.8 mills	c/6.0 mills	10.2 mills
1970 to 1974	none	9.3 mills	9.3 mills	3.0 mills	9.2 mills
1975 to present	none	10.3 mills	10.3 mills	3.0 mills	10.3 mills

a/Capacity represents the power a project can produce at a given time expressed in kilowatts. A project can be operated above its nameplate capacity.

b/Energy represents the power a project produces over a given time, expressed in kilowatts per hour.

c/On June 24, 1968, FPC approved a 5.0 mill secondary energy charge.

The initial power rate approved by the FPC consisted of a minimum monthly fee for capacity plus an additional energy use fee, which resulted in an average rate of 10.2 mills/kWh. In August 1969, the capacity charge was eliminated and only energy use was billed to the three public utilities: the city of Anchorage, the Matanuska Electric Association, and the Chugach Electric Association. However, the utilities were required to buy the entire output of approximately 153 million kWh per year, whether they used it or not. This change was requested by the utilities to provide greater flexibility in coordinating Eklutna's power and energy capability with their own, which reduced the overall rate received by APA from 10.2 mills/kWh to 9.2 mills/kWh. APA considered this rate reduction to be consistent with the project's 50-year payback objective because major rehabilitation expenses of $2,805,437 due to the 1964 earthquake had been made nonreimbursable by the ratepayers under the provisions of Public Law 90-523, approved September 26, 1968.

In 1974, after 6 successive years of below-average runoff, APA recommended that the rate be increased to 10.3 mils per kWh to provide for repayment of the Federal investment within the required repayment period. This rate increase was approved by FPC on March 7, 1975.

The Snettisham project began transmitting power to its private and public utility customers--Alaska Electric Light and Power and the Glacier Valley Electric Cooperative--on December 1, 1973. The present power rate of 15.6 mills has been in effect since power sales were begun.

CURRENT STATUS OF REPAYMENT OF THE FEDERAL POWER INVESTMENT

A comparison of the amount of Federal investment repaid and the amount to be repaid as of June 30, 1976, follows.

Project	Federal investment Repaid	Federal investment To be repaid	Nonreimbursable investment	Total Federal investment
	(000 omitted)			
Eklutna	$8,998	$ 21,233	b/$ 2,805	$ 33,036
Snettisham	-	a/79,002	c/ 11,035	90,037
Total	$8,998	$100,235	$13,840	$123,073

a/Includes unpaid interest of $1,241,000, which must be repaid in addition to the unpaid Federal investment of $77,761,000.

b/Repair of 1964 earthquake damage.

c/Transmission line restoration and relocation costs.

APA considers the repayment of the power investment on schedule if its rate and repayment studies show that projected revenues will be sufficient to recover all power costs and repay the initial power investment within the required repayment period, regardless of how much investment actually has been repaid to date. Under this concept, no specific amount of initial investment is required to be repaid in any year during the repayment period. Recent legislation, however, changed this concept for the Snettisham project and now requires specific annual payments for that project. (See page 23.)

Increase in power rates needed to repay Federal investment

Rate and repayment studies prepared by APA as of June 30, 1976, show that repayment of the Federal investment in the Eklutna and Snettisham projects cannot be achieved within the established repayment periods without an increase in existing power rates.

Eklutna project

The repayment study for the Eklutna project (see app. II) results in a total of $3.1 million remaining unpaid in the

year 2005, the last allowed repayment year. Since power production cannot be increased beyond present levels, one alternative available to APA is to increase the present power rate. The APA Administrator advised us that a power rate increase of about 15 to 20 percent would be required to recover the Federal investment within the required repayment period and that a rate increase proposal would be submitted to FPC for approval prior to 1978.

Snettisham project

The repayment study for the Snettisham project (see app. III) results in $280.8 million of the Federal investment remaining unpaid in the year 2035, the end of the 60-year repayment period. The APA Administrator advised us that the current repayment study does not incorporate all of the provisions of the Water Resources Development Act. He advised us that preliminary data, assuming that power rates will remain the same for 10 years, would require the rate to be adjusted from the present 15.6 mills to 27.1 mills for the remaining 50 years of the repayment period.

In addition, repayment of the Federal investment in the Snettisham project may be adversely affected by future demand for power in the Juneau area. In August 1974, the residents of Alaska approved the relocation of the State capital. Although the ultimate impact of this vote on future power demand is not known, the loss of power customers may necessitate futher rate increases in addition to the proposed increase.

We also measured the status of repayment of the Federal power investment if an orderly amortization of the investment is required. We used the compound interest amortization method to compute an annual requirement for repaying the power investment over a period of 50 years for the Eklutna project and 60 years for the Snettisham project. Our computation of the amount due June 30, 1976, for each project showed the following surplus or deficiency in the repayments actually made. (See app. I.)

Project	Repayment surplus or deficit (-)
Eklutna	$1,691
Snettisham	-1,559
Net repayment surplus	$ 132

Under the compound interest method of amortizing a project investment, annual funds required at a fixed amount which, during the repayment period, will provide for repaying the investment plus the interest on the unrepaid investment. Each year the portion of the fixed annual amount applicable to repayment of the investment increases as the interest on the unrepaid investment decreases.

While the computation for the Eklutna project using the compound interest method shows a repayment surplus at June 30, 1976, this does not necessarily mean that the Federal investment will be repaid within the required 50-year repayment period. The amount available for repaying the Federal investment can vary from year to year because of changes in revenues and expenses. For example, power revenues each year depend upon the availability of water to generate power for sale. As stated on page 7, the low water inflows of recent years have significantly reduced the sales revenues of the Eklutna project. Other factors which can significantly affect the amount available for repayment in any year include (1) increases in normal operation and maintenance costs, (2) increases in replacement costs, and (3) unusual costs for repairs or rehabilitation.

The Snettisham project computation shows a repayment deficit as of June 30, 1976, due primarily to inadequate demand, transmission line failures, and an inadequate power rate structure. And even though the transmission line problem has now been corrected, according to APA's latest repayment study, the present power rates are insufficient to repay any amount of the principal and only part of the total operation, maintenance, and interest costs in any one of the next 60 years.

IMPACT OF RECENT LEGISLATION ON REPAYMENT OF FEDERAL INVESTMENT IN THE SNETTISHAM PROJECT

The Water Resources Development Act of 1976 (Public Law 94-587) contains the following provisions which affect repayment of the Federal investment in the Snettisham project.

1. The repayment period was established as 60 years.

2. During the first 10 years of the 60-year repayment period:

   --The first annual repayment shall be 0.1 percent of the principal, increasing by 0.1 percent each year up to 1.0 percent at the end of 10 years.

--Annual payments for the remaining 50 years of the 60-year repayment period shall be 1/50 of the balance remaining at the end of the 10th year (including interest).

3. Costs of the Salisbury Ridge 138 kV powerline restoration and relocation are not to be used to determine reimbursable costs.

These specific provisions of the act were apparently intended to reduce some of the hardships on the people of Juneau caused by the construction delays, contracts difficulties, and increased construction costs which more than doubled the estimated cost of the Snettisham project. At the time of passage and at the conclusion of our review, APA had not made an analysis of the overall impact of this legislation on Snettisham power rates.

In generally accepted business practices, the goal of a concern is to generate adequate yearly revenues to meet all annual operating expenses (including interest) and to amortize a portion of outstanding capital investments over their service life. 1/ Our interpretation of the foregoing provisions of the act indicates that all principal repayments on the Federal investment in the Snettisham project (except for 1 percent) will be deferred during the initial 10-year period. More importantly, however, the act appears to also defer for 10 years the repayments of interest for the project.

The overall impact of this policy will be to restrict the ability of the administrator to financially manage the repayment of the Federal investment, and it will also increase the overall interest expenses for the project. In effect, the act tends to keep project rates lower in the initial 10-year period than they would be otherwise. The deferred capital and interest expenses, however, will be calculated into future rates and be recovered at the expense of future customers. APA officials stated at the conclusion of our review that a substantial rate increase would be required at the end of the initial 10-year period.

PROCEDURES USED IN PREPARING REPAYMENT STUDIES

APA prepares rate and repayment studies in accordance with criteria developed by the Bureau of Reclamation in the

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1/Profit-oriented businesses also provide for a rate of return.

late 1950s and early 1960s. In our report "Southeastern Federal Power Program--Financial Management and Program Operations," dated January 2, 1976 (RED-76-47), we recommended that the Secretary of the Interior require the issuance of uniform methodology and guidelines to be used by Interior's power-marketing agencies in preparing rate and repayment studies. In response to our report, the Department of the Interior replied that it had been working on this matter for some time and that a draft departmental manual had been developed and was being distributed for review and comment within the Department. In March 1976, the Department issued instructions to the power-marketing agencies, as an initial action, to require uniform practices. The instructions provide standardized guidelines for preparing financial statements and annual rate and repayment studies.

Continued need for uniform methodology and guidelines

Although APA and the other Department of Energy power-marketing agencies have prepared rate and repayment studies for many years, uniform methodology and guidelines for preparing these studies have not been developed. As a result, the various power-marketing agencies use procedures which vary between agencies and also vary from year to year in the same agency.

SNETTISHAM POWER RATES NOT SUBJECT TO APPROVAL BY FPC

The Flood Control Act of 1962, which authorized construction of the Snettisham project, does not include provisions for approval of power rates by the FPC. However, because other Corps projects are required to seek FPC approval for new rates, APA has sought their approval for the Snettisham project's power rates. FPC declined to approve them because the authorizing legislation made no provision for review and approval. Therefore after consultations with the FPC, APA plans to obtain approval from the Department of Energy.

CONCLUSIONS

Since the present power rates are not adequate to cover operating costs plus interest, the APA Administrator should take action now to establish an electric power pricing policy that will assure timely repayment of the Federal investment. The Water Resources Development Act of 1976 has, in our opinion, restricted the APA Administrator's ability to establish

adequate power rates for the Snettisham project during the first 10 years of the 60-year repayment period. This action will require a large rate increase after 10 years. The deferral of a rate increase for 10 years could also affect the project's long-term repayment ability, particularly if the State capital is moved out of Juneau.

We believe comprehensive guidelines would contribute to uniformity in determining the rates for power sold from Federal hydroelectric projects and would provide a better basis for top management's control over the procedures used in preparing rate and repayment studies.

We also believe that the Flood Control Act of 1962 should be amended to require FPC approval of Snettisham project power rates.

AGENCY COMMENTS

The Department of the Interior (the former responsible Federal agency) commented that it was not in complete agreement about the eventual impact of Public Law 94-587 on the level of power rates needed to repay the Federal investment in the Snettisham project. It stated that APA's preliminary studies showed an average rate of about 2.5 cents per kilowatt-hour would be needed after the 10-year deferral provided in Public Law 94-587. Because this would result in a rate somewhat below the present fuel replacement value for diesel-electric power in Juneau, the projected increase might be manageable.

The Department stated that the rate provisions of the act were intended to encourage more rapid utilization of surplus Snettisham power, and it would not recommend a change in the provisions at this time.

Based on further study of the impact of this act on Snettisham power rates, APA just recently submitted a tentative recommendation that the Secretary of the Interior continue the existing rate of 15.6 mills per kilowatt-hour for firm energy and approve a separate rate of 10 mills per kilowatt-hour for interruptible energy on an as-available basis. If the Secretary follows these recommendations, APA estimates that in 1985 the cumulative unpaid Federal investment in the project will increase by about $5.5 million over what it would be if the law had not been enacted and the rate remained unchanged. APA estimates this will require a rate of 27.1 mills per kilowatt-hour to meet legally mandated repayment requirements.

The Department also stated that they had no objection to new legislation which would provide for uniform rate review and approval procedures for APA projects by the FPC.

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APA's recommended course of action to implement the act estimates a needed rate increase which nearly doubles the existing rate at the end of the 10-year deferral period. In its analysis of the impact of the legislation, APA noted that there is a high degree of uncertainty about the area's future energy requirements. Such matters as energy conservation, the pending move of the capital out of Juneau, and future area growth will affect the demand for Snettisham power. Its estimate reflects a midrange approach. It assumes that the capital move will result in lower economic growth rates for the Juneau area but no net loss of employment and population. It also assumed that the growth rate in firm energy demands would diminish to about 3 percent each year by the mid-1980s.

APA's evaluation was prepared several months after the completion of our detailed review, and, because of that, we have not had the opportunity to evaluate the reasonableness of its analysis and underlying assumptions in detail. We wish to emphasize, however, that estimates of future rate levels are highly speculative and subject to criticism. Estimating 10 to 60 years in the future is an imprecise science. We believe the deferral of a rate increase for 10 years could affect the project's long-term repayment ability, particularly if the State capital is moved out of the Juneau area.

RECOMMENDATIONS TO THE CONGRESS

In view of the present deficit in the repayment of the Federal investment in the Snettisham project, the Congress should closely monitor the provisions of the Water Resources Development Act of 1976 which limit repayment of the Federal investment in this project, particularly those provisions which limit the APA Administrator's ability to establish power rates during the first 10 years of the repayment period. Close attention should be paid to whether the law is achieving its goal of encouraging rapid utilization of surplus Snettisham power and broadening the load base for ultimate recovery of project costs.

To maintain a consistent rate review policy, the Congress should also enact legislation to require the Federal Energy Regulatory Commission (formerly FPC before the creation of the Department of Energy) approval of the power rates established for the Snettisham project.

CHAPTER 5

SCOPE OF EXAMINATION AND OPINION ON FINANCIAL STATEMENTS

We have examined the statement of assets and liabilities of the Alaska Federal Power Program (see note 1 to the financial statements) as of June 30, 1976, and June 30, 1975, and the related statements of revenues and expenses and of changes in financial position for fiscal years 1975 and 1976. Our examination was made in accordance with generally accepted auditing standards and included tests of the accounting records of the Alaska Power Administration, Juneau, Alaska, and the Corps of Engineers district office in Anchorage, Alaska, and such other auditing procedures as we considered necessary.

In addition, we reviewed pertinent legislation and congressional hearings and reports applicable to the Alaska Power Administration and Corps of Engineers activities in constructing and operating the Alaska Power Administration.

The accompanying financial statements were prepared on a cost accounting basis which included depreciation. The statements do not present the financial results on a basis designed to show whether power rates are adequate to repay the Federal investment in the program either for the fiscal year or cumulatively. (See note 1 to the financial statements.)

In our opinion, the accompanying financial statements (exhibits 1, 2, and 3) present fairly the financial position of the Alaska Federal Power Program at June 30, 1976, and June 30, 1975, the financial results of its power operations, and the changes in financial position for the years then ended, in conformity with accounting principles and standards prescribed by the Comptroller General of the United States.

EXHIBIT 1

EXHIBIT 1

ALASKA POWER ADMINISTRATION
FEDERAL POWER PROGRAM
STATEMENT OF REVENUES AND EXPENSES
FOR THE FISCAL YEARS ENDED JUNE 30, 1976
AND JUNE 30, 1975
(In thousands)

	Combined total		1976	
	1976	1975 (Note 2)	Eklutna	Snettisham
OPERATING REVENUES:				
Sales of electric energy:				
Municipalities	$ 783	$ 479	$ 783	
Rural cooperatives	709	677	634	$ 75
Privately owned utilities	570			570
Other	7	5	3	4
Total	2,069	1,161	1,420	649
Other operating revenues	56	21	34	22
Total operating revenues	2,125	1,182	1,454	671
OPERATING EXPENSES:				
Operation and maintenance expense:				
Operating expense	660	291	357	303
Maintenance expense	311	146	175	136
Total operation and maintenance expense	971	437	532	439
Depreciation	384	154	164	220
Total operating expenses	1,355	591	696	659
Net operating revenues	770	591	758	12
INTEREST:				
Interest on Federal investment (Note 3)	2,761	2,534	556	2,205
Less interest charged to construction	715	1,981		715
Net interest expense	2,046	553	556	1,490
NET REVENUE (LOSS) (Exhibit 2)	$(1,276)	$ 38	$ 202	$(1,478)

"Notes to the Financial Statements" are an integral part of this statement.

EXHIBIT 2

ALASKA POWER ADMINISTRATION
FEDERAL POWER PROGRAM
STATEMENT OF ASSETS AND LIABILITIES
AS OF JUNE 30, 1976 AND JUNE 30, 1975
(In thousands)

ASSETS	Combined total 1976	Combined total 1975	1976 Eklutna	1976 Snettisham
FIXED ASSETS:				
Completed plant (Note 2)	$109,834	$ 32,621	$32,073	$77,761
Less accumulated depreciation	2,482	2,081	2,245	237
	107,352	30,540	29,828	77,524
Construction work in progress	1,411	74,899	1	1,410
Total fixed assets	108,763	105,439	29,829	78,934
CURRENT ASSETS:				
Unexpended funds	81	82	41	40
Special funds	17	17	17	0
Accounts receivable	206	161	76	130
Materials and supplies	4	4	0	4
Prepayments	5	0	6	1*
Total current assets	313	264	140	173
OTHER ASSETS AND DEFERRED CHARGES	83	286	62	21
TOTAL ASSETS	$109,159	$105,989	$30,031	$79,128

LIABILITIES	Combined total 1976	Combined total 1975	1976 Eklutna	1976 Snettisham
PROPRIETARY CAPITAL:				
Investment of U.S. Government:				
Congressional appropriations	$ 40,940	$ 39,885	$39,616	$ 1,324
Interest on Federal investment (Note 3)	25,864	23,098	15,067	10,797
Transfers from other Federal agencies, net	65,913	62,906	3,426*	69,339
Gross Federal investment (Note 6)	132,717	125,889	51,257	81,460
Less funds returned to U.S. Treasury	30,813	28,540	29,915	898
Net investment of U.S. Government	101,904	97,349	21,342	80,562
Accumulated net revenues (Note 2):				
Balance at beginning of year	8,242	6,686	8,247	0
Net revenues--current year (Exhibit 1)	1,276*	38	202	1,478*
Prior years adjustment (Note 5)	11*	1,518	11*	0
Balance at end of year	6,955	8,242	8,433	1,478*
Total proprietary capital	108,859	105,591	29,775	79,084
CONTINGENCIES (Note 4)				
CURRENT LIABILITIES:				
Accounts payable	39	68	16	23
Employees accrued leave	76	72	55	21
Total current liabilities	115	140	71	44
OTHER LIABILITIES AND DEFERRED CREDITS	185	258	185	0
TOTAL LIABILITIES	$109,159	$105,989	$30,031	$79,128

* Denotes deduction

"Notes to the Financial Statements" are an integral part of this statement.

EXHIBIT 3

EXHIBIT 3

ALASKA POWER ADMINISTRATION
FEDERAL POWER PROGRAM
STATEMENT OF CHANGES IN FINANCIAL POSITION
FOR THE FISCAL YEARS ENDING JUNE 30, 1976
AND JUNE 30, 1975
(In thousands)

	Combined total		1976	
	1976	1975	Eklutna	Snettisham
FINANCIAL RESOURCES PROVIDED FROM:				
Operations:				
Net revenues	$1,276*	$ 38	$ 202	$1,478*
Expenses not requiring repayment	384	154	164	220
Prior years adjustments (Note 5)	11*	1,518	11*	0
Resources provided from operations	903*	1,710	355	1,258*
Federal investment:				
Congressional appropriations	1,055	601	545	510
Transfers from other Federal agencies, net	3,007	675*	541*	3,548
Interest on Federal investment	2,766	2,609	562	2,204
Resources provided from Federal investment	6,828	2,535	566	6,262
Other resources:				
Decrease in other assets net of other liabilities	130	125*	140	10*
Total resources provided	$6,055	$4,120	$1,061	$4,994
FINANCIAL RESOURCES USED:				
Investment in electric utility plant and facilities, net	$3,708	$3,041	$ 551*	$4,259
Funds returned to U.S. Treasury	2,273	1,259	1,584	689
Other uses:				
Increase in current assets net of current liabilities	74	180*	28	46
Total resources used	$6,055	$4,120	$1,061	$4,994

* Denotes deduction

"Notes to the Financial Statements" are an integral part of this statement.

ALASKA POWER ADMINISTRATION
FEDERAL POWER PROGRAM
EKLUTNA PROJECT
RECONCILIATION OF COST ACCOUNTING FINANCIAL STATEMENTS
TO REPAYMENT STUDY FOR THE FISCAL YEAR ENDED JUNE 30, 1976
(In thousands)

	Cumulative net revenues June 30, 1975	Fiscal year 1976 operations (Exhibit 1)	Prior years adjustments (Note 5)	Cumulative net revenues June 30, 1976	Cumulative adjustment to repayment basis (Note 1)	Cumulative data through June 30, 1976 on repayment study
OPERATING REVENUES	$30,125	$1,454	$ 2*	$31,577		$31,577
EXPENSES:						
Operation and maintenance	6,375	532	-	6,907		6,907
Interest expense	12,891	556	5	13,452		13,452
Depreciation expense	2,617	164	4	2,785	$2,785*	0
Total expenses	21,883	1,252	9	23,144	2,785*	20,359
NET REVENUES (Exhibit 2)	$ 8,242	$ 202	$11*	$ 8,433		
RECONCILIATION TO CUMULATIVE AMORTIZATION				$ 8,433	$2,785	11,218
Amount repaid City of Anchorage[1]						1,680*
Net retirements from inception to June 30, 1976						540*
CUMULATIVE AMORTIZATION						$ 8,998
Completed plant (Exhibit 2)						$32,073
Less amount being repaid to City of Anchorage[2]						1,842
U.S. Investment						$30,231
U.S. Investment						$30,231
Less Amortization						8,998
Unpaid Federal investment						$21,233

[a] Government acquisition cost of the old Eklutna power plant and water rights is being paid through $5,900 monthly credit until acquisition cost of $1,842,000 is paid.

* Denotes deduction

SCHEDULE A

SCHEDULE B

ALASKA POWER ADMINISTRATION
FEDERAL POWER PROGRAM
SNETTISHAM PROJECT
RECONCILIATION OF COST ACCOUNTING FINANCIAL STATEMENTS
TO REPAYMENT STUDY FOR THE FISCAL YEAR ENDED JUNE 30, 1976
(In thousands)

	Fiscal year 1976 operations (Exhibit 1)	Cumulative adjustment to repayment basis (Note 1)	Cumulative data through June 30, 1976 on repayment study
OPERATING REVENUES	$ 671		$ 671
EXPENSES:			
Operation and maintenance expense	$ 439		$ 439
Interest expense	1,490		1,490
Depreciation	220	$220*	0
Total expenses	$2,149	$220*	$ 1,929
NET LOSS (Exhibit 2)	$1,478		
RECONCILIATION TO CUMULATIVE AMORTIZATION	$1,478*	$220	$ 1,258*
Retirements and other			17
NEGATIVE AMORTIZATION			$ 1,241*
Completed plant (Exhibit 2)			$77,761
Plus negative amortization			1,241
Unpaid Federal investment			$79,002

* Denotes deduction

Note 1. Major Accounting Considerations

The Alaska Power Administration (APA) is a bureau in the Interior Department. The APA power program includes operation, maintenance, and power marketing for the two Federal hydroelectric projects in Alaska--the Eklutna Project constructed by the Bureau of Reclamation and the Snettisham Project constructed by the Corps of Engineers.

APA is also responsible for planning programs in Alaskan water and power resource development. The Federal investment in these planning programs attributable to the Snettisham and Eklutna Projects is included in the power program financial statements. However, the statements exclude a Federal investment of $8.9 million, representing funds spent on other planning programs and studies of potential future projects.

The financial statements are prepared on a cost accounting basis, including compound interest depreciation and interest on the unamortized Federal investment.

APA's wholesale power rates are established by using separate repayment analyses for each project because they are not electrically interconnected. The major difference between the financial statements and the historical data on the repayment study is the treatment of fixed assets and amortization.

In the accompanying statements, the depreciation life for fixed assets is about 87 years for the Eklutna Project and 75 years for the Snettisham Project. The power rates in effect at the close of fiscal year 1976 were based upon a 50-year repayment period as specified by the Secretary of the Interior for Eklutna.

Snettisham wholesale power rates were established in 1973 based on the estimated completion cost of the project. These rates will be adjusted to reflect the new repayment criteria, including a 60-year repayment period, in the Water Resources Development Act of 1976.

The latest Snettisham repayment study does not include the costs for the authorized Crater Lake Project stage which may be constructed and energized by the mid-1980's.

Schedules A and B provide a reconciliation between the accompanying cost statements and cumulative totals shown in the first line of the separate repayment analyses.

Note 2. Comparative Figures

The Snettisham Project went into commercial service on October 28, 1975. Therefore, the comparative figures for fiscal year 1975 only include revenue and expenses for the Eklutna Project.

Note 3. Interest Rates

Authorizing legislation for Snettisham and Eklutna Projects requires 3 percent and 2 1/2 percent interest rates respectively be applied to the net investment of the U.S. Government. This legislation does not permit modification of the interest rate to reflect the actual cost to the U.S. Treasury at the time of construction.

Note 4. Contingent Liabilities

Contingent liabilities total approximately $.5 million of contractor claims against the Corps of Engineers at the Snettisham Project.

Note 5. Adjustments to Accumulated Net Revenues

The following table lists the prior years' adjustments added to accumulated net revenues as shown on Exhibit 2.

		Fiscal year 1976	Fiscal year 1975
		(in thousands)	
1.	Unrecorded Sales	$(2)	a/$ 189
2.	Earthquake Loss Reversal		
	--Property Loss	-0-	b/ 834
	--Operation and Maintenance Expense	-0-	b/ 516
	--Interest on the Federal Investment	(5)	-0-
	--Depreciation Expense	(4)	-0-
3.	Imputed Rent	-0-	(14)
4.	Additional Overhead Expense	-0-	(7)
	Net Increase (Decrease)	$(11)	$1,518

a/ The adjustment reflects a metering multiplier error on power delivered to Eklutna Project customers. Because of the error, customer bills during October 1971 through December 1974 did not reflect total amount of power delivered. The customers are reimbursing the Federal Government for the power received but not recorded in the original billings.

b/ Adjustment reverses property loss and operation and maintenance expense associated with earthquake damage at the Eklutna Project. These losses and expenses were made nonreimbursable by P.L. 90-523.

Note 6. Nonreimbursable Costs

The U.S. Congress has declared certain costs at each project to be nonreimbursable. At the Snettisham Project an estimated $11.0 million of the replacement and relocation costs for the transmission line over Salisbury Ridge were declared nonreimbursable by the Water Resources Development Act of 1976. These costs are excluded from the construction work in progress and the congressional appropriations shown on the financial statements.

At the Eklutna Project the costs of rehabilitating the dam from damage caused by the earthquake of March 27, 1964, were declared nonreimbursable and nonreturnable up to $2.8 million by P.L. 90-523. Some of the nonreimbursable costs are included in prior years' adjustments. See Note 5.

APPENDIX I

ALASKA POWER ADMINISTRATION FEDERAL POWER PROGRAM

STATUS OF REPAYMENT BASED ON COMPOUND INTEREST

AMORTIZATION OF COMMERCIAL POWER INVESTMENT

THROUGH JUNE 30, 1976

	Cumulative		
	Eklutna project	Snettisham project	Total
	(000 omitted)		
COMPUTATION OF FUNDS AVAILABLE FOR REPAYMENT OF COMMERCIAL POWER INVESTMENT (note a):			
Operating revenues	$31,577	$ 671	$ 32,248
Revenue deductions:			
Operation and maintenance expense	6,907	439	7,346
Interest expense (note b)	13,452	1,490	14,942
Total expenses	20,359	1,929	22,288
Funds available for repayment	11,218	1,258*	9,960
Repayment to city of Anchorage (note c)	1,680*	0	1,680*
Retirements	540*	17	523*
Total funds available to repay the Federal investment	$ 8,998	$ 1,241*	$ 7,757
APPLICATION OF AVAILABLE FUNDS TO REPAYMENT OF COMMERCIAL POWER INVESTMENT:			
Commercial power investment through June 30, 1976	$30,231	$77,761	$107,992
Funds available for repayment of investment at June 30, 1976	$ 8,998	$ 1,241*	$ 7,757
Less: computed repayment per compound interest method of payment, cumulative through June 30, 1976	7,307	318	7,625
Status of repayment, surplus or deficit (note d)	$ 1,691	$ 1,559*	$ 132

*Denotes deduction or deficit

a/Data for this computation is based on the cost used by APA in preparing repayment studies. These costs are the same as those reported in APA's power program schedules A and B.

b/Interest expense for the Eklutna project was computed at 2-1/2 percent and for the Snettisham project at 3 percent. (See note 3, financial statements.)

c/The Eklutna project construction required the purchase of an existing hydroelectric project owned by the city of Anchorage. (See schedule A.)

d/The Water Resources Development Act of 1976 requires interest on the Federal investment to be deferred for 10 years and a portion of the principal to be paid each year for the Snettisham project. The repayment requirement through June 30, 1976, is $78,000, with $1,490,000 of interest being capitalized.

APPENDIX II

ALASKA POWER ADMINISTRATION
Eklutna Project
Repayment Study for 1976

	$X1,000								
Fiscal Year	Revenues	O & M & Purchased Power	Interest	Repayment to City of Anchorage	Replacement Amortization	U.S. Investment Cumulative	Amortization	Unamortized U.S. Investment	Allowable Unamortized Investment
Cumulative to 6/30/76	*31,584	6,907	13,452	1,680	*547	30,231	8,998	21,233	30,231
1977	1,576	592	531	71	6	30,237	376	20,856	30,237
1978	1,576	630	521	71	6	30,243	348	20,509	30,243
1979	1,587	660	513	21	-	30,243	394	20,114	30,243
1980	1,594	700	503		24	30,267	367	19,747	30,267
1981	1,600	730	494		-	30,268	376	19,372	30,268
1982	1,609	730	484		4	30,271	391	18,981	30,271
1983	1,609	730	475		-	30,271	404	18,576	30,271
1984	1,609	730	464		-	30,271	414	18,162	30,271
1985	1,609	730	454		425	30,728	-	18,162	30,728
1986	1,609	730	456		32	30,729	390	17,772	30,729
1987	1,609	730	444		1	30,730	433	17,339	30,730
1988	1,609	730	433		-	30,730	445	16,893	30,730
1989	1,609	730	422		1	30,731	456	16,438	30,731
1990	1,609	730	411		468	32,330	-	16,438	32,330
1991	1,609	730	490		389	32,336	-	16,438	32,336
1992	1,609	730	463		416	32,337	-	16,438	32,337
1993	1,609	730	434		334	32,338	110	16,327	32,238
1994	1,609	730	408		3	32,341	468	15,860	32,341
1995	1,609	730	396		482	33,120	-	15,860	33,120
1996	1,609	730	417		312	33,136	150	15,710	33,136
1997	1,609	730	393		14	33,150	472	15,238	33,139
1998	1,609	730	381		-	33,151	497	14,740	33,134
1999	1,609	730	369		1	33,152	509	14,231	33,135
2000	1,609	730	356		338	33,490	185	14,047	33,353
2001	1,609	730	351		8	33,498	520	13,527	33,360
2002	1,609	730	338		49	33,547	492	13,035	33,409
2003	1,609	730	326		-	33,547	553	12,482	33,409
2004	1,609	730	312		1	33,548	566	11,916	33,410
2005	1,609	730	298		-3,155	35,444	3,735	8,181	5,051
TOTAL	78,131	27,739	25,790	1,842	709	35,444	22,050	8,181	5,051

*Includes $6,608 for Depreciation Net for Years 73 to 76. 1972 converted from Depreciation Study to Capital Cost Replacement Study.

APPENDIX III

ALASKA POWER ADMINISTRATION
Snettisham Project
Repayment Study For 1976

$X1,000

Fiscal Year	Revenues	O & M	Interest Expense	Other Wheeling Expense	Replacement Amortization	U.S. Investment Cumulative	Amortization	Unamortized U.S. Investment	Allowable Unamortized Investment
1976	** 688	432	1,490	7		77,760	-1,241	**79,002**	79,173
1977	1,710	610	2,371	16		79,906	-1,287	**82,435**	81,319
1978	1,788	636	2,473	18		79,906	-1,339	**83,774**	81,319
1979	2,023	700	2,514	20		79,906	-1,211	**84,985**	81,319
1980	2,132	750	2,550	22		79,906	-1,190	**86,175**	81,319
1981	2,251	750	2,586	24		79,906	-1,109	**87,284**	81,319
1982	2,401	750	2,619	27		79,906	-994	**88,278**	81,319
1983	2,552	750	2,649	29		79,906	-876	**89,154**	81,319
1984	2,728	750	2,675	32		79,906	-730	**89,884**	81,319
1985	2,846	750	2,697	36		79,906	-637	**90,521**	81,319
1986	2,896	750	2,716	39		79,906	-610	**91,131**	81,319
1987	2,946	750	2,734	43		79,906	-582	**91,713**	81,319
1988	2,996	750	2,775	47		79,906	-577	**92,290**	81,319
1989	3,076	750	2,815	52		79,906	-542	**92,832**	81,319
1990	3,076	750	2,853	57	269	80,175	-853	**93,685**	81,588
1991	3,076	750	2,902	62		80,175	-639	**94,324**	81,588
1992	3,076	750	2,947	68	7	80,182	-696	**95,020**	81,595
1993	3,076	750	2,995	75		80,182	-745	**95,765**	81,595
1994	3,076	750	3,048	75		80,182	-797	**96,562**	81,595
1995	3,076	750	3,103	75	66	80,248	-919	**97,481**	81,661
1996	3,076	750	3,165	75		80,248	-914	**98,395**	81,661
1997	3,076	750	3,229	75	2	80,250	-980	**99,375**	81,663
1998	3,076	750	3,298	75		80,250	-1,047	**100,422**	81,663
1999	3,076	750	3,371	75		80,250	-1,120	**101,542**	81,663
2000	3,076	750	3,449	75	28	80,278	-1,226	**102,768**	81,691

APPENDIX III

$X1,000

Fiscal Year	Revenues	O & M	Interest Expense	Other Wheeling Expense	Replacement Amortization	U.S. Investment Cumulative	Amortization	Unamortized U.S. Investment	Allowable Unamortized Investment
2001	3,076	750	3,534	75		80,278	-1,283	**104,051**	81,691
2002	3,076	750	3,624	75	1	80,279	-1,374	**105,425**	81,692
2003	3,076	750	3,720	75		80,279	-1,469	**106,894**	81,692
2004	3,076	750	3,823	75		80,279	-1,572	**108,466**	81,692
2005	3,076	750	3,933	75	672	80,951	-2,354	**110,820**	82,095
2006	3,076	750	4,082	75		80,951	-1,831	**112,651**	82,095
2007	3,076	750	4,210	75	17	80,968	-1,976	**114,627**	82,106
2008	3,076	750	4,348	75		80,968	-2,097	**116,724**	82,106
2009	3,076	750	4,494	75		80,968	-2,244	**118,968**	82,106
2010	3,076	750	4,651	75	1,726	82,694	-4,127	**132,095**	83,831
2011	3,076	750	4,876	75		82,694	-2,620	**125,715**	83,831
2012	3,076	750	5,055	75	45	82,739	-2,849	**128,564**	83,876
2013	3,076	750	5,252	75		82,739	-3,001	**131,565**	83,876
2014	3,076	750	5,462	75		82,739	-3,212	**134,777**	83,876
2015	3,076	750	5,687	75	4,147	86,886	-7,583	**142,360**	87,957
2016	3,076	750	6,055	75		86,886	-3,804	**146,164**	87,957
2017	3,076	750	6,321	75	105	86,991	-4,175	**150,339**	88,060
2018	3,076	750	6,609	75		86,991	-4,358	**154,697**	88,060
2019	3,076	750	6,914	75		86,991	-4,664	**159,376**	88,060
2020	3,076	750	7,241	75	524	87,515	-5,514	**164,890**	88,315
2021	3,076	750	7,617	75		87,515	-5,366	**170,256**	88,315
2022	3,076	750	7,992	75	13	87,528	-5,574	**176,010**	88,322
2023	3,076	750	8,395	75		87,528	-6,144	**182,154**	88,322
2024	3,076	750	8,825	75		87,528	-6,574	**188,728**	88,322
2025	3,076	750	9,285	75	5,910	93,438	-12,944	**201,672**	94,203

APPENDIX III

$X1,000

Fiscal Year	Revenues	O & M	Interest Expense	Other Wheeling Expense	Replacement Amortization	U.S. Investment Cumulative	Amortization	Unamortized U.S. Investment	Allowable Unamortized Investment
2026	3,076	750	9,956	75		93,438	-7,705	209,377	94,203
2027	3,076	750	10,495	75	155	93,593	-8,399	217,776	94,355
2028	3,076	750	11,077	75		93,593	-8,826	226,602	94,355
2029	3,076	750	11,695	75		93,593	-9,444	236,046	94,355
2030	3,076	750	12,356	75		93,593	-10,105	246,151	94,355
2031	3,076	750	13,063	75		93,593	-10,812	256,963	94,355
2032	3,076	750	13,820	75		93,593	-11,569	268,532	94,355
2033	3,076	750	14,630	75		93,593	-12,379	280,911	94,355
2034	3,076	750	15,496	75		93,593	-13,246	294,157	94,355
2035	3,076	750	16,424	75	-12,300	94,331	-1,873	296,030	15,183
Total	174,501	44,378	341,036	3,824	1,387	94,331	-216,124	296,030	15,183*

*$2,146,000 Plant $13,037,000 Replacements Allowable Unamortized Investment
**Includes $17,000 for Depreciation Net 1975

APPENDIX IV

ALASKA POWER ADMINISTRATION REPAYMENT POLICY

Alaska Power Administration's repayment policy is in accordance with applicable legislation and Interior Department manuals and instructions. Revenues from the sale of power must be sufficient to satisfy the following repayment criteria:

--Pay cost of operating and maintaining the power project.

--Pay cost of wheeling power.

--Pay interest on unamortized investment in power projects financed with appropriated funds.

--Repay each increment of power investment at the power projects within 50 years after each increment becomes revenue producing.

--Repay the investment in each replacement in a power project within its service life.

The Eklutna and Snettisham projects are not electrically interconnected and are authorized under separate laws. Thus the two projects are treated separately for repayment purposes.

Appendixes II and III are the fiscal year 1976 repayment studies for the Eklutna and Snettisham projects. They show actual revenues and expenses through the end of fiscal year 1976 and estimates of future revenues and costs over the balance of the repayment period for each project.

The studies indicate that cumulative revenues through June 30, 1976, totaled $32 million. These revenues have been applied to pay operation and maintenance costs of $7 million, interest costs of $14 million, and other costs of $2 million, with $9 million applied to amortization of the investment in power facilities.

The repayment studies indicate that future rate adjustments will be necessary for both projects to meet all repayment criteria. For Eklutna, the main factors leading to rate adjustments are: (1) reduced revenues during several recent years of below normal project water supply and (2) expected increases in operation and maintenance expenses because of inflation.

Repayment criteria for the Snettisham project were modified by Section 201 of the Water Resources Development Act of 1976 (Public Law 95-587). These modifications included

extending the repayment period to 60 years and allowances for reduced rates during the first 10 years of that period which are not incorporated in the fiscal year 1976 repayment study.

On the basis of current projections of energy sales for Snettisham and assuming the present rates are retained for the first 10 years of repayment, an average rate of approximately 24.5 mills per kilowatt hour would be needed for the next 50 years under the rate provisions of Section 201 of the Water Resources Development Act of 1976. These are preliminary estimates; the studies underway to develop our recommendation to the Secretary for implementing the new provisions may result in a substantially different rate recommendation.

A modest rate hike will also be needed for Eklutna in the near future in order to cover the effect of inflation on the costs of operation and maintenance. We do not have specific estimates of the amount of this hike, but expect it to be in the order of 15 to 20 percent. We would not expect such an insignificant increase to cause any marketing problems.

APPENDIX V

ALASKA POWER ADMINISTRATION

POWER OPERATIONS PROFIT AND LOSS SUMMARY 1955-76

Fiscal year (note a)	Power operations		
	Total revenues	Total expenses	Net profit or loss(-)
	(millions)		
1955	$ 0.28	$ -	$0.28
1956	1.24	1.08	.16
1957	1.41	1.08	.33
1958	1.59	1.08	.51
1959	1.65	1.08	.57
1960	1.68	1.08	.60
1961	1.77	1.09	.68
1962	1.77	.89	.88
1963	1.47	1.34	.13
1964 (note b)	1.38	1.77	-.39
1965	1.74	.90	.84
1966	1.43	.80	.63
1967	1.66	1.09	.57
1968	1.72	1.20	.52
1969 (note c)	1.56	1.18	.38
1970 (note c)	1.51	.84	.67
1971 (note c)	1.21	1.06	.15
1972 (note c)	1.55	1.06	.49
1973 (note c)	1.42	1.06	.36
1974 (note c)	.90	1.07	-.17
1975 (note c)	1.18	1.14	.04
1976 (note d)	2.13	3.40	-1.27
	$32.25	$25.29	$6.96

a/Through fiscal year 1975, Eklutna was the only project operating for APA.

b/Earthquake damage to the Eklutna powerplant reduced power revenues in 1964.

c/Years when Eklutna had reduced revenues because of below average runoff.

d/Snettisham began full operation on October 31, 1975.

Note: Figures reflect "prior years adjustments."

APPENDIX VI

APPROPRIATIONS

FISCAL YEARS 1949-76

ALASKA POWER ADMINISTRATION AND

ALASKA DISTRICT, BUREAU OF RECLAMATION

Fiscal year	General investigations	Eklutna		Snettishman operations and maintenance	Total
		Operations and maintenance	Construction and rehabilitation		
1949	$150,000				$ 150,000
1950	168,000				168,000
1951	191,900		$ 1,100,000		1,291,900
1952	190,000		5,761,400		5,951,400
1953	250,000		13,018,800		13,268,800
1954	100,000		7,750,000		7,850,000
1955	100,000		2,307,100		2,407,100
1956	100,000	$210,000			310,000
1957	188,000	253,800			441,800
1958	228,000	265,400			493,400
1959	225,000	266,600			491,600
1960	243,800	278,400			522,200
1961	259,600	287,400			547,000
1962	350,000	288,600			633,600
1963	325,000	280,200			605,200
1964	400,000	a/ 834,300			1,234,300
1965	425,000	b/ 455,000	c/ 1,138,300		2,018,300
1966	450,000	b/ 404,500	c/ 830,000		1,684,500
1967*	446,000	366,000		$ 12,500	824,500
1968	450,000	395,000		16,000	861,000
1969	600,000	385,000		17,000	1,002,000
1970	600,000	375,000		25,000	1,000,000
1971	600,000	380,000		20,000	1,000,000
1972	500,000	395,000		62,000	967,000
1973	597,000	383,000		248,000	1,228,000
1974	513,000	390,000		366,000	1,269,000
1975	540,000	385,000		375,000	1,300,000
1976	652,000	545,000		462,500	1,659,500

a/Includes temporary earthquake repairs.

b/Includes permanent earthquake repairs.

c/Rehabilitation of dam and intake structure (earthquake).

*Fiscal year 1967--Alaska Power Administration's first appropriation.

APPENDIX VII

DEPARTMENT OF THE ARMY
OFFICE OF THE ASSISTANT SECRETARY
WASHINGTON, D.C. 20310

7 SEP 1977

Mr. Henry Eschwege
Director, Community and Economic
Development Division
United States General Accounting Office
Washington, D.C. 20548

Dear Mr. Eschwege:

This is in reply to your letter of 30 June 1977 to the Secretary of Defense forwarding copies of your draft report "Alaska Power Administration--Status of Financial Management and Program Operations" OSD Case #4660.

Chapter 2 of the draft report indicates that the Corps of Engineers selected a high route for the Snettisham Project transmission line after documenting that, based on engineering and economic analysis, it clearly was less desirable than a lower (coastal) route.

We do not believe adequate information is presented in the report which explains the decision to change to the higher route. There never has been any question that the Corps preferred the lower route from an economic and engineering standpoint. However, the route lies within the Tongass National Forest which is under the jurisdiction of the U.S. Forest Service. Therefore, the route selected had to have the concurrenc of the Forest Service to traverse land under their jurisdiction. The Forest Service objected to the lower (coastal) route primarily because of the opinion that it would be aesthetically displeasing to boaters using the Stephens Passage and Gastineau Channel. Because the Corps could not obtain the concurrence of the Forest Service for the lower route without jeopardizing the power-on-line date, the Corps agreed to accept the higher route preferred by the Forest Service.

The report further states that the Corps decision to change from the lower route to the higher was a major change which should have been supported by a supplementary design memorandum. We do not concur in the context stated in the report. At the time the decision was made the information on weather conditions at Salisbury Ridge, the high route, did not indicate that conditions were nearly so severe as

APPENDIX VII

ultimately experienced. In fact, actual wind velocities were later recorded which were in excess of twice that projected. Had this and other factors now known been known at the time, then a supplementary design change would have been prepared as major new engineering requirements would have been introduced. However, at that time, the change was considered to be a routine re-routing of a fairly short section of a transmission line. Accordingly, a decision then to not require a supplementary design memorandum, based on information available at that time, was proper.

The draft GAO report recommends ..."that the Corps, when constructing power facilities, prepare design memoranda to support design changes and that approval of such changes be based on adequate engineering evaluation..." The Corps considers that its regulations on reporting of departures from approved design memoranda are adequate and that changes thereto are not required. The question of whether or not to prepare a supplemental design memorandum hinges on professional judgment as to whether a major change in plan is involved.

Other comments addressing certain inaccuracies and suggested clarifications to the draft report are inclosed.

We appreciate the opportunity to review the draft report.

Sincerely,

Charles R. Ford

1 Incl
as

Charles R. Ford
Acting Assistant Secretary of the Army
(Civil Works)

APPENDIX VIII

United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

AUG [illegible] 1977

Mr. Monte Canfield, Jr.
Director, Energy and Minerals Division
General Accounting Office
Washington, D.C. 20548

Dear Mr. Canfield:

This letter provides the Interior Department's comments on the General Accounting Office draft report to the Congress entitled, "Alaska Power Administration--Status of Financial Management and Program Operations."

We believe the report is adequate. We will pursue the GAO recommendations to the Interior Department. The comments below are intended mainly as additional information on the issues raised.

Snettisham Project Transmission Problems (pp. ii, 11-16)

We concur in the GAO findings. Alaska Power Administration (APA), within its responsibilities for planning and operation and maintenance of power facilities, will seek to incorporate a more thorough review of design adequacy of proposed new facilities to insure integrity for operation and maintenance purposes.

Rate and Repayment Studies (pp. ii, 22-34)

The report states accurately that future rate increases will be needed for the Eklutna Project to offset impact of recent low water supply conditions and increases in costs which are inflation related. We believe the required increases will be nominal and that they will not involve any serious marketing or repayment problems.

The report gives an accurate appraisal of the current repayment situation for the Snettisham Project. The present rate structure, which was established before the start of commercial power operations, will not be adequate to cover interest and operation and maintenance costs. Substantial increases will be needed in the future to put the project on schedule for repayment.

CONSERVE AMERICA'S ENERGY

Save Energy and You Serve America!

APPENDIX VIII

Revenue loss associated with the project transmission problems is a major reason for the present repayment situation. Inflation-related increases in operation and maintenance costs and the general situation in the Juneau economy also have an affect.

The GAO report notes that PL 94-587 limits Snettisham repayment requirements and defers interest payments for a 10-year period, and that this will result in substantial rate increases after the 10 years. We are not completely in agreement with the GAO finding that the power rates cannot be increased (after 10 years) to levels needed to repay project investment. APA's preliminary studies show an average rate of about 2.5 cents per kilowatt-hour would be needed after the 10-year deferrals provided in PL 94-587. This rate is somewhat below the present fuel replacement value for diesel-electric power in Juneau, so the projected future increases under the present law are probably manageable.

The PL 94-587 rate provisions were intended to encourage more rapid utilization of presently surplus hydroelectric power at Snettisham, and thus provide a broader load base for ultimate recovery of the project costs. We would not recommend a change in these provisions at this time, particularly in view of the economic uncertainties that the state capital move issue imposes on the Juneau area.

APA expects to complete in August 1977 its draft report on recommendations to the Secretary of the Interior for implementing the rate provisions of PL 94-587.

Uniform Policy for Rate and Repayment (p. iii)

The Interior Department staff has devoted a great deal of effort to developing uniform policies for rate and repayment for power facilities under Interior jurisdiction. The Interior Department issued Part 1 of the revised Departmental Manual 730 DM 4 with an effective date of October 1, 1976. This DM provides standardization guidelines for preparation of financial statements and annual rate and repayment studies. We concur with GAO's recommendation.

FPC Approval of Power Rates for Snettisham (p. iii)

We have no objection to GAO's recommendation for new legislation to require FPC approval of Snettisham power rates.

APPENDIX VIII

Cost Increases for Eklutna and Snettisham Projects (pp. 16-17)

The GAO report references increases in costs for the Eklutna and Snettisham projects between authorization estimates and the final construction price tag. The Eklutna increase was a little over 50 percent, with inflation over a 6-year period the major factor. An unanticipated problem of high pressure groundwater in the construction of the power tunnel added some costs. Snettisham is closer to a three-fold increase. The added costs of the transmission failures were a sizable part of this. However, price indexes more than doubled between authorization and completion.

[See GAO note below.]

Upper Susitna Basin Project (pp. 20-21)

The following changes are suggested for clarification:

Rewrite first sentence under subtitle, Upper Susitna Basin Project, to show the existing authorization is for advanced engineering and design studies. Further authorization would be needed prior to construction.

GAO note: The deleted comments relate to matters which were dicussed in the draft report and were changed in the final report. Page references refer the previous draft report and are not applicable to this report.

APPENDIX VIII

It has been normal practice for authorizing reports to use current price levels for both costs and benefits. The apparent cost increases are largely related to inflation.

We appreciate the opportunity to comment on this report.

Sincerely,

Richard Rivlin

Deputy Assistant Secretary
for Policy, Budget
and Administration

PRINCIPAL OFFICIALS RESPONSIBLE FOR THE ADMINISTRATION OF ACTIVITIES DISCUSSED IN THIS REPORT

	Tenure of office	
	From	To
DEPARTMENT OF THE INTERIOR		
SECRETARY OF THE INTERIOR:		
Cecil D. Andrus	Jan. 1977	Present
Thomas S. Kleppe	Oct. 1975	Jan. 1977
Kent Frizzell (acting)	July 1975	Oct. 1975
Stanley K. Hathaway	June 1975	July 1975
Kent Frizzell (acting)	May 1975	June 1975
Rogers C.B. Morton	Jan. 1971	Apr. 1975
Fred J. Russell (acting)	Nov. 1970	Dec. 1970
Walter J. Hickel	Jan. 1969	Nov. 1970
Stewart L. Udall	Jan. 1961	Jan. 1969
ASSISTANT SECRETARY--ENERGY AND MINERALS (note a):		
Joan M. Davenport	Apr. 1977	Present
William D. Bettenberg (acting)	Jan. 1977	Apr. 1977
Dr. William Fisher	Jan. 1976	Jan. 1977
Jack W. Carlson	Aug. 1974	Jan. 1976
C. King Mallory (acting)	May 1974	July 1974
Stephen A. Wakefield	Mar. 1973	Apr. 1974
ADMINISTRATOR, APA:		
Robert J. Cross	Nov. 1975	Present
James V. House	June 1973	Nov. 1975
Robert W. Ward	Jan. 1971	June 1973
Gus Norwood	Sept. 1967	Jan. 1971
DEPARTMENT OF THE ARMY		
SECRETARY OF THE ARMY:		
Clifford L. Alexander, Jr.	Feb. 1977	Present
Martin R. Hoffman	Aug. 1975	Jan. 1977
Howard H. Callaway	May 1973	Aug. 1975
Robert F. Froehlke	July 1971	May 1973
Stanley R. Resor	July 1965	June 1971

APPENDIX IX

	Tenure of office	
	From	To
DEPARTMENT OF THE ARMY (continued)		
CHIEF OF ENGINEERS, CORPS OF ENGINEERS:		
Lt. Gen. John W. Morris	July 1976	Present
Lt. Gen. William C. Gribble, Jr.	Aug. 1973	June 1976
Lt. Gen. Frederick J. Clarke	Aug. 1969	July 1973
Lt. Gen. William F. Cassidy	July 1965	Aug. 1969
DEPARTMENT OF ENERGY		
SECRETARY OF ENERGY (note b):		
James R. Schlesinger	Oct. 1977	Present
ASSISTANT SECRETARY RESOURCE APPLICATIONS:		
Thomas E. Noel (acting)	Oct. 1977	Present

a/Secretary of the Interior Order No. 2951, dated February 6, 1973, established the Office of Assistant Secretary--Energy and Minerals, formerly the Office of Water and Power Resources.

b/Effective October 1, 1977, existing energy functions of all Federal agencies were transferred to the newly created Department of Energy. Many positions are not yet filled, and officials are conducting business as usual.

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