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BY THE COMPTROLLER GENERAL

Report To The Congress

OF THE UNITED STATES

Navy's Transfer Of Power System To Financially Troubled Guam Power Authority Has Been Delayed

The Island-Wide Power System on Guam is jointly operated under an agreement between the U.S. Navy and the Guam Power Authority. Since 1975, the Authority has experienced financial difficulties and transfer of operational control to it has been delayed. The Government of Guam claims the Power Pool Agreement is inequitable and has been the primary cause of the Authority's financial problems. GAO believes the Agreement is basically equitable and does not see its provisions as being a deterrent to the transfer of operational control.

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

B-206987

The Honorable Antonio B. Won Pat
Chairman, Subcommittee on Insular Affairs
Committee on Interior and Insular Affairs
House of Representatives

Dear Mr. Chairman:

As requested in your letter dated July 28, 1981, we are reporting on our review of the Island-Wide Power System on Guam.

We are sending copies of this report to the Director, Office of Management and Budget; Secretary of the Interior; Secretary of the Navy; Secretary of Defense; Administrator; Environmental Protection Agency; and other interested parties.

Sincerely yours,

Charles A. Bowsher

Comptroller General
of the United States

COMPTROLLER GENERAL'S REPORT
TO THE SUBCOMMITTEE ON
INSULAR AFFAIRS
COMMITTEE ON INTERIOR AND
INSULAR AFFAIRS
HOUSE OF REPRESENTATIVES

NAVY'S TRANSFER OF POWER SYSTEM TO FINANCIALLY TROUBLED GUAM POWER AUTHORITY HAS BEEN DELAYED

D I G E S T

The Island-Wide Power System on Guam is jointly operated by the U.S. Navy and the Guam Power Authority. In 1972, Navy and the Authority entered into a formal agreement providing for the pooling of power generation and transmission facilities and the prorated sharing of costs. The Power Pool Agreement, as originally formulated, was to be a short-term arrangement to permit the Authority to demonstrate it could successfully operate the system and eventually assume operational control of the entire system.

Since 1975, the Authority has experienced financial difficulties, and transfer of operational control has been delayed. The Government of Guam claims that the Agreement is inequitable and has been the primary cause of the Authority's financial problems.

Because of the continual controversy surrounding the power situation on Guam, GAO initiated a review of the arrangement between Navy and the Authority for providing power to the Island. Shortly after the review began, the Chairman, Subcommittee on Insular Affairs, expressed interest in GAO's review and asked that GAO report to him.

GAO believes the Agreement is basically equitable and that the Authority's financial difficulties stem primarily from an inadequate rate structure, undercapitalization and the dramatic rise in fuel oil prices.

While there are areas of disagreement between the Navy and the Authority that need to be resolved, GAO believes the current arrangement has the necessary mechanism to permit the Authority to assume operational control of the Island-Wide Power System and for Navy's transition to a customer status. In GAO's opinion, the provisions of the Agreement are not a deterrent to the Authority's accomplishing this goal and the

two parties should work as rapidly as possible to accomplish the objective of transfering operating control.

GUAM CONTENDS NAVY CIRCUMVENTED INTENT OF ORGANIC ACT

On January 6, 1982, the Government of Guam filed suit against the United States, claiming the Congress intended for Navy to transfer the entire power system to Guam's civilian government under provision of the Organic Act of 1950. Section 28(a) of the Act required that all property owned by the United States on August 1, 1950, and employed by the Naval Government of Guam in the administration of the civil affairs of Guam be transferred to the civilian government of Guam. Navy subsequently transferred the portion of its electrical distribution system which served the civilian community to the new civilian government.

Section 28(b) of the Act permitted the President to reserve from transfer by October 30, 1950, any property owned by the United States. President Truman acted to reserve to the United States Guam's power generating facilities and certain other properties on the Island. (See p. 1.)

GUAM CLAIMS POWER POOL AGREEMENT IS INEQUITABLE

Government of Guam officials claim the agreement is inequitable on grounds that:

--Navy charges amortization costs for its fixed assets in the power pool. (See p. 15.)

--Navy overvalued its fixed assets included under the agreement. (See p. 22.)

--Navy's higher per unit operating costs under the cost-sharing arrangement results in the Authority subsidizing the Navy. (See p. 24.)

GAO supports the concept of full cost recovery. Amortization charges on Navy assets are a legitimate cost and should be included as an item of

power pool cost. However, GAO believes the valuation and/or service lives assigned to certain Navy assets are open to question. (See p. 16.)

GAO found the Navy lacked sufficient documentation to support the service lives assigned to the YFP-14 power barge and the Orote and Agana power plants. Information was unavailable also to assess the accuracy of the value assigned to the power barge when it was included in the power pool in 1972. Longer service lives than justified or overvaluation of the cost of an asset can result in excess amortization charges. (See pp. 16 to 24.)

Navy's unit costs associated with its participation in the Power Pool Agreement are higher than the Authority's. GAO does not believe this represents an inequity in the Agreement. The power pool is an arrangement where both parties pool and share costs to run the power system. The fact that one party may have to share the higher costs of the other party is inherent in such an arrangement. (See p. 24.)

NAVY AND THE AUTHORITY DIFFER ON SYSTEM RESERVE CAPACITY

Navy and the Authority disagree on the levels of reserve capacity needed for the Island-Wide Power System. The Authority contends these reserve levels are high and represent extra reliability built into the system by Navy to meet unique military requirements. Navy contends that the current system requirements are consistent with sound public utility practices. (See pp. 27 to 32.)

GAO recognizes Navy must be assured of adequate power to meet critical military needs. However, a continual assessment should be made of these critical needs to ensure that extra reliability is not being imposed on the system solely to meet military requirements. If additional military assurance is required, the cost should be borne by the military. (See p. 27.)

THE AUTHORITY'S FINANCIAL POSITION HAS DETERIORATED

The Authority incurred losses in 6 of the 13 years it has operated and without a rate increase

or some other financial assistance, it projects another loss for fiscal year 1982. In GAO's opinion, the Authority's current financial position has been caused by insufficient rate increases during periods of rising operating costs. The severity of the problem became so acute that the Authority needed a $36 million Federal loan in April 1977 to refinance certain outstanding debts on which it had defaulted. The loan scheduled to mature in December 1978 was subsequently extended to December 1990. (See pp. 36 to 44.)

GAO believes Authority power rate increases must keep abreast of rising costs. In the meantime, the Authority needs an infusion of funds to make needed improvements in the power system. (See p. 36.)

The Authority's financial difficulties could be compounded if it is required to install expensive anti-pollution devices to comply with the Clean Air Act. The Authority's intermittent control strategy for pollutants does not adversely affect the air quality on Guam or other populated areas and no environmental benefit would accrue to the Island from installation of the devices. However, the Act permits only continuous control. GAO believes requiring the installation of the antipollution equipment would significantly add to the Authority's already poor financial position and might require Federal assistance to bring the Authority into compliance with the Act. Legislation is pending in the Congress to grant the Authority a waiver from the continuous control requirement of the Clean Air Act. (See p. 42.)

AGENCY COMMENTS AND GAO EVALUATION

GAO requested and received comments from the Departments of the Interior and the Navy, the Environmental Protection Agency, and the Guam Power Authority. Where considered appropriate, the comments are reflected in this final report.

Interior agreed with GAO's conclusions. The Environmental Protection Agency believes that the report's discussion of the Clean Air Act is incomplete. The GAO discussion was to present the issues involved and the possible financial impact of the Clean Air Act on the Guam Power Authority. GAO has no recommendation or opinion regarding application of the Act to the Island of Guam.

The Guam Power Authority believes GAO should reconsider its conclusion that the Agreement is an equitable arrangement. GAO believes that although differences of opinion exist between the Navy and the Authority the Agreement is basically equitable and should be allowed to function toward the objective of turning over operating control of the system to the Authority.

Comments from the Navy were technical in nature and did not address the overall conclusions.

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ABBREVIATIONS

DOD	Department of Defense
EPA	Environmental Protection Agency
FERC	Federal Energy Regulatory Commission
GAO	General Accounting Office
GOVGUAM	Government of Guam
GPA	Guam Power Authority
IWPS	Island-Wide Power System

GLOSSARY

Debt Service Coverage	The ratio of funds available to pay debt service (principal and interest on all outstanding debt) as compared to what is actually owed. A one-to-one matchup of available funds to scheduled payments of principal and interest would be the equivalent of a 1.0 Debt Service Coverage.
Dependable Capacity	The power output a generating unit is capable of sustaining for a specified time interval and period.
Dispatch Control Center	A facility for controlling the operations of generating units, transmission lines, and other facilities including assigning of generator outputs as needed.
Distribution	The act or process of distributing electric energy.
Firm Power	Power intended to have assured availability to meet customer load requirements.
Generation	The process of transforming other forms of energy into electric energy.
Installed Capacity	The maximum power output or load for which a machine, apparatus, station or system is rated when constructed.
Joint-Use Facilities	Those facilities in the Island-Wide Power System that serve both military and civilian customers.
Kilowatt	1,000 watts.
Kilowatt hour	The amount of electrical energy involved with a 1-kilowatt demand over a period of 1 hour.
Load	The amount of electric power delivered to a given point on a system.
Load Shedding	The sequential discontinuance of power to electricity users on a priority basis to prevent a total system outage.
Megawatt	1,000 kilowatts--1 million watts.

Peak Demand	The greatest amount of all power loads on a system, or part thereof, which has occurred at one specific period of time.
Reserve Capacity	Extra capacity maintained to generate power in the event of unusually high demand or a loss or scheduled outage of regular generating capacity.
Spinning Reserve	Generating units operating at no load or at partial load with excess capacity readily available to support additional load.
Transmission	The act or process of transporting electric energy in bulk.
Uniform System of Accounts	The Federal Energy Regulatory Commission system of accounts prescribed for public utilities and licensees subject to the provisions of the Federal Power Act.
Watt	The rate of energy transfer equivalent to 1 ampere under a pressure of 1 volt at unity power factor.

CHAPTER 1

INTRODUCTION

The Island of Guam receives its electrical power from the Island-Wide Power System (IWPS), a system jointly operated by the U.S. Navy and the Guam Power Authority (GPA)--an autonomous agency of the Government of Guam (GOVGUAM). The present power system is basically the development and expansion of the pre-1950 Navy system when the U.S. Navy governed Guam and was the sole supplier of electric power to the Island. After passage of the Organic Act of Guam in 1950, which set up a civilian government, GOVGUAM established the Public Utility Agency of Guam to distribute the Navy's excess power to the civilian community. This arrangement continued until 1968 when GOVGUAM established GPA and began to take a more active role in expanding the power system. For the next several years, GPA sold revenue bonds to finance construction of its own generating plants.

In 1972 the Navy and GPA entered into a formal Power Pool Agreement which provides that each party will own and operate its respective facilities to mutually supply all of the island-wide electric requirements. The output of the individual plants is pooled and the cost of operation is shared based on usage by both parties. From time-to-time since 1972, the arrangement has been amended to reflect changing operational and economic conditions.

When the Power Pool Agreement was originally formulated, it was to be a short-term arrangement to permit GPA to demonstrate it could successfully operate the system and eventually take over operational control of the entire system. Navy and other installations would then become customers of GPA. Operational contol has been delayed and the Agreement remains in force amid claims that the pooling arrangement is inequitable, has caused GPA's financial difficulties, and results in Guam's civilian population subsidizing the Navy's power costs.

GUAM CONTENDS NAVY CIRCUMVENTED ORIGINAL INTENT OF ORGANIC ACT OF 1950

On January 6, 1982, GOVGUAM filed a complaint in the District Court of Guam against the United States of America. Guam contends that the Congress intended for the Navy to transfer the entire power system to Guam's civil government under provision of the Organic Act of 1950. In this complaint, Guam demands that by judgment it be declared and adjudged that the United States has no right, title or interest in the property retained by the Navy in 1950.

Ceded to the United States by Spain in 1898, Guam was placed under the jurisdiction of the Navy and administered by it until December 1941, when Japanese forces seized the Island. Retaken by the United States in July 1944, Guam was governed by the Navy until enactment of the Organic Act of Guam on August 1, 1950 (48 U.S.C. 1421 et seq.). The Organic Act established a civilian government for Guam and transferred jurisdiction from the Navy to the Department of the Interior.

Section 28 of the Act pertained to the transfer of title of real and personal property to GOVGUAM. Among the property owned by the Navy at the time the language of the Organic Act was being drafted was the Island's electrical power system. It is the contention of GOVGUAM that the electrical power system, owned by the U.S. Navy, should have been turned over to GOVGUAM in 1950 pursuant to section 28(a) of the Organic Act.

Guam's power system, then, as now, served the power needs of both the military and civilian populations of the Island. Section 28(a) required that all property owned by the United States on August 1, 1950, and employed by the Naval Government of Guam in the administration of the civil affairs of the inhabitants of Guam be transferred to the civilian government of Guam no later than October 30, 1950. Specifically covered by section 28(a) were "water and sewerage facilities, bus lines and other utilities * * * ." Guam's power system was not specifically listed for transfer. On July 31, 1950, 1 day prior to enactment of the Organic Act, the Naval Government deeded the power system to the United States "for its own use."

OBJECTIVES, SCOPE, AND METHODOLOGY

As a result of the controversy surrounding the current arrangement for providing power to the Island of Guam, we initiated a review of the situation. During the early stages of the review the Chairman, Subcommittee on Insular Affairs, House Committee on Interior and Insular Affairs expressed interest in our review and asked that we report to him. The Chairman asked that we pay particular attention to such matters as the original transfer of power-generating equipment to GOVGUAM by the U.S. Navy under provisions of the Guam Organic Act of 1950; and the equitability of the Power Pool Agreement involving the U.S. Navy and GPA. In addition to the congressional request, the Deputy Assistant Secretary, Territorial and International Affairs, U.S. Department of the Interior expressed concern regarding certain activities of GPA which relate to the power agreement.

The objectives of our review were to ascertain the

--circumstances surrounding the transfer of power equipment and facilities under the Organic Act of Guam in 1950,

--equitability of the Power Pool Agreement between the Navy and GPA, and

--cause(s) of GPA's financial difficulties.

Our review was performed in accordance with our current "Standards for Audit of Governmental Organizations, Programs, Activities, and Functions." We researched the history of the of the Organic Act of 1950 and examined subsequent laws authorizing or appropriating funds for military construction to determine whether they were concerned with Guam's power system.

To evaluate the equitability of the Power Pool Agreement, we examined provisions of the Agreement and prepared various cost analyses based on data obtained from the Navy's and GPA's monthly, cost-sharing settlement sheets. We reviewed the Navy's and GPA's accounting records, a Federal Energy Regulatory Commission study, and a private engineering company report to determine the reasonableness of original cost values assigned to power pool assets when the Agreement was formulated. In addition, we assessed the results of several studies prepared by private consulting firms dealing with Guam's IWPS.

Audit work for the assignment was performed primarily on Guam at the Navy's Public Works Center and the GPA office. We interviewed officials having primary responsibility and involvement in the power operations of the Island, including the Center's Commanding Officer and GPA's General Manager. Also, we interviewed officials of Guam's Public Utility Commission and Environmental Protection Agency. We held discussions with Guam's Governor; members of the legislature; and the Commander, Naval Forces, Marianas, Guam.

In addition to these discussions we talked with officials of the Naval Facilities Engineering Command in Washington, D.C., and Honolulu, Hawaii; the Department of the Interior in Washington, D.C.; and the Corps of Engineers in Hawaii. In the private sector, we interviewed officials of Guam Oil and Refining Company; Hawaiian Electric Company; and Peat, Marwick, Mitchell and Company.

The review was not intended to be a financial audit of either the Navy's or GPA's accounting records or procedures. The majority of our work involved analysis and evaluation of existing data provided by the two parties. We should point out, however, that GPA undergoes an annual audit by a certified public accounting firm. We reviewed the annual financial statements and opinions of the accountants, dating back to fiscal year 1972. We were unable to review similar financial statements for the Navy's power operations because they are not prepared, nor are they required. However, the Navy Public Works Center is periodically audited by the Naval Audit Service.

CHAPTER 2

THE HISTORY OF IWPS IS MARKED BY GROWTH AND DISAGREEMENT

The relationship between the Navy and GOVGUAM with respect to the power system began following the Organic Act of Guam in 1950. For many years Navy was the sole producer and distributor of electric power for the Island. Power was supplied to non-military customers, mostly for GOVGUAM official use, as it was available after essential military requirements were met. Beginning in 1968 with the establishment of GPA, the Island government took a more active role in the power operations on Guam. Subsequently in 1972, the U.S. Government and GPA formally entered into what was to be a short-term arrangement whereby the parties agreed to pool their power assets and share the associated costs. It was envisioned that within a few years, operational control of the power system would transfer to GPA, and the Navy role would change from a partner to a customer status. However, transfer of the operational control of the system has been delayed and the Power Pool Agreement continues in force.

NAVY PLAYED DOMINANT ROLE IN POWER AND DEVELOPMENT OF GUAM BETWEEN 1944 AND 1968

Following the devastation of the Island in World War II, the U.S. Naval Government on Guam resumed jurisdiction, and embarked upon the task of rehabilitating the Island. One of the Navy's immediate concerns was to provide power to its defense facilities. As a result, the Navy designed and built an electric utility system consisting of several separate but interconnected diesel plants located at the principal military load centers that were controlled from a central dispatch unit.

In 1950 the Organic Act of Guam established Guam as a U.S. Territory and released the Navy from its responsibility to administer Guam. The Act established a civilian government on Guam under the Department of the Interior's supervision. It also authorized the transfer to the new government, title to all property owned by Guam's Naval Government which was used for the administration of civil affairs, including all utilities. Under the Act, Guam's new government received the electrical distribution system which exclusively served the villages and were surplus to the needs of the military. However, because of the Navy's military mission on Guam, the Navy retained all of the electrical generation and transmission assets.

Following passage of the Organic Act, the Navy provided power to the civilian community under an agreement with the Department of the Interior. Under the terms of the agreement, the Navy sold its excess power to the Public Utility Agency of Guam for resale to the

civilian consumers. The initial allotment of power provided under the Interior agreement was 5,000 kilowatts for the entire civilian community. However, as the population and the demand for electricity on Guam grew, GOVGUAM began to take a more active role in the IWPS by contributing funds to the system's expansion. As a result, the 1960s was a period marked by Navy/GOVGUAM financing programs. By the end of 1967 GOVGUAM had contributed about $4.4 million to expand the Navy's Piti power plant. In return for financial investment, the local government was assured by the Navy of receiving 26.4 megawatts of firm power. Navy also provided an annual financing credit to GOVGUAM to reflect this investment in the system. Title to the power system, except that portion transferred to GOVGUAM under the Organic Act, was retained by the U.S. Government.

In 1967 it became apparent to GOVGUAM that the U.S. Congress would no longer appropriate funds to enlarge the Navy's electric generating and transmission facilities which would be used to primarily serve the civilian population. It was clear that GOVGUAM would have to take a larger role in the power generation and distribution aspects of the system. The shift in congressional policy, and Navy's active consideration of ways to transfer ownership and/or operation of the power system to the private sector, caused GOVGUAM to plan for not only its civilian expansion needs but also for the ultimate takeover of the entire power system on the Island. To fill this need GOVGUAM in 1968 established the GPA and, among other things, authorized GPA to acquire the Navy-owned system. In addition, GOVGUAM transferred all of the electric utility assets and functions of the Public Utility Agency of Guam to the newly established agency.

GPA ESTABLISHED TO ASSUME ROLE OF PROVIDING GUAM ELECTRICITY

In 1968, GPA began planning the task of expanding the IWPS and the eventual takeover of the entire system--a goal which had the support and cooperation of the Navy. By mid-1972 GPA had made major strides in the electric utility business. GPA was now responsible for 77 megawatts of generating capacity out of the total 171-megawatt capacity of the Island system. Construction was already underway on Tanguisson No. 2 (26.5 megawatts)--GPA's initial increment of steam-generating capacity. Also, GPA had been given authorization by GOVGUAM to sell revenue bonds to finance construction of additional generating equipment and to expand the transmission and distribution systems to handle the higher energy loads. As a result of GPA's increased role in the electrical power program on Guam, the Navy and GPA saw the need to establish an effective, equitable and administratively feasible means of pooling their power production and transmission capabilities and sharing costs. This led to the formulation and adoption of the 1972 Power Pool Agreement.

Power Pool Agreement provides for pooling assets and sharing costs

The Power Pool Agreement entered into on October 5, 1972, was to be a short-term, interim arrangement until GPA demonstrated its ability to assume operational control of the IWPS from Navy. The Agreement provides for the pooling of generation and transmission facilities and the prorated sharing of associated costs based on each party's demand and energy consumption.

The Agreement calls for sharing all costs associated with generating, transmitting and distributing electricity in the joint-use system, including variable, overhead, and fixed costs. Variable costs incurred by each party are the direct expenses which are tied to the power output of the system, and the overhead costs are a function of variable costs. Originally, Navy and GPA fixed costs were determined based on an annuity factor 1/ applied to each party's total investment in the Agreement. This method was modified in 1979 when Navy began paying GPA a debt service coverage on GPA's fixed investment in the system. This is discussed in more detail on page 11.

It is important to note that not all costs incurred by Navy or GPA for providing electricity are shared. Only those which mutually benefit both parties or joint-use costs are included in the cost-sharing computation. Power costs which are applicable to Department of Defense (DOD) only or GPA only services are not shared. This generally applies to costs associated with distributing electricity to certain Navy or GPA customers.

The Joint Coordinating Committee established by the Agreement is comprised of two members each from Navy and GPA, and is charged with implementing provisions of the Agreement. Specific responsibilities and duties include (1) establishing schedules for system dispatching; (2) scheduling the retirement of generating units; and (3) collecting, reviewing, and approving Agreement cost-sharing information. However, under the existing four-member makeup of the Committee, when the two sides are split on an issue, nothing changes.

Matters which cannot be resolved by the Joint Coordinating Committee can be raised to the next level--the Chairman of the Board of GPA and the Commanding Officer, Navy Public Works Center, Guam. If the parties still cannot come to an agreement at this higher level, the problem can be escalated to the level of a dispute and submitted to the Federal Energy Regulatory Commission

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1/A monthly charge to the fixed cost component of the Power Pool Agreement which will recover with interest over a period of 30 years the average investment in power pool facilities for the month.

(FERC) for investigation and recommendation. If the problem is still unresolved, then the dispute can be processed in accordance with the Defense Acquisition Regulations. While the Agreement has provided a mechanism to resolve disagreements, at times this has been a slow process.

A key aspect of the Power Pool Agreement concerns the transfer of operating control of the power system from Navy to GPA. Control of the system as defined in the Agreement includes dispatching the system, and operation and maintenance of the generation, transmission, and distribution facilities except for certain Navy facilities which it elects to retain for military mission requirements. No transfer of ownership of Navy facilities is provided for under the Agreement.

The Agreement was drawn up in a way which provided for the gradual turnover of control by Navy to GPA. Embodied in the Agreement were certain requirements, outlined below, which had to be met before GPA could assume control of the IWPS.

--Navy and GPA have to agree that GPA has completed 1 year of successful commercial operation of Cabras No. 1.

--Navy has the option to continue the cost-sharing Agreement until GPA has paid its share of the deferred Navy capital fixed charges with accrued interest.

--GPA has to have successfully operated Tanguisson Unit Nos. 1 and 2 in a safe, efficient and reliable manner, according to accepted electric utility practices.

--Both parties must agree to procedures which would return IWPS control to the Navy if GPA is abolished or would fail to provide electric power requirements to DOD installations.

--At least 1 year prior to control transfer, the parties shall determine the number and classification of personnel affected by the transfer and shall agree upon arrangements permitting the transfer of such personnel to GPA at substantially the same compensation they were receiving from the Navy.

--On or before transfer the parties shall have entered into a contract or contracts for electric service to DOD installations.

According to the terms of the Agreement, the Control Transfer Date could have occurred as early as August 1975--the date Cabras No. 1 completed 1 year of successful commercial operation. It should be noted that Amendment VIII recognized that GPA had successfully operated the Tanguisson plant up until June 14, 1979. However, no agreement had been reached by August 1975 on preconditions concerning (1) GPA employment for displaced Federal employees, (2)

future DOD electric service contracts, and (3) procedures for the for the Navy to reassume IWPS control if GPA defaults. Therefore, the Power Pool Agreement continued in force.

GPA's role changed from a purchaser of power to a producer/partner

Between 1972 and mid-1975 GPA made major advances in the power business on Guam. Major capital improvement programs which were begun in 1969 with the sale of GPA's first revenue bonds--$11 million to finance the construction of two diesel plants--continued during this 3-year period. GPA expectations were high, reinforced by over a decade of double-digit growth in civilian power usage on Guam.

This same 3-year period also saw significant increases in GPA's investment in the power system. Beginning in 1972--the start of the Power Pool Agreement--GPA's share of joint-use investment in the system was approximately $7.6 million--most of which represented GOVGUAM's contribution to the construction of Navy's Piti power plant in the mid-1960s. However, with the completion of several capital improvement projects, GPA's investment in the total joint-use system had increased to about $60 million. The following table shows the increases in GPA's investment in the power system.

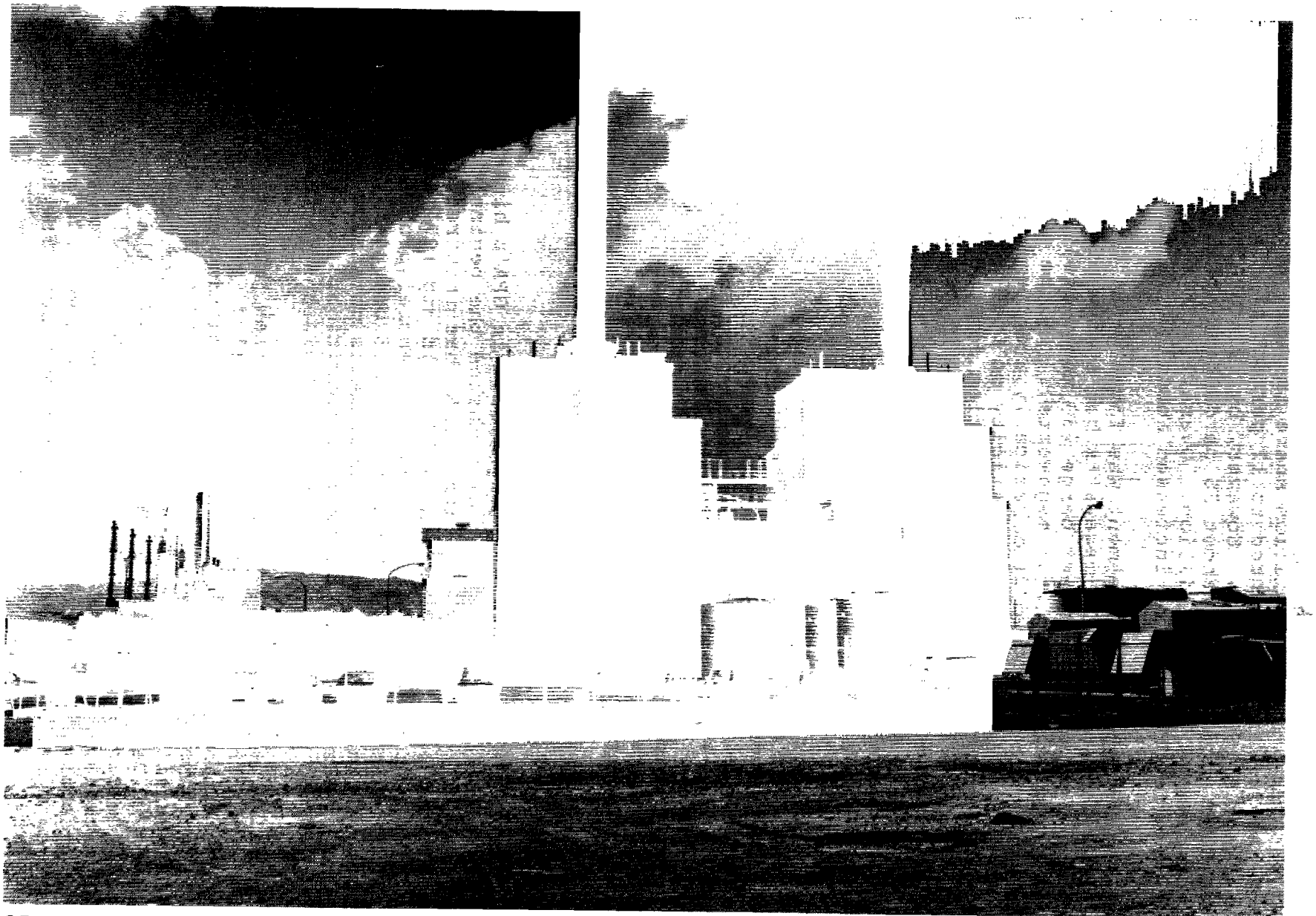
GPA's Joint-Use Investment Under the Power Pool Agreement
(October 5, 1972 through June 30, 1975 and August 31, 1981)

	10/5/72 (note a)	6/30/73	6/30/74	6/30/75	8/31/81
	(millions)				
Steam production (note b)	$4.2	$11.8	$12.1	$46.6	$47.8
Other production (diesel)	3.0	3.0	3.0	3.1	2.6
Transmission plant	-	.5	.9	7.6	9.7
Distribution plant	.4	1.8	2.2	2.6	3.6
General plant	-	-	(c)	.1	.3
Total plant value	$7.6	$17.1	$18.2	$60.0	$64.0

a/Effective date of Power Pool Agreement.

b/Includes $4.2 million in each total for GPA's contribution to construction of Navy's Piti power plant.

c/Investment less than $0.1.



GPA CABRAS POWER PLANT

PHOTO COURTESY OF U.S. NAVY

In 1972 GPA's $7.6 million share in Power Pool Agreement joint-use facilities amounted to 12 percent of the total Navy/GPA investment of $61 million. However, by 1975 GPA's $60 million investment accounted for about 56 percent of total joint-use plant of approximately $106.2 million. Overall, GPA's investment in the system during this period increased about 700 percent.

In 1972 when the Agreement was formulated, GPA-owned capacity in the system was only 11 megawatts but it operated two military facilities--the YFP-14 power barge (30 megawatts) and Tanguisson power plant unit No. 1 (26.5 megawatts). By the end of fiscal year 1975, GPA had moved from basically a consumer of electricity to the primary producer of electricity on Guam. At the present time 90 percent of electrical generation for the IWPS is done by GPA, and GPA customers consume about 57 percent of the electricity used on the Island. GPA is responsible for 205 megawatts of the system's 284 megawatts installed capacity, including the two Cabras units, each with a capacity of 66 megawatts, which are the newest and most efficient. All generation on the Island is by oil-fired generating units.

The Navy owns most of the system's electrical transmission facilities and equipment, including about 90 of the 122 miles of transmission lines plus the system's only dispatch control center. However, GPA is expected to take over the dispatching function after its new dispatch control center comes online. The facility is nearly completed and the Navy and GPA are drawing up plans to include the center in the system. Appendix II provides a listing of the current IWPS's generating plants and capacities.

Financially troubled GPA moves to terminate the Power Pool Agreement

While 1975 represented a high point in GPA's history in the electric utility business, it also marked the beginning of a number of financially troublesome years. GPA has incurred operating losses in 5 of the 7 years since 1975. In mid-1977 GPA--citing the Agreement as contributing to its financial problems--began to take action to terminate the Agreement. Subsequently, GPA commissioned a study by R.W. Beck and Associates to assess the impact of the Agreement on GPA's financial condition. The results of this study served as a basis for proposing revisions to the Agreement.

In August 1978, GPA submitted a written proposal to Navy to amend the Agreement. Essentially, it called for each party to meet its own expenses for generating and transmitting energy and for the Navy to reimburse GPA for energy it supplied to the Navy. Navy and GPA discussions concerning the proposed amendment proved unsuccessful and in December 1978 GPA notified the Navy that it was officially terminating the Agreement as of June 30, 1979. During the negotiations, the Navy recognized the need for some revision to the Agreement as evidenced by a Navy September 1978 position paper, based on a review of GPA's proposed amendment. The Navy position was that:

"The power pool agreement works well in all areas with the exception of allowing GPA to obtain a 'fair share' of debt service coverage from the Navy. * * * True the Power Pool Agreement has been in force longer than originally envisioned. * * * However, this doesn't invalidate the concepts. * * * It does, however, breed a good case for an increased debt service coverage payment by Navy to GPA until Navy transitions to a customer status * * *."

Although a number of provisions in the original Agreement were discussed during the negotiations, such as required reserve capacity and the valuation of Navy's fixed assets, much of the discussion focused on coming up with an equitable Debt Service Coverage 1/ which would provide GPA with additional funding from Navy to ease GPA's financial burden.

Amendment VIII provides financial relief to GPA

On April 6, 1979, following continual negotiations a formal Memorandum of Understanding was signed which set forth the principles and understandings that eventually became the formal amendment to the Power Pool Agreement--Amendment VIII. Major changes brought about by the new amendment signed on June 14, 1979, include:

--Navy's share of GPA's charge for fixed assets in the Agreement are determined by using a Debt Service Coverage. The Navy agreed to pay a 2.0 Debt Service Coverage for the initial 120 days after the amendment was signed. After 120 days, the Navy would pay a Debt Service Coverage equal to that which GPA realized from its retail customers. However, in no event would Navy's coverage be less than 1.5. Prior to this revision, the Navy paid an annuity on GPA's fixed assets.

--The Navy reduced the value of certain of its fixed assets in the Agreement, including the YFP-14 (Inductance) power barge, and the Piti, Orote, and Agana power plants.

1/Debt Service Coverage is the ratio of funds available from Navy and GPA customers to pay GPA's debt service, which is the total amount of funds required to pay principal and interest on its outstanding debt. A one-to-one matchup of available funds to scheduled payments of principal and interest would be the equivalent of a 1.0 Debt Service Coverage.

--The Control Transfer Date was changed to October 1, 1980, or as soon thereafter as events in Article 10, as amended, are accomplished including (1) establishing electric service contracts for DOD installations; (2) agreeing to make arrangements for GPA employment of displaced Navy civilian employees; (3) having GPA's dispatch and control system for the IWPS constructed, tested, and ready for operation; and (4) paying by GPA of its deferred Power Pool Agreement fixed charges to Navy.

--To achieve a 2.0 Debt Service Coverage from its retail customers, GPA requested and obtained a two-phase rate increase--GPA's first rate increase since 1972.

Changes brought about by Amendment VIII, particularly the provisions dealing with Debt Service Coverage and the reduction in value of Navy fixed assets, had the anticipated effect of increasing Navy's payment to GPA in the monthly allocation of costs for the IWPS. The Navy estimated that Amendment VIII would increase its annual payment to GPA by $1.5 million when the amendment was signed and by $2.7 million annually after October 1, 1980, when the value of its fixed assets listed in the amendment were reduced. Our analysis of cost-sharing data showed that Navy's payment under the debt service methodology was increased by about $37,000, in May 1980 and by about $214,000 in May 1981. To make our analysis we had to estimate GPA's average interest percentage for the months analyzed.

The analysis is not intended to show the exact amount of the Navy's payment to GPA under the debt service methodology but to show Navy's payment has increased under the revised methodology. The GPA Controller confirmed that the Navy is paying more to GPA since the change to the Debt Service Coverage.

GPA's continued financial problems have delayed transfer of control of the power system

Although GPA's financial position improved slightly in fiscal year 1980 following Amendment VIII and the electric rate increase, economic conditions on Guam remained poor and GPA experienced an operating loss in fiscal year 1981. Although the Navy is still committed to turning over operation of the power system to GPA, it is taking a more cautious approach. Basically, the Navy wants assurance that its mission requirements will be met, once GPA is operating the system and the Navy is a customer. Navy has expressed the following concerns regarding GPA's ability to assume control of the IWPS.

--Financial viability of the Authority--since 1972 GPA has experienced a number of unprofitable years.

--GPA's electric power rates are inadequate--GPA has had only one, two-phase rate increase since 1972.

--GPA's poor maintenance of its transmission and distribution facilities--generally only essential maintenance receives attention.

--GPA's insufficient trained personnel in the transmission and distribution areas--GPA does not have formal, in-house training.

--Political interference in the management of GPA--GPA is not a completely autonomous agency.

Despite these concerns, the Commanding Officer of Navy's Public Works Center on Guam told us the Navy has not altered its position about getting out of the electric utility business and becoming a GPA customer. Although Navy fully intends to become a customer of GPA, it has slowed the speed at which it is moving toward that goal.

Before operational control of the power system can be turned over to GPA the prerequisites set out in the Agreement have to be met. One of these preconditions is a cost-of-service study which is to serve as the basis for future electric service contracts between the Navy and GPA. The study is being prepared by the private consulting firm of Stone and Webster Management Consultants, Inc.

The study's preliminary final report dated April 23, 1982, states that GPA has established an excellent record of safe and efficient operation of the generation facilities under its control. The report states that operation and maintenance of GPA's transmission and distribution systems needs to be significantly improved, and training programs for substation electricians and linemen must be established to improve productivity. It is the opinion of the consultants that GPA can, under satisfactory financial conditions, operate the IWPS if major portions of Navy transmission and distribution facilities are placed under its control. The study suggests however, that Navy should continue to maintain its transmission and distribution transformers and breakers until GPA can demonstrate to Navy's satisfaction that it has an adequate maintenance program and management commitment to properly maintain the equipment.

In the final analysis the consultant recommends that Navy continue as an active partner in the Island-Wide Power System and that it should not become a GPA customer. It adds that as GPA's financial condition improves and after it has demonstrated long-term financial stability, Navy may wish to re-evaluate the risks and benefits of becoming a GPA customer.

Until the cost-of-service study is final and agreement is reached on an equitable electric service contract, the system will be operated within the framework of the Power Pool Agreement. Even though GPA has moved in the past to unilaterally terminate

the Power Pool Agreement, its withdrawal from the arrangement would be difficult because of the integrated nature of the system. GPA would be unable to operate its own power system as it is dependent upon the Navy's transmission system to supply most of the Island's electricity. Although Navy could supply power to meet the military's needs independently of GPA, it would have an adverse financial impact on the military because the Navy's generating units are less efficient and more costly to operate than GPA's units.

GOVGUAM disatisfaction with the Agreement stems from their contention that the arrangement is inequitable on the grounds that GPA should not pay an annuity charge for Navy assets used in the Agreement; Navy's assets included in the Agreement are over-valued; and Navy's higher costs per kilowatt hour under the cost-sharing arrangement result in GPA subsidizing military operations on Guam. These contentions are discussed in the following chapters.

CHAPTER 3

THE POWER POOL AGREEMENT IS EQUITABLE BUT DISAGREEMENT CONTINUES

In 1972 when the Power Pool Agreement was formulated by the Navy and GPA, the consensus was that the arrangement was fair and equitable to both parties. In 1975, primarily because of GPA's financial problems, operational control of the IWPS, was not transferred and the Agreement was continued beyond the anticipated expiration. GPA continued to experience financial difficulties. Some optimism was shown that GPA would begin to recover from its financial problems following Amendment VIII and a rate increase in 1979. Although GPA's financial picture improved somewhat in 1980, it again experienced operating losses in 1981. Periodically over the life of the Agreement, GOVGUAM and GPA have claimed that inequities in the Agreement have been the cause of GPA's financial problems.

In our opinion, the Agreement is not the primary cause of GPA's financial problems. We believe the Agreement is basically an equitable arrangement. We do question, however, certain aspects of Navy's handling of its fixed asset accounts which could have resulted in GPA absorbing more in amortization charges than necessary.

CLAIMS OF AGREEMENT INEQUITIES ARE NOT SUBSTANTIATED

In negotiations leading up to Amendment VIII, several issues were discussed, but no definitive list of inequities was presented during the negotiating process. Subsequent to Amendment VIII, GPA continues to experience financial difficulties and claims of inequities continued. The claimed inequities are the Navy

--includes an amortization cost for its fixed assets in the Power Pool Agreement costs,

--overvalued its fixed assets in the Agreement, and

--has higher per kilowatt hour operating costs under the cost-sharing Agreement, resulting in GPA subsidizing the Navy.

Navy's amortization charge is claimed to be inappropriate

Article 5 of the Power Pool Agreement provides, in part, that the Navy and GPA shall be entitled to charge monthly, to the fixed-cost component of the Power Pool Agreement, an annuity which will

recover with interest over a period of 30 years their average investment in power pool facilities for such month.

In 1972, Navy's fixed investment in the Agreement was established at $53.3 million and GPA's at $7.6 million. GPA is paying to use U.S. Government assets to supply electricity to its customers and, because the costs are shared based on demand, GPA pays only for the portion of the Navy assets used to supply power to GPA customers. Since 1972 GPA has paid about $15 million to the Navy in amortization charges, using this method. Over time GPA and GOVGUAM officials have perceived Navy's charges to be inequitable and the issue has been the subject of discussion in a number of studies contracted by GPA to identify inequities in the Power Pool Agreement. Guam officials claim that the Congress intended Navy's power facilities be used for both civilian and military customers without cost to the civilian community and that Navy charges to the fixed-cost component of the Agreement are not a legitimate cost to be included in the power pool.

Two major studies commissioned by GPA to identify problems with the Agreement did not find anything wrong with the annuity methodology, but instead questioned the value of the assets on which the percentage was applied. The R.W. Beck and Associates report, completed in November 1978, addressed the financial benefits to GPA if an alternative fixed charges methodology had been used. The Touche Ross & Co., study completed in August 1981, took exception to how the annuity concept was applied in some cases.

The Navy justifies amortization charges or full cost recovery under provisions of DOD Directive 7410.4 governing industrial fund operations. These regulations require the Navy to recover total cost, including depreciation/amortization costs, when doing business with any agency outside the Federal Government.

We support the concept of full cost recovery and believe amortization charges are a legitimate cost, are in accordance with the intentions of the Congress, and should be included in Navy's Power Pool Agreement costs. However, we do question the service lives assigned to some of Navy's fixed assets included in the Agreement.

Asset service lives assigned by Navy are open to question

In our review of Navy assets included in its initial investment we noted three cases where there is some question as to whether Navy's assigned service lives are reasonable. In question are the service lives given to the YFP-14 power barge, the Orote diesel plant, and the Agana diesel plant.

The crux of the issue is that Navy has no firm criteria to support the service lives assigned to its assets in the Agreement.

Except for the power barge and diesel plants, however, the service lives used by Navy are comparable to those used by others in the industry.

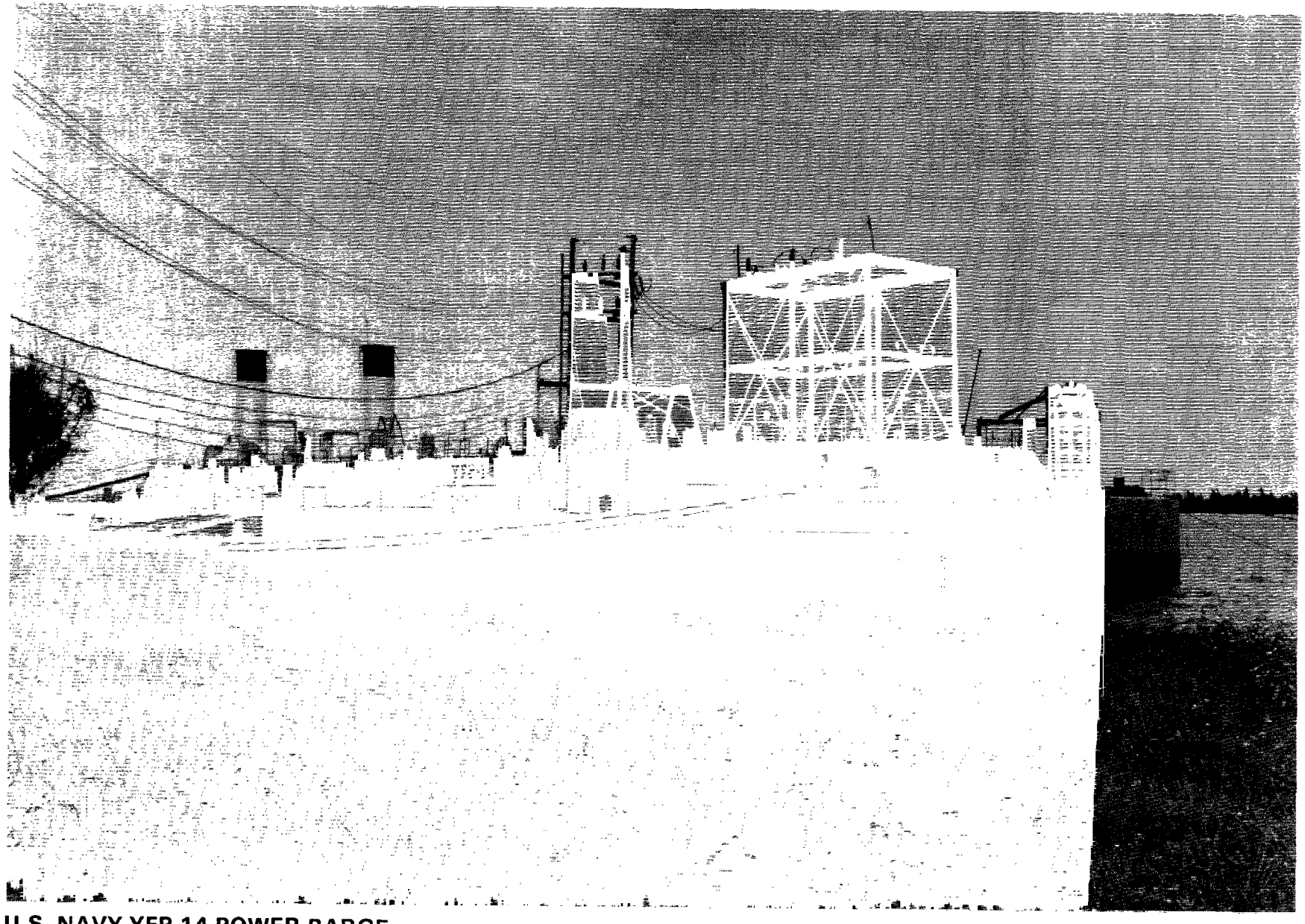
In 1972 when Navy assets came under the Agreement, some of the equipment was close to or at the end of its useful life. Since the Agreement was originally intended to last only 3 years, the age of Navy assets was not a critical factor. However, with the continuance of the pooling arrangement, assigned service lives became more important. Although the annuity is based on 30 years, beginning in 1972, the full 30 years may not be collected on each item because when the service life of an asset expires the value of the asset is removed from the total investment in the Agreement and annuity charges on that asset cease. The service life of an asset starts when the asset is first put into public service. In some cases this was well before the Power Pool Agreement went into effect in 1972. If either party assigns a service life to an asset that is longer than justified, the cost of the asset remains in the Agreement and the annuity charge continues.

YFP-14 power barge

The barge was built in 1943 for the U.S. War Production Board and used to meet urgent power needs in the United States during World War II. It was leased in 1946 and subsequently sold in 1947 to the City of Jacksonville, Florida. In 1966 the Army Corps of Engineers purchased the barge from Jacksonville. The Army had the barge overhauled and then towed to Okinawa where it was leased to the Ryukyu Electric Corporation, an instrumentality of the U.S. Government. In 1971 the barge was no longer needed on Okinawa and the Navy requested it for use on Guam. In November 1971 the YFP-14 arrived on Guam and was loaned to GPA for use in the IWPS. The barge began generating power for the system in March 1972. When the Power Pool Agreement was instituted the barge was included in the initial value of Navy's fixed assets. The Army Corps of Engineers transferred accountability for the YFP-14 to the Navy in 1977. The Navy valued the barge at $5.9 million which is the value assigned by the Army. Under Amendment VIII the value of the barge was reduced to $91,000 and in December 1981 the YFP-14 was retired from service and removed from the Power Pool Agreement.

FERC guidelines provide that the estimated service life of an asset begins when it is first devoted to public service. The Navy used 1946 as the "in use" date for the YFP-14, which is the date the City of Jacksonville, Florida, purchased it. However, the barge was built in 1943 by the War Production Board and used to generate electricity in the United States during World War II. Based on this, the "in use" date for the YFP-14 service life should be 1943 instead of 1946.

The Navy could not immediately provide us information regarding the service lives of assets included in the Power Pool Agreement. On December 17, 1981, a Navy official stated in a



U.S. NAVY YFP-14 POWER BARGE

PHOTO COURTESY OF U.S. NAVY

memorandum to us that: "We are unable to locate in our records specifically assigned estimated service lives for Navy's fixed assets in the PPA [Power Pool Agreement.]" The official did furnish a table showing what he "believed to be the service lives of Navy's fixed assets in the PPA [Power Pool Agreement.]" The table showed 35 years for the YFP-14.

We questioned the Navy regarding the assigned life and an official told us the 35-year life was assigned to the barge because it is a "steam plant" and the service lives of other Navy steam plants in the IWPS are 35 years. We noted, however, that Navy had assigned a 30-year service life to another power barge, the YFP-10, which was also a steam plant and was included in the Power Pool Agreement until 1974. Navy attributes the difference to the YFP-10 being a converted cargo freighter while the YFP-14 was built as a power barge.

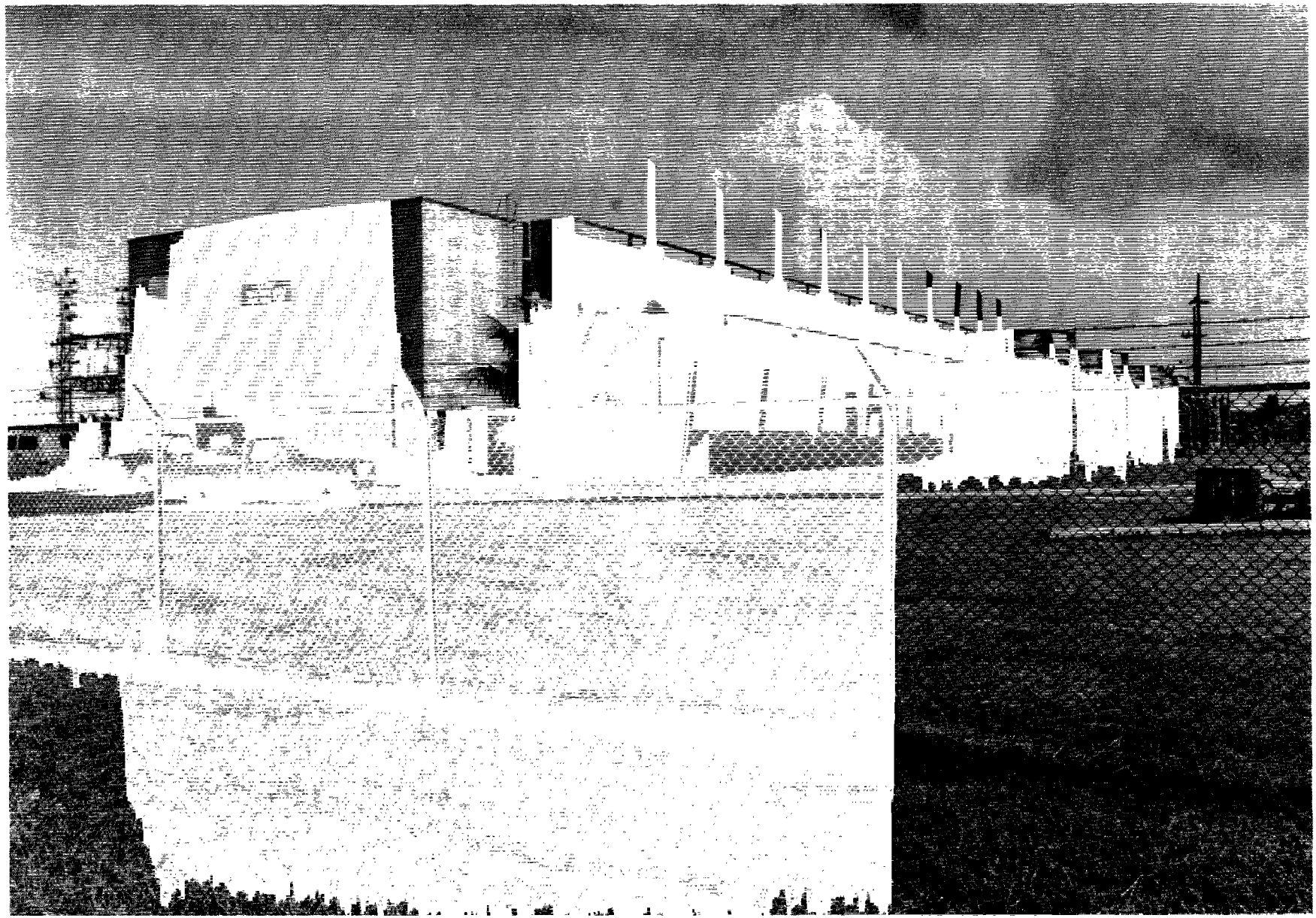
In our opinion there is no firm basis for assigning a longer service life to the YFP-14 than was assigned to the YFP-10. The power barges were more subject to the effects of salt air and adverse weather conditions than land-situated steam plants in the system. By assigning a 35-year life to the YFP-14 the Navy effectively extended the barge's life until 1981, using the Navy's 1946 in-use date. Had the Navy assigned a 30-year service life and a 1943 in-service date to the YFP-14, the value of this asset would have been removed from the Power Pool Agreement in 1973, and GPA would not have absorbed about $1.1 million in amortization costs.

The YFP-14 has not been used in the IWPS since June 1975--about the time the second GPA Cabras unit started generating electricity. Initially the barge was not used because it was not needed in the system. According to GPA, it was severely damaged during Typhoon Pamela in May 1976 and was not able to generate power even if needed. The barge remained in damaged condition until it was overhauled in 1980, for subsequent return to the Navy, at a cost of $2.4 million of which the Navy share was $1.1 million. Although the Navy reduced the value of the barge in 1979, it remained in the power pool and the Navy continued to collect fixed charges during the period the barge was inactive.

Orote and Agana diesel power plants

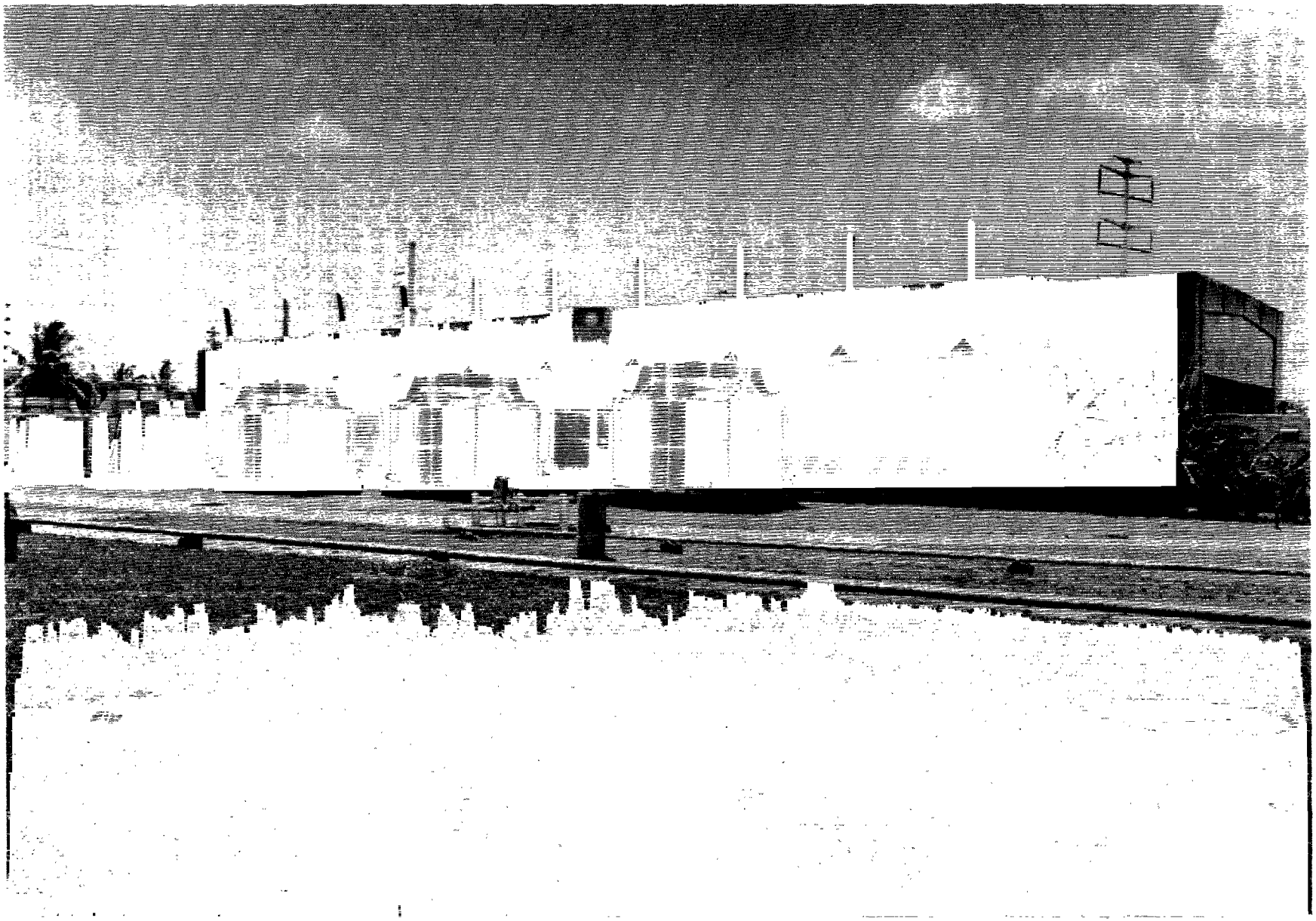
The Navy has assigned a 30-year service life to the Orote and Agana diesel plants whereas other utilities and industry standards indicate a lower estimated life is normal. The plants, originally built in 1950, were removed from the Power Pool Agreement in 1975, as they were no longer needed to support the IWPS. In 1976 and 1978, respectively, the Orote and Agana plants were put back into the Power Pool Agreement for reserve purposes to ensure reliability to the IWPS.

According to published industry standards, the estimated lives of prime movers and generators for diesel power plants range



U.S. NAVY OROTE POWER PLANT

PHOTO COURTESY OF U.S. NAVY



U.S. NAVY AGANA POWER PLANT

PHOTO COURTESY OF U.S. NAVY

between 16 and 24 years. In 1964 Rogers Engineering Company, as part of its study to determine the original costs of Navy assets, assigned 25-year estimated service lives to the Orote and Agana diesels (prime movers and generators). The study pointed out that the 25-year period was somewhat shorter than for similar plant items in other parts of the United States, but due to climatic and other physical conditions existing on Guam it was appropriate. Also the Hawaiian Electric Company uses a 20-year life for high-speed diesels and a 25-year life for medium- and low-speed diesels--Navy's diesels are low speed. GPA also uses a 25-year life for its diesel units.

Based on the above, the Navy's estimated service lives assigned to the Orote and Agana plants seem to be longer than normal. If the Navy had used a 25-year life for the equipment instead of 30, the prime movers and generators would have been removed from the Agreement for amortization purposes in 1975--4 years prior to when they were actually removed--and GPA would not have absorbed about $170,000 in amoritization costs.

We believe establishing asset service lives is something that should have been done at the outset of the Agreement since it has a direct bearing on charges GPA must pay. In our opinion, the Navy had no firm basis for the service lives assigned to the YFP-14 power barge and the Orote and Agana diesels and the "in-use" date for the barge.

Navy fixed assets assigned to the Agreement are claimed to be overvalued

The methodology the Navy used to establish the value of its assets assigned to the Power Pool Agreement seems to be reasonable. The value assigned to the YFP-14 barge, however, is open to question.

The first systematic approach to arrive at the original cost values of Navy's joint-use electric plant facilities was carried out in the mid-1960s by the Rogers Engineering Company. The majority of Navy power facilities were constructed from the late 1940s to the early 1960s. The Navy pointed out that power plants constructed immediately after World War II were built in conjunction with larger construction projects, and associated costs of individual facilities were not always identified separately in the total project costs. Rogers Engineering found that the Navy did not have or maintain adequate records to show original costs. Based on these limitations, Rogers Engineering estimated the original costs using available records, equipment design characteristics, and an extensive physical inventory.

The most recent effort to estimate the original cost of the Navy assets came in 1969 when the Navy requested the assistance of the Federal Power Commission--now the Federal Energy Regulatory Commission--to set up electric plant accounts to conform with the

Uniform System of Accounts. The results of the study were to serve as a reasonable basis to value the joint-use electric plant facilities when they would ultimately be conveyed to GPA. As was the case in the earlier Rogers Study, the Commission staff encountered numerous problems with the lack of supporting documents. Consequently, it was agreed between Navy and Commission personnel to adopt the Rogers Study as the most reliable beginning source of information on the value of Navy's fixed assets. Working on this basis the Commission staff made certain adjustments to the Rogers' estimates from information obtained from Navy files and records and arrived at a value for Navy assets as of June 30, 1969. These adjustments to the Rogers' estimates included such additions as overhead costs for the Piti power plant, land costs, and costs associated with Piti Unit No. 6. These values were adjusted to reflect additions and deletions to Navy assets between June 30, 1969 and October 1972, the date of the Power Pool Agreement.

Original cost assigned to YFP-14 power barge insufficiently documented

The value the Navy assigned to the YFP-14 barge was based on information given to the Navy by the Army. Because sufficient documentation was not available, we were unable to determine what the value should have been.

Originally the barge was purchased from the U.S. Government by Jacksonville, Florida, in 1947 for the sum of $2.5 million. In 1966, the Army Corps of Engineers bought it for $1.2 million from Jacksonville for use on Okinawa. The barge was overhauled before being towed to Okinawa. The barge was used on Okinawa and subsequently in 1971 it was leased to the Navy on Guam which in turn leased it to GPA. At the time the barge was transferred to Guam, the Army valued it at approximately $5.9 million. According to the Navy and our review of available information, the additional amount was to account for the cost of overhauling the barge after it was purchased by the Army. In 1979 during Amendment VIII negotiations, the Navy agreed that the value of the barge for annuity purposes would be reduced to $91,000.

Since the barge did not arrive on Guam until 1971, it was not included in Navy's power plant assets which were reviewed as part of the Rogers' evaluation in 1965, or the Federal Power Commission study of 1969. At the formation of the Power Pool Agreement the Navy valued the barge at about $5.9 million. A Navy official told us the value of the barge was based solely on the value assigned by the Army when it was transferred to Navy and that Navy did not question this amount.

The Army's value for the YFP-14 may have been the best information available to the Navy. FERC procedures provide that the Navy should have used the amount the U.S. Government paid to build the barge in 1943, or if the original cost is not available, such cost should then be estimated.

While FERC criteria require that an asset be valued at its original cost, it also permits the capitalization of certain costs associated with overhauling the equipment. When acquired property is in such physical condition as to require substantial rehabilitation in order to bring it up to the standards of the utility, the cost of such work except replacements, can be included as part of the purchase price of the property. An Army Corps of Engineers official told us that at the present time the total cost associated with an overhaul would be capitalized and added to the value of the asset.

The Army did have the barge overhauled before it was towed to Okinawa. However, adequate property records were not available to assess whether such overhaul costs were properly accounted for. Therefore, we are unable to determine if the $5.9 million was correct.

Navy's higher operating costs are claimed to result in a GPA subsidy to Navy

The Power Pool Agreement is a cost-sharing agreement whereby the costs of owning, maintaining, and operating one system are shared on the basis of consumption and demand. The Navy per kilowatt hour operating costs for its generating units and labor are higher than GPA's. As long as the older, less-efficient Navy assets are deemed necessary to ensure the stability and reliability of the integrated system, this cost differential will continue.

Navy Public Works Center officials point out that the majority of their plants were built in the 1950s and 1960s, resulting in more maintenance and less-efficient operation than the newer GPA generating plants. However, the Navy contends that its plants cannot be removed from the system because they are needed for the system's safe reliable operation.

The philosophy of operating one integrated system is to dispatch the most efficient generating units first. Since GPA's Cabras units are newer and more efficient, they are operated in the IWPS first. The Cabras units supply most of the system's electricity. Navy's Piti units, which are the next most efficient, are operated on an as-needed basis but generally at less than their optimum level. This causes a higher per kilowatt hour cost for Navy units because even though the Piti units are not generating electricity, operational and maintenance expenses are still incurred. The primary savings is in fuel costs. Navy officials in Guam told us they could operate the Piti units at a higher output level which would reduce their per kilowatt hour cost and make them look better. However, the net effect on the system would be to raise total production costs.

Navy's higher operating costs are also the result of higher labor rates. A comparison of generation labor costs from August

1981 Power Pool Agreement statements, excluding overhead, shows an average hourly rate for Navy of $15.29 per hour versus GPA's average rate of $10.45 per hour, a 46-percent difference.

As shown in the following table, Navy's cost to produce a kilowatt hour of electricity was 13.4 cents as compared to 5.8 cents for GPA. The Navy is responsible for most of the joint-use transmission system, and therefore Navy's transmission and distribution costs are also higher than GPA's.

A COMPARISON OF NAVY's AND GPA's
ISLAND-WIDE POWER SYSTEM COSTS
FOR CALENDAR YEAR 1980

	Navy		GPA	
	Total cost (note a)	Cost/ kilowatt hour	Total cost	Cost/ kilowatt hour
Kilowatt hour output	114,025,850		906,101,500	
Production cost				
Fixed (amortization expense)	$ 1,920,873	$.0169	b/$ 4,724,885	$.0052
Variable: Operation and maintenance	5,896,731	.0517	4,991,856	.0055
Fuel	7,499,947	.0658	43,004,210	.0475
Total production cost	$15,317,551	$.1344	$52,720,951	$.0582
Transmission/distribution costs				
Fixed (amortization expense)	$ 1,040,231	-	b/$ 1,181,221	-
Variable	1,787,717	-	1,329,144	-
Total transmission and distribution cost	$ 2,827,948		$ 2,510,365	
Total cost	$18,145,499		$55,231,316	

a/Navy facilities are considered necessary to meet the system's peak demand. Even if a plant is not generating electricity, the costs continue since power must be available when demanded. These are termed "capacity costs."

b/To make Navy's and GPA's fixed costs comparable, we added an annuity and an allowance for inventory to GPA's fixed investment. Since Navy no longer pays GPA fixed costs under an annuity methodology, we applied the annuity factor used in the April 1979 Power Pool Agreement settlement sheet--this was the last month GPA computed costs on an annuity basis--to GPA's 1980 total fixed investment.

Both parties derive benefits from the pooling arrangement. The fact that one party's per kilowatt hour costs may be higher, and the other party will have to share in the higher costs, is inherent in such a pooling arrangement. GPA's newer, larger, and more efficient generating units are the primary source of electricity for the system. Navy's older, less-efficient generating units provide system stability and reliability.

CHAPTER 4

DIFFERENCES BETWEEN NAVY AND GPA ON RESERVE CAPACITY

The Navy and GPA disagree on the amounts of reserve capacity the IWPS requires. The underlying concern from GPA's standpoint is its belief that the Navy has built extra reliability into the IWPS to meet essential military requirements, resulting in GPA civilian customers having to share in the costs of this added reliability. The Navy disagrees with this position and states that the current IWPS requirements are consistent with sound public utility practices.

To assess the adequacy of reserve requirements for a utility system, factors such as the size and mix of the generating units and the probability that a loss of load will occur should be considered. If the military is imposing extra requirements then it should bear the additional costs resulting from such added requirements, not GPA's civilian customers.

NAVY AND GPA DIFFER ON REQUIRED LEVEL OF RESERVE GENERATING CAPACITY

Required reserve generating capacity is the extra capacity built into a system to meet unusually high demand or loss of regular generating capacity. The current level of required reserve capacity the IWPS must have is prescribed by the Power Pool Agreement. The Agreement defines the required reserve capacity as the sum of the dependable capacities 1/ of the largest and second largest electric generating units of the Island-Wide Power System. Navy and GPA differ on what this capacity should be. The Navy believes the required reserve should be the two largest units in the system--the two GPA Cabras units at 66 megawatts each (132 megawatts). GPA, on the other hand, believes the requirement should be the largest unit in the system and the next largest unit by size--one 66 megawatt Cabras unit and one 26.5 megawatt Tanguisson unit (92.5 megawatts). The current required reserve capacity for the IWPS is 132 megawatts.

Required reserve capacity is important because it determines the total capacity the system requires to reliably meet the peak demand. The higher the required reserve the higher the total system capacity must be. Using the current reserve level, if the system's peak demand is 143 megawatts then the system would require

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1/Dependable capacity is the power output a generating unit is capable of sustaining for a specified time interval and period.

generating capacity of 275 megawatts. If GPA's lower reserve estimate is used then the system would require only 235.5 megawatts.

The system's required reserve has economic implications for GPA. Specifically, a lower reserve capacity could allow certain generating units to be retired (principally some of the Navy's older, less-efficient units) which could significantly reduce GPA's costs.

GPA and Navy have received different conclusions from private studies done on what constitutes an acceptable IWPS reserve capacity. In 1978 the R.W. Beck Company, in a study done for the GPA, concluded that a single contingency reserve equivalent to one of the Cabras units was definitely adequate for the IWPS, particularly in view of the existence of DOD onsite emergency generation at critical locations. (See app. III.) Stone and Webster has performed a study of reserve capacity as part of its cost of service study which was jointly commissioned by Navy and GPA. Stone and Webster's preliminary findings support Navy's specifications for reserve capacity. While the reserve criteria which the IWPS uses is high compared with most other utilities, Guam is completely isolated and thus cannot rely on any outside sources of emergency power, justifying the high reserve margin.

In June 1981 GPA proposed to the Navy that the required reserve capacity be lowered. GPA, in its supporting analysis, concluded that the (1) required reserve should be reduced because the system peak demand declined from 149 in 1980 to 143.7 megawatts in 1981, and (2) system's operating history indicated that the probability of the Cabras plant experiencing a complete outage is remote. To accomplish this reduction, GPA suggested retiring several of Navy's older, less-efficient generating units. GPA's analysis shows that using its interpretation of required reserve (92.5 megawatts) and retiring the Navy units, the power system still has sufficient capacity to meet a peak demand higher than the 1981 peak of 143.7 megawatts.

The Navy responded to the GPA proposal in October 1981, stating that considerably more information is required before meaningful discussion for lowering the required reserve can begin. Although the Navy is studying GPA's proposal its position remains that the double contingency (132 megawatts) is a "logical and practical basis for establishing the required reserve for an isolated power system * * *." The Navy pointed out that in reevaluating the required reserve, the size and mix of the generating units is the most significant factor.

The Navy, as part of its review of GPA's proposal, is performing a loss of load probability study. Stone and Webster is also performing a similar probability analysis as part of the ongoing cost-of-service study. The Navy believes that the results of these two studies and GPA's analysis will provide the basis for a decision on the IWPS required reserve capacity.

NAVY AND GPA DISAGREE ON LEVEL OF SPINNING RESERVE

Spinning reserve is the amount of excess generating capacity a system has which is ready to immediately supply additional power when needed. It includes the capacity available in generating units which are operating at less than their capacity. The principle behind spinning reserve is that in the event of a loss of generation or a drop in frequency, such reserves will maintain adequate system voltage and frequency levels to allow the automatic load shedding 1/ circuits to begin operating, and thus prevent a major system failure. GPA's Manager of Generation told us the current level of spinning reserve being carried on the system is excessive and said it could be lowered. The Navy believes the current reserve is appropriate to ensure system stability. A lower spinning reserve would mean lower costs to the system.

Navy information shows that for an isolated system, such as on Guam, the safest operating condition would be to maintain a spinning reserve equal to the amount of power being generated by the largest unit on the system. However, the cost of this condition would be prohibitive. The other extreme would be to match the generating capacity to the load, with little or no spinning reserve. However, this would be impractical from a system reliability standpoint. Therefore, the IWPS spinning reserve has been established at a point between these two limits.

Over the years the amount of spinning reserve required to be carried on the system has been reduced. Navy officials told us that during the 1975-76 time period when the Cabras 66 megawatt units were being tested on the line, and until they were proven ready for normal operation, a level of spinning reserve was carried equal to the largest load on either Cabras unit. Later, after the Cabras units were shown to be reliable and additional load-shedding capability was added to the system, the spinning reserve was reduced to 45 megawatts, and then to 33 megawatts. In the latest revision, effective December 1980, the Navy and GPA agreed to a compromise and the minimum spinning reserve was established at 26 megawatts. GPA had proposed a spinning reserve of 17 megawatts.

Several studies have addressed the level of spinning reserve for the IWPS, but their results have been inconclusive. One study prepared by Westinghouse Corporation in June 1979 for the Navy stated that the need for spinning reserve is universal, but no specific guidelines or standardized practices appeared to be

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1/Load shedding is the sequential discontinuance of power to electricity users on a priority basis to prevent a total system outage.

readily available. The study supported a variable spinning reserve level for Guam's system and proposed that the practical limits should be between 6 percent and 20 percent of the system load.

The impact of spinning reserve level is felt in overall system costs. Navy cost computations presented during October 1980 discussions to reduce the spinning reserve showed that lowering the reserve from 33 megawatts to 28 megawatts would save about $765,000 annually. The current ongoing Stone and Webster study estimates that about $1 million a year would be saved by reducing spinning reserve from 33 megawatts to 15 megawatts. The study cautions that any savings from reducing spinning reserve should be weighed against the increased risk of blackouts if a large generating unit is lost. Presently, if one of the Cabras generating units fails, there is insufficient spinning reserve on the system to make up for the loss.

The December 1980, Joint-Coordinating Committee instructions, which implemented the new spinning reserve level, also established how the spinning reserve available on each generating unit will be determined. The instructions established a spinning reserve of 6 megawatts each for the two 66 megawatt Cabras units at all operating levels. GPA's Manager of Generation told us that this limitation is incorrect and is a cause of the excessive spinning reserve being carried on the system. He said the level of spinning reserve assigned to the Cabras units should vary according to the load each is carrying.

Available spinning reserve for most of the generating units in the IWPS is computed by subtracting the load on the generator from the generator's rated capacity. If a unit is rated at 25 megawatts and is operating at 15 megawatts, the spinning reserve is 10 megawatts. However, Navy's power consultant told us that the Cabras units were assigned a constant spinning reserve level because they are reheat units and the time required for them to pick up additional load is longer than nonreheat units. Therefore, based on the Westinghouse study, the reserve capability is rated at 6 megawatts each for purposes of instantaneous spinning reserve regardless of the load being carried. The Cabras units are the only reheat units in the power system.

The constant reserve level assigned to reheat units in the power system differs from the level assigned to reheat units by the Hawaiian Electric Company. Hawaiian Electric Company officials told us that the spinning reserve capability of their reheat units varied based on the load being carried by the unit and was determined from actually testing the unit. The spinning reserve capability is based on a 3-second response time or, the instantaneous response capability of the units.

Navy and GPA officials told us that the Cabras units' spinning reserve capability was not determined from actual operating experience. The level of spinning reserve assigned to the Cabras units

obviously has an impact on the overriding question of the spinning reserve level for the system and it seems reasonable that the level assigned be determined by actual operating experience. Since it was not, GPA's concerns about limiting the Cabras spinning reserve designation to 6 megawatts may be valid.

THE MILITARY'S CRITICAL MISSION ELECTRICITY REQUIREMENTS

Navy officials state that it has not imposed extra reliability on the IWPS because of unique military needs, rather system requirements are in line with commercial utility practices. GPA believes, however, that greater reliability than necessary is being imposed on the civilian population of Guam. An important factor in assessing this issue is the level of the military's critical mission electricity requirements in relationship to the reserve requirements imposed on the system. When we asked Navy officials on Guam for this information, we were told that it was not readily available and would have to be compiled. The Navy subsequently provided this information which shows that the DOD critical mission electricity requirements are about 18.5 million kilowatt hours monthly. This equates to a peak monthly demand of about 38 megawatts. These requirements are military estimates of needs to keep vital military operations going. These operations primarily include hospitals, cold storage warehouses, air trafic control facilities, radar facilities, communications facilities, air field lighting and control towers, and ship repair and drydock facilities.

During 1981 the military's average monthly consumption of electricity for all uses was 32.3 million kilowatt hours out of a total Island average monthly consumption of about 73.6 million kilowatt hours. DOD's critical mission requirements of 18.5 million kilowatt hours account for approximately 57 percent of its total monthly usage.

These critical requirements are a significant portion of the military's electricity consumption. A Navy official on Guam told us that the power system must be able to meet the military's critical requirements and therefore the level of reserve capability and spinning reserve is vital. The official also said that the current required reserves ensure that in the event of a system disturbance, little or no load will be lost.

DOD's emergency/standby generating units could meet critical mission requirements

The military on Guam is not totally dependent upon the IWPS for its critical power needs because the military has emergency/standby generating units which can meet these essential needs if there is a power outage. The Navy provided us information which identified approximately 24 megawatts of emergency/standby generating capacity (see app. III), some of which is at critical locations, that can meet the military's essential needs. Navy

officials pointed out that the standby capability is mostly made up of small units which are intended to be used only for short periods of time and cannot be relied on for continuous long-term generation. Navy states, and we concur, that the 24 megawatts of emergency/standby generating capacity should not be a part of the IWPS reserve generating capacity requirements. The emergency/ standby generator units are installed to insure continued critical power requirements for military operation beyond that expected from the IWPS.

In addition to these small units, the Navy identified two of its diesel power plants, each being capable of providing 6 megawatts of electricity, which could also provide support to the DOD activities in an emergency. These diesel plants are currently in the power pool and part of the system's required reserve. If these units are added to DOD's standby capability the total emergency capacity is about 36 megawatts.

Based on this available emergency generating capacity it appears that in the event of a system disturbance, the military's essential requirements could be met. We recognize that comparing gross megawatts does not take into account the fact that there may not be a perfect match between the location of the critical need and the generating unit. However, it appears that in most critical areas there is some generating capacity which could be brought into service on a short-term basis.

CHAPTER 5

DISPUTED AND QUESTIONABLE ACCOUNTING PRACTICES

We did not find any significant deficiencies in the accounting for costs by Navy or GPA. We did observe, however, an area of disagreement concerning GPA's accounting for deferred fuel oil costs and certain questionable accounting practices.

NAVY DISPUTES GPA'S ACCOUNTING FOR DEFERRED FUEL OIL CHARGES

In July 1979 GPA revised its accounting procedures in order to defer certain fuel oil costs to the month it received revenues for such costs. The Navy has not accepted the deferred fuel oil accounting procedure and has withheld a portion of its payment to GPA under the Power Pool Agreement cost settlement. Although the Agreement provides a mechanism for settling disputes arising under the Agreement, the mechanism has not been used for this dispute.

Prior to July 1, 1979, GPA recorded the cost of fuel used for generating power for the IWPS in the month it was actually used or burned. Since this was a period of rising fuel prices, that part of the fuel cost in excess of fuel costs recovered in GPA's base rate schedule was billed to customers in subsequent months under a fuel adjustment clause. Effective July 1, 1979, GPA adopted the accounting policy of deferring fuel costs in excess of base rate costs until the revenue was recovered through billings to its customers. Effective April 1, 1980, Guam's Public Utility Commission authorized GPA to revise its fuel oil billing procedure to bill the increased fuel costs in the month of increase which would also be the month the fuel was burned. At the time this change took effect, GPA decided that unrecovered fuel costs of approximately $2.2 million, which were accumulated under the previous deferral method, would be amortized over a 24-month period beginning in June 1980.

The Navy disagrees with GPA's treatment of deferred fuel cost as it impacts on the debt-service coverage computation. Navy's position has been that the accounting change, following so closely after the debt service coverage procedure was adopted under Amendment VIII, was made in order to increase Navy's payment to GPA. Under the revised accounting procedures, GPA claimed that at the end of fiscal year 1981, Navy owed $770,000 in debt service coverage payments relating to deferred costs. Navy states that under the procedures in effect prior to July 1979, it has paid $298,000 above the minimum debt-service coverage payment as of January 1982, leaving $472,000 still in dispute.

GPA officials stated that the change in accounting policy was instituted in order to obtain a better matching of costs and revenues. It was done at a time when GPA was experiencing sharp and significant increases in the price of fuel. The GPA Controller cites an opinion of the American Institute of Certified Public Accountants 1/ as a basis for changing to a deferred fuel oil accounting policy. According to the opinion, such a deferral procedure is a generally accepted accounting principle for regulated industries, because it more closely matches expenses with revenues. The opinion adds that this is appropriate only when it is clear that the cost will be recoverable out of future revenues. GPA's certified public accountants reviewed the deferred fuel accounting change and, in their opinion, GPA's records were maintained in accordance with generally accepted accounting principles and FERC requirements.

Although it appears that GPA's accounting change is a generally accepted procedure, we learned that GPA never billed its customers to recover the deferred fuel oil costs. Although GPA's failure to charge its customers for these costs has no effect on the amount under dispute with the Navy, GPA has foregone $2.2 million in revenue.

On a number of occasions Navy and GPA attempted to resolve the issue through discussions in the Joint Coordinating Committee but were unsuccessful. In an attempt to resolve this dispute, the Committee sent a memorandum on March 24, 1981, to the Chairman of the Board of GPA and to the Commanding Officer of Navy's Public Works Center informing them of the committee's inability to resolve the dispute and recommending that it be settled in accordance with Article 14 of the Power Pool Agreement. Article 14 provides that if the Chairman of the Board of GPA and the Commanding Officer, Navy Public Works Center, Guam cannot resolve a problem, it will be submitted to FERC for investigation and recommendation. If the dispute still cannot be settled after FERC's findings, it will be processed in accordance with the Defense Acquisition Regulations. Resolution of the dispute has not progressed past the March 24, 1981, memorandum.

We found no evidence that GPA changed its accounting policy merely to increase Navy's monthly payment to GPA. The accounting practice appears to be a generally accepted procedure for regulated utilities. GPA's public accountants have stated that its records meet (1) generally accepted accounting principles and (2) Amendment VIII principles for debt service calculation. For the Navy to deny GPA payment on the deferred fuel oil issue because a provision of Amendment VIII now makes it more costly to the Navy, seems to be a a questionable position.

1/Addendum to Accounting Principles Board, Opinion No. 2, issued December, 1962.

If the Navy and GPA cannot resolve the dispute, it should immediately be handled in accordance with provisions in the Power Pool Agreement.

QUESTIONABLE NAVY AND GPA CURRENT ACCOUNTING PROCEDURES

We also noted some questionable current accounting practices by both Navy and GPA. The Navy has capitalized some costs which appear to be maintenance items. In one case, the Navy capitalized the total costs associated with work done on plant equipment, such as repainting a building and replacing windows and doors with ones that are typhoon-proof. Under provisions of the Uniform System of Accounts, the Navy should have only capitalized the betterment portion of those improvements. The betterment portion would be the difference between the cost of the new item and the current cost of replacing the original item without betterment. It should be pointed out that the capitalized costs, which were for maintenance, should be charged as an expense in the Power Pool Agreement settlement computation.

We also noted in a few cases that the values shown for Navy fixed assets in the Agreement may be understated as compared to the values shown in the ledger accounts. Information was not available from the Navy to determine which value was correct. Therefore, we were unable to assess the net effect of the items in question. GPA accounting records also lacked original cost data to assess the value of GPA assets included in the Power Pool Agreement in 1972.

Accounting deficiencies were noted in maintenance of current GPA ledger accounts. The ledgers between 1969 and 1972 do not show an individual breakdown of items included in the utility plant in-service account. Beginning in 1973, GPA revised its ledger accounts in accordance with the numbering system in the Uniform System of Accounts. Although plant account totals in the recent ledgers agree with values initially assigned to GPA assets in the Power Pool Agreement, there was no way to trace these amounts back to original records to verify their accuracy.

In reviewing the GPA ledger accounts for July 31, 1981, we found that a number of balances in the general ledger were not comparable to amounts shown in the Power Pool Agreement settlement sheets for the same time period. As a result, the settlement sheet fixed asset total for GPA was about $334,000 higher than the same total shown in GPA's ledger accounts. The GPA Controller provided us with a reconciliation of the two amounts showing the settlement sheet total as being correct. He explained that the ledger information was not up to date because of personnel shortages in the accounting department. The Controller said that the necessary adjustments would be made to the ledger accounts.

CHAPTER 6

GPA'S FINANCIAL POSITION HAS DETERIORATED IN THE PAST 7 YEARS AND IT COULD GET WORSE

GPA has incurred losses in 6 of the 13 years it has operated and without a rate increase or some other financial assistance, it projects another loss for fiscal year 1982. In addition, GPA may be required to spend as much as $35 million to install antipollution devices in order to comply with the Clean Air Act. This expenditure could be avoided if pending legislation is approved by the Congress granting GPA a waiver from the continuous control requirement of the Clean Air Act.

GPA's financial situation has been caused by several interrelated conditions. In our opinion, GPA's primary problem stems from not increasing power rates to cover increasing costs. When it did raise rates, however, the projected revenues did not materialize because electricity consumption declined. We believe also that GPA's financial position is partly attributable to its undercapitalization. To improve its financial position, GPA needs to increase power rates sufficiently to cover costs and provide working capital, and to obtain an infusion of cash to make needed improvements in its transmission and distribution systems.

GPA HAS NOT INCREASED POWER RATES TO MEET RISING COSTS

GPA's operating costs have increased dramatically between fiscal years 1971 and 1981, however, its rate increases did not keep pace with the rising operating costs. During the 11-year period, GPA raised its electric power rates only two times--the second was a two-part increase.

Between July 1970 and June 1981, GPA's total operating expenses, including interest charges, increased 757 percent from $6,933,505 to $52,488,386. However, during that time its revenues only increased 650 percent from $7,674,789 to $49,897,652 (see app. IV). The shortfall in revenues was caused by not increasing power rates to cover increases in nonfuel costs. GPA's rate structure calls for it to pass on increased fuel costs to its customers through a fuel adjustment factor.

To increase rates for nonfuel costs GPA must have formal approval, which, until recently, consisted of a public hearing and concurrence by Guam's Public Utility Commission. In December 1981, the Commission was abolished and now GPA rate proposals must be submitted to Guam's legislature for approval before a new rate can become effective.

GPA has been slow to increase electricity rates to its customers and when rates were increased consumption declined, causing shortfalls in projected revenues. In October 1972, GPA received a rate increase and operated profitably until fiscal year 1974. However, according to GPA's Controller, over the next 5 years GPA did not increase or request a rate increase even though they incurred losses in all but 1 year. In September 1979 in an attempt to achieve a 2.0 debt service ratio--a condition included in Amendment VIII to the Agreement--GPA obtained a 10.7 percent rate increase. The provisions of the 1979 increase also permitted GPA a second-phase increase of 2.1 percent in July 1980. However, these two rate increases were not sufficient to cover GPA's nonfuel costs.

A contributing factor to the insufficiency of GPA's 1979-1980 rate increase was the drop in projected demand. In fiscal year 1980, GPA electricity sales declined by 3.3 percent after a 6.2 percent increase in fiscal year 1979. Electricity sales declined again in fiscal year 1981 by 4.5 percent. A major contributing factor to the decreases in demand was the pass-through of sharply rising fuel oil costs. Between October 1979 and August 1980, fuel prices increased from about $20 to $32 per barrel. When the electricity usage decreased, GPA's rate did not generate the amount of revenue predicted. Although GPA earned a profit in fiscal year 1980, it again incurred an operating loss for fiscal year 1981. (See app. V.) Although reduced consumption may keep down the overall cost of fuel, certain operational costs, such as labor, maintenance, and interest, do not decrease as consumption declines. Instead, these costs cause pressures to increase rates even more, to make up for the decline in revenues.

GOVGUAM has restricted GPA efforts to increase rates

Since 1981, GOVGUAM has rejected two attempts by GPA to increase electricity rates. In June 1981, GPA submitted a request for a rate increase. GPA's budget indicated the increase would offset a projected $10.3 million loss for fiscal year 1982 and provide a 2.0 debt ratio. However, Guam's Governor and the legislature opposed the increase at that time and GPA withdrew the request. The legislature subsequently provided GPA with a $4.3 million subsidy to cover its budgeted shortfall for the first half of fiscal year 1982.

In January 1982, GPA again filed for a rate increase. Since Guam's Public Utility Commission was abolished in December 1981, GPA's proposal was submitted to the legislature which has the authority to approve or disapprove new electricity rates for civilian customers. The proposed increase would have raised the electric rates an average of 25 percent and increased annual revenue by an estimated $12 million.

On March 19, 1982, the Guam legislature passed Public Law 16-73 blocking the proposed increase in the electricity rate. The

legislation which was enacted on March 20, 1982 requires, among other things, that GPA "charge customers for electric service at rates which do not exceed those set in rate schedules and rules which were in effect on January 26, 1982." The law is silent on how long the rate freeze will remain in effect.

According to GPA's Controller GPA will run out of funds in 1982, without a rate increase or some other financial assistance. He added that because of existing financial problems, GPA has already cut back on needed maintenance for the power system and this latest action to freeze the rate will exacerbate the problem.

GPA'S POWER RATES DO NOT GENERATE SUFFICIENT WORKING CAPITAL

The failure of GPA electricity rates to generate sufficient revenues has resulted in repeated annual operating losses throughout its financial history. These continual losses have reduced the equity GPA earned in the early 1970s and part of the equity it had when it was established. GPA's equity has decreased from a high of $12.5 million in 1974 to $5.4 million at the end of fiscal year 1981. GPA's retained earnings at the end of fiscal year 1981 was a negative $2.5 million. (See app. IV.)

The seriousness of GPA's liquidity problems has been pointed out in its annual financial statements. In fiscal year 1981 GPA's certified public accountants would not express an opinion on its future financial viability. They stated in essence that the continuation of GPA as a going concern was dependent upon future profitable operations and/or the extension of GPA's loan with the Federal Government. (See p. 42 for a discussion of the Federal loan.) The accountants also pointed out that existing electricity rates were inadequate and without a rate increase GPA would not be able to meet its obligations when they mature. They added that the possibility of insolvency exists. (See app. V.)

The inadequacy of GPA's working capital is also reflected in its operations. According to the Director of Operations, GPA has lacked funds to properly maintain facilities and train personnel in the transmission and distribution areas. Navy and GPA, as well as private consultants which have studied aspects of the IWPS, agree that GPA's transmission and distribution systems need improvement. Navy cites GPA's poor maintenance record of these facilities as one reason it is reluctant to transfer operational control of the system to GPA.

To correct the transmission and distribution problems, GPA's Director of Operations currently estimates it will cost about $10 million. Needed improvements include upgrading transmission facilities and distribution lines, completing preventive maintenance work on underground distribution facilities, purchasing new equipment and vehicles, and training GPA personnel. However, it

is questionable whether GPA will be able to obtain the money to finance these improvements without a rate increase or other infusion of funds.

The extent of GPA's liquidity problem is illustrated in the difficulty it encountered in paying its fuel oil supplier. As of April 1981 GPA had accumulated a $12 million fuel oil bill. The problem became so acute that the fuel supplier required GPA to pay cash for further fuel deliveries. GPA's Controller told us the reason it accumulated the fuel oil bill was because it did not have enough money to pay all of its creditors. GPA elected to pay other creditors before paying the fuel supplier and, as a result, the $12 million bill accumulated. GPA was also building its Dispatch Control Center during this period using operating funds. As of December 31, 1981, GPA had reduced this outstanding fuel oil debt to $6 million.

GPA's financial difficulties are not unique

The financial problems being encountered by GPA are in some respects similar to those of other power utilities. As we pointed out in our 1981 report 1/ which highlighted issues and problems facing electric utilities, the power industry is the Nation's most capital-intensive industry and with the overall forecasts projecting a 3.4 percent peak demand average annual growth rate through 1990, capital requirements for electric utilities are likely to increase.

GPA is in a situation where it needs capital. Since electricity demand on Guam is not expected to increase, GPA's capital needs are for necessary improvements in the power system and not for large expansion projects. According to GPA estimates, the demand for electricity on Guam through 1990 will remain at current levels--no increases are forecast. In fact, over the past 3 years beginning in 1979 demand on Guam has been declining. In 1981 the decrease was 4 percent from the 1980 demand for power.

The electric power industry as a whole has been experiencing sharp rises in the costs of providing electricity to its customers. As pointed out in our December 1981 report, escalating power rates on a nationwide basis during most of the 1970s following the 1973 oil embargo was the rule rather than the exception. Since 1973, excluding rate adjustments for fuel, GPA had only a single, two-phase rate increase. Nationwide increases have been attributed to the rise in the price of fuel oil and subsequent voluntary conservation measures by consumers which reduced utility revenues. Similar conditions have been experienced on Guam.

1/"Electric Power: Contemporary Issues and the Federal Role in Oversight and Regulation" (EMD-82-8, Dec. 21, 1981).

GPA rates are high, but not the highest

Had GPA power rates been included in the July 1981 nationwide rankings prepared by the National Association of Regulatory Utility Commissioners, they would rank fifth behind communities in Rhode Island, Hawaii, and New York City. As the following table shows, when GPA's rates are compared to the island systems in the State of Hawaii, they also rank fifth.

Electric Power Rates
for Selected Hawaiian Islands (note a) and Guam
August 1981

Rank	Island community	Power rate based on a 1,000 kilowatt hour usage per month (cents per kilowatt hour)
1	Molokai, HI	17.79
2	Kauai, HI	14.92
3	Oahu (Honolulu), HI	11.94
4	Maui, HI	b/11.05
5	Guam	11.02
6	Hawaii, HI	10.83

a/Rate information provided by Hawaii State Public Utility Commission.

b/Maui's rate increased to 13.54 cents per kilowatt hour in January 26, 1982.

A POOR CAPITAL STRUCTURE HAS CONTRIBUTED TO GPA'S FINANCIAL PROBLEMS

Some of GPA's financial problems have been caused by undercapitalization. On June 30, 1969, about the time GPA began to operate, it had about $9 million worth of assets and only a small amount of working capital. This clearly was not sufficient to achieve the objectives established for GPA when it was created by the Guam legislature. GPA has subsequently increased the value of its assets to about $92 million; however, in doing so GPA's debt-to-equity ratio has changed from about $1 of debt to each $3 of equity at the end of fiscal year 1969 to $14 of debt to each $1 of equity at the end of fiscal year 1981. GPA's interest expense has increased over 300 percent from $1.5 million to $6.4 million.

GPA's inability to secure long-term financing necessitated Federal assistance

GPA capital expansion projects for the IWPS have been financed primarily through the sale of long-term bonds and by obtaining short-term loans. In the past GPA's inability to sell bonds to refinance short-term obligations caused it to default on certain

obligations, necessitating a loan from the Federal Government. Because of GPA's poor financial position it was unable to repay the Government loan when it was due in December 1981 and the loan was extended to December 1990.

GPA embarked on its capital expansion program for the IWPS in 1969 when GPA issued its first authorization of revenue bonds totaling $11 million. These initial bond sales gave GPA the needed capital to fund such projects as the Tamuning and Dededo diesel generators and the Tanguisson No. 2 steam generator. To meet the increasing demand for power on Guam, the GPA Board authorized a second bond issue in October 1972, totaling $52 million. The expected proceeds from this second bond authorization were intended to finance part of GPA's 5-year capital improvement program, including the Cabras generating units.

The 1972 bond authorization for $52 million was intended to be marketed in three series in 1972, 1974, and 1975. GPA was successful in selling the first series ($25 million) in November 1972, however, the rest of the plan to market the bonds never materialized. In 1974 when the second series of bonds totaling $17.5 million was to be sold, a market could not be found for the relatively low interest rate bonds. At the time, because of Guam's usury law, GPA was not permitted to sell bonds at an interest rate higher than 7 percent. As a temporary measure, until Guam's legislature raised the interest ceiling, GPA sold in July 1974, $17.5 million worth of short-term bond anticipation notes which were to mature on June 1, 1976. In 1977 we reported 1/ that after a lengthy delay, the legislature did raise the interest ceiling twice to 9 and 11 percent, however, by that time the bond market could not accept GPA's bonds due to its poor financial position.

During this 1974-1975 time period, GPA's financial problems were compounded by a number of other factors, such as:

--Fuel oil prices increased from $6.35 to $11.85 per barrel between 1974 and the end of fiscal year 1975.

--GPA's plant investment increased significantly between 1974 and 1975 as the two Cabras units began operations. Start-up costs for the new units were incurred without increases in revenue. It should be noted that GPA did not raise its electricity rates until late 1979.

--The demand for power dropped below earlier projections because of poor economic conditions on the Island.

--GPA experienced serious problems in collecting revenues from its customers.

1/"Technical Assistance: A Way to Promote Better Management of Guam's Resources and to Increase Its Self-Reliance" (GGD-77-80, Sept. 13, 1977).

A combination of these factors caused a GPA operating loss in fiscal year 1975 of more than $2 million and, as a result, the major bond-rating agencies reduced or withdrew their ratings on GPA's outstanding securities. The following year, in May 1976, a typhoon struck Guam causing damage exceeding $1 billion throughout the Island, including the loss of electrical service.

As a result of these various factors, GPA in 1976 found itself in a position of not being able to refinance its bond anticipation notes or pay its other debts, particularly those associated with the construction of the Cabras units. It was at this time that the Department of the Interior offered to guarantee a $36 million loan with the Federal Financing Bank which would be used to pay certain of GPA's outstanding obligations. Interior was granted congressional authorization in September 1976 to guarantee a loan to GPA. The $36 million loan was approved in April 1977 to mature, initially on December 31, 1978, but the loan provided for an extension to December 31, 1980, with the approval of the Secretary of the Interior and the concurrence of the Secretary of the Treasury. The loan was subsequently extended.

At the time the loan was approved it was envisioned that the assistance would give GPA a period in which it could demonstrate its economic viability and thus return to the private capital market. However, GPA's financial problems continued and although it had been meeting its obligations to repay earlier bond indebtedness (see app. V) it has been unable to repay the Federal Financing Bank loan. Following congressional authorization, the maturity date of the $36 million loan was initially extended to December 31, 1981, and in January 1982 it was again extended by the Secretary of the Interior to December 31, 1990, with the concurrence of the Secretary of the Treasury.

COMPLIANCE WITH THE CLEAN AIR ACT MAY COST GPA MILLIONS OF DOLLARS

GPA, already in financial trouble, may have to spend more than $35 million over the next several years to comply with the continuous sulfur dioxide emission control provisions of the Clean Air Act. Legislation currently before the U.S. House of Representatives would grant GPA a waiver from the Act's provisions, thereby relieving it of this expenditure.

Currently, GPA is operating under a delayed compliance order from the U.S. Environmental Protection Agency that permits it to employ intermittent strategies in controlling sulfur emissions while GPA tests one alternative solution--seawater based scrubbers.

The compliance order expires on February 15, 1985, at the latest, depending upon the alternative control solution chosen. GPA is required under the order to decide by August 15, 1982, whether it will install seawater scrubbers, install conventional scrubbers or switch to low sulfur oil as the means of complying

with the Clean Air Act continuous emission control requirement. According to EPA, the requirement of such a control election, unless it is modified or altered by interim legislative, administrative, or judicial action, would require GPA to enter into contracts for needed technology or procurement of more expensive fuels, and thus incur substantial financial obligations.

The GPA power plants are located on the leeward shoreline of Guam and the prevailing winds carry the plant's flue gas emissions out to sea. The wind blows from the land out to sea about 90 percent of the time, and the nearest land mass to Guam is the Philippine Islands which is 1,500 miles away. The intermittent strategy employed by GPA is to burn 3 percent sulfur fuel when the wind is blowing seaward and to burn low sulfur (.75 percent) fuel when the wind blows toward land. The Guam Environmental Protection Agency monitors Guam's air quality and an Agency official told us that installing continuous controls will provide no environmental benefits to Guam.

The Clean Air Act requires a system of continuous emission controls, and taking advantage of "atmospheric conditions" does not qualify as continuous control. There is no provision in the Act for a waiver from the continuous control requirement. However, in May 1981, legislation (H.R. 3658) was introduced into the U.S. House of Representatives which would grant GPA a waiver from this requirement. The legislation has been referred to the Committee on Energy and Commerce. If this bill or similar legislation does not pass, and if there is no interim administrative or judicial action taken to modify or alter current requirements facing GPA, GPA will have to select one of three alternatives to comply with the Act.

--Continuous burning of low-sulfur fuel ($15 to $16 million annually).

--Install scrubbers at Cabras and Tanguisson power plants ($17 to $35 million construction cost and $3.5 to $4.5 million annual additional operating cost).

--Install a scrubber system at Cabras and build a 253-foot stack at Tanguisson ($17 to $30 million construction cost and $2 to $2.5 million annual additional operating costs).

GPA officials told us that selecting any one of these alternatives would be a serious financial burden. Only by selecting the alternative of continuously burning low-sulfur fuel would GPA be able to immediately charge its customers for the higher cost through the fuel adjustment charge. However, GPA projects that if they passed through the significantly higher fuel cost, their uncollectible accounts would increase dramatically. The other two alternatives would require GPA to obtain loans to finance the construction but, as previously discussed, GPA's poor financial position limits its ability to obtain such financing. GPA has said

that it would in all likelihood have to ask the U.S. Government for the funds necessary to bring it into compliance with the Clean Air Act.

It appears that the current intermittent control strategy employed by GPA does not adversely affect the air quality on Guam or other populated areas. The installation of expensive pollution control devices would appear to provide no environmental benefit to Guam. In addition, considering GPA's poor financial position, we believe Federal funds might be required to bring GPA into compliance with the Clean Air Act.

CHAPTER 7

CONCLUSIONS, AGENCY COMMENTS, AND OUR EVALUATION

The Power Pool Agreement between the Navy and GPA is basically an equitable arrangement for the sharing of the costs of owning, operating, and maintaining a single island-wide power system. The Agreement has been amended to maintain equity. We do not believe the intervening periods of possible inequity have had a measurable adverse impact on GPA's financial condition. GPA's financial problems stem primarily from inadequate rates, undercapitalization, and the dramatic increase in fuel oil prices.

Both parties derive benefits from the Power Pool Agreement. The Agreement is a cost-sharing arrangement where both parties' costs are pooled and shared based on the amount of electricity each consumes. The fact that one party's costs may be higher, and the other party will have to share the higher costs, is inherent in such an arrangement. The Navy benefits from GPA's newer, larger, more efficient generation capability. The Navy's generation capacity provides system stability and reliability. Although Navy's unit costs associated with its older, less efficient generating units are higher, we do not believe they are inequitable.

The fixed asset charge on Navy's investment under the Agreement is a legitimate expense and should be included in the Agreement costs. However, the lack of documentation precluded us from determining the specific criteria used by the Navy to assign service lives to its assets and, in the case of the YFP-14 power barge, the valuation of the asset. Based on industry standards, and Navy practices regarding other fixed assets, the service lives assigned to the power barge, and the Orote and Agana diesel power plants are open to question. An overstatement of service lives and overvaluation of asset cost results in excess amortization costs.

The DOD crtitical mission electricity requirements are a significant portion of the military's total electricity needs. We recognize that the Navy must be assured of adequate power to meet its critical mission needs. We believe, however, that continual assessment should be made of the military power requirements to ensure that additional requirements are not being imposed on the system to meet military needs. The cost of extra requirements related solely to military needs should be borne by the military.

GPA power rates did not keep pace during periods of rising operating costs, resulting in operating losses in 5 of 7 years since 1974. Power rates increased only once, a two-part increase in 1979-1980. For GPA to improve its financial position, we

believe that rate increases must keep abreast of rising costs. In the meantime, GPA needs an infusion of cash to make necessary improvements in the power system.

GPA efforts to overcome its financial difficulties could be severely hampered if it is required to meet current requirements of the Clean Air Act. GPA's intermittent control strategy for pollutants appears not to adversely affect the air quality on Guam or other populated areas. Requiring the installation of expensive anti-pollution devices would significantly add to GPA's already poor financial position and might require Federal assistance to bring GPA into compliance with the Act.

The current arrangement has the necessary mechanism to (1) permit GPA to assume operational control of the IWPS, and (2) change Navy's position to a customer's status. For this to occur the following things, which are in various stages of completion, must be accomplished:

--GPA must have entered into contracts to provide electric service to DOD installations based on a cost-of-service study.

--The two parties will have agreed to arrangements for GPA employment of displaced Navy civilian employees.

--GPA's dispatch control center must be constructed, tested, and ready for operation.

--GPA will have paid Navy for deferred Power Pool Agreement fixed charges.

Despite GPA's poor financial situation, the Navy continues to offer support, working within the provisions of the Power Pool Agreement, until GPA assumes control of IWPS operations. We do not see the provisions of the Agreement as being a deterrent to GPA's accomplishing this goal. The Agreement and the conditions contained therein should be allowed to operate and both the Navy and GPA should work as rapidly as possible to accomplish the objectives of the Agreement--turning over operational control to GPA and the Navy becoming a customer.

AGENCY COMMENTS AND OUR EVALUATION

We requested and received written comments from the Department of the Interior and the Environmental Protection Agency, which are in Appendix VI. The Department of the Navy furnished official comments to us in a meeting on May 5, 1982. The Navy comments were technical in nature and are reflected in this report.

Comments were received from the Guam Power Authority, and where considered appropriate, the Authority's technical comments are reflected in this report.

The Department of the Interior expressed agreement with our conclusions. Interior stated that they are in complete agreement that Navy and GPA should work as rapidly as possible to transfer the operational control of the Island-Wide Power System to GPA and for Navy to become a customer. Interior agrees that there have been an insufficient number of rate increases and that additional funds are required if GPA is to continue as a viable power utility. However, it does not believe that rate increases alone will solve all of GPA's present and future financial dilemma, and that GPA and Navy must continue to explore options for reducing operating costs. In this regard the Department will be working with GPA and Navy in examining the possibility of using alternate sources of fuel which will ensure a reliable supply of energy at reasonable rates.

With regard to discussion on page 42 of compliance with the Clean Air Act, the Environmental Protection Agency stated that our report should either be limited to the problem of the relationship of the Navy to the Guam Power Authority or expanded to discuss the general financial condition of GPA with a comparable degree of thoroughness and analytical detail. In its opinion the report's discussion of the Clean Air Act requirements is incomplete.

The Department of the Interior, however, states that it has supported Guam's exemption from sections of the Clean Air Act because there is no public health benefit to be gained by its application since Guam's air quality exceeds the National Ambient Air Quality standards and for economic reasons. Interior states that it is working closely with EPA to resolve this issue.

Our discussion of the application of the Clean Air Act to the Island of Guam is intended only to present the issues involved and the possible financial impact on GPA. As we did not perform an in-depth analysis of the Act we have presented no opinion or recommendation regarding its applicability to the Island of Guam.

The Guam Power Authority believes we should reconsider our conclusion that the Agreement is an equitable arrangement. GPA believes the report lists enough concerns regarding operating costs, spinning and required reserves, asset values and asset lives to raise serious doubt about the equitability of the Agreement.

We recognize in the report that past inequities may have existed, but that the Agreement has been amended to maintain equity. Although differences of opinion exist between Navy and GPA, we believe the Agreement is basically equitable and should be allowed to function toward the objective of turning over operating control of the system to GPA.

APPENDIX I

July 28, 1981

Mr. Milton J. Socolar
Acting Comptroller General
General Accounting Office
441 G Street, N.W.
Washington, D. C. 20548

Dear Mr. Socolar:

I am writing to express my grave concern over the current problems which exist between the Guam Power Authority and the U.S. Navy. These two entities currently have a joint use agreement for power generation on the island of Guam. It is the contention of the Governor of Guam and many other officials on the island that the Guam Power Authority is facing serious economic difficulties due to the nature of the Joint Use Agreement and unless something is done soon, I have considerable concern about the future economic viability of the Guam Power Authority.

Several years ago, at my request, Congress authorized a $36 million loan guarantee for GPA to help pay off the agency's creditors. Since that time continued economic pressures, including the dramatic increase in the price of crude oil, has put GPA further and further behind in its ability to meet its commitments.

It is my understanding that the International Division of GAO is currently planning to send members of its Hawaii regional office to Guam later next month to review this situation. I also understand that the International Division has been consulting with the Office of Territorial and International Affairs in the Department of the Interior on this same matter. I applaud your interest in the GPA/Navy Joint Use Agreement and am very pleased to know that GAO will be giving the situation closer review.

As Chairman of the Subcommittee on Insular Affairs, however, I believe that the current crisis needs to be much more closely reviewed that is currently being planned by the International Division of GAO. The proposed survey would fall short of a full-scale review which I and my subcommittee colleagues would desire if this situation is ever to be totally resolved and the problems fully understood so corrective action can be implemented by the appropriate authorities including Congress if necessary.

APPENDIX I

Accordingly, I strongly urge that your office upgrade the status of the planned survey on Guam to that of a full-scale study and report back to my subcommittee your findings as soon as possible. The information contained in a complete review will be invaluable to my subcommittee which may have to study a number of options should the Guam Power Authority become unable to service its debt under the federal loan guarantee I mentioned earlier in this letter.

To ensure that the review be as comprehensive as possible, I suggest that it include such matters as the original transfer of power generating equipment to the Government of Guam by the U.S. Navy in 1950 under the provisions of the Guam Organic Act and the impact of the GPA/Navy Joint Use Agreement on the economic capabilities of Guam to meet its requirements to the people of the island whom I represent in the Congress.

I would appreciate hearing from you at the earliest opportunity and please feel free to have your staff contact either Roger Stillwell or George Eustaquio of my office for further details.

Sincerely yours,

ANTONIO B. WON PAT
Chairman
Subcommittee on Insular Affairs

APPENDIX II

GUAM'S ISLAND-WIDE POWER SYSTEM

DEPENDABLE/INSTALLED GENERATING CAPACITY

AS OF DECEMBER 1, 1981

Generating units	Number units	Dependable capacity (note a)	Installed capacity (note b)
		(megawatts)	
Navy			
Piti (steam)	4	67	67
Tanguisson No. 1 (steam)(note c)	1	26	26.5
Agana (diesel)	10	6	6
Orote (diesel)	10	6	6
Total		105	105.5
Guam Power Authority			
Cabras (steam)	2	132	132
Tanguisson No. 2 (steam)	1	26	26.5
Tamuning (diesel)	2	4	5
Dededo (diesel)	4	8	10
Cabras (diesel)	2	-	5
Total		170	178.5
Total Island-Wide Power System		275	284.0

a/Power output of generators based on a rating for a specified time interval and period.

b/Power output of generators based on manufacturers specifications at time of installation--nameplate rating.

c/Plant operated by Guam Power Authority.

APPENDIX III

DEPARTMENT OF DEFENSE STANDBY/EMERGENCY

POWER GENERATING UNITS ON GUAM

AS OF DECEMBER 9, 1981

Activity	Number of units (note a)	Total capacity (megawatts)
Naval Communications Station Barrigada	2	5
Naval Communications Station Finnegayan	3	6
Naval Regional Medical Center (Hospital)	1	1.25
Naval Air Station Agana	8	1.3
Nimitz Hill	1	.15
Ship Repair Facility Guam	1	.04
Finnegayan Naval Communications Station	3	.8
Barrigada Naval Communications Station	1	.15
Naval Supply Center Guam	1	.05
Naval Magazine Guam	4	.76
Naval Regional Medical Clinic Guam	1	.02
Naval Facility Guam	3	.47
Andersen Air Force Base	51	7.91
Total	80	23.90

a/Generating units are not included in the Island-Wide Power System. However, some units are connected to the system and can generate power for the entire system.

APPENDIX IV

OVERVIEW OF GUAM POWER AUTHORITY'S

FINANCIAL HISTORY

FOR FISCAL YEARS 1969 THROUGH 1981

Fiscal year ending June 30	Income (note a)	Expenses (note b)	Profit (loss)	Retained earnings	Equity
1969	(c)	(c)	$ 68,179	$ 68,179	d/$ 6,248,701
1970	(c)	(c)	(103,167)	(34,988)	d/ 6,336,324
1971	$ 7,674,789	$ 6,933,505	741,281	883,575	d/ 8,781,312
1972	10,278,749	10,052,211	226,538	1,110,113	9,007,849
1973	13,541,417	12,053,501	1,487,916	2,598,029	10,496,469
1974	17,369,624	15,659,210	1,710,414	4,308,443	12,496,883
1975	26,765,674	28,809,676	(2,044,002)	2,264,441	10,162,881
1976	25,700,610	25,014,864	e/685,746	2,950,187	10,848,627
1977	22,488,029	23,619,200	(1,131,171)	1,819,016	9,717,456
1978	26,311,609	28,123,708	(1,812,099)	6,917	7,905,357
1979	28,892,247	32,038,359	(3,146,112)	(3,139,195)	4,759,245
1980	40,218,106	36,979,378	f/3,238,728	99,533	7,997,973
1981	49,897,652	52,488,386	(2,590,734)	(2,491,201)	5,407,239

a/Includes interest income.

b/Totals adjusted to reflect elimination of accrued in-lieu tax and allowance for funds used during construction.

c/Information not available.

d/Includes GOVGUAM contributions in that year.

e/$1,800,000 of the profit is a result of a Federal grant. Without the Federal grant this would have been a $1.1 million loss.

f/$2,018,141 of the profit is a result of an accounting change.

APPENDIX V

Peat, Marwick, Mitchell & Co.

Certified Public Accountants

Guam International Trade Center
P.O. Box P
Agana, Guam, M.I. 96910

The Board of Directors
Guam Power Authority:

We have examined the balance sheets of Guam Power Authority (GPA) as of June 30, 1981 and 1980 and the related statements of operations and retained earnings (deficit) and changes in financial position for the years then ended. Our examinations were made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

As explained in note 6 to the financial statements, certain portions of the monthly power pool settlements have not been resolved which results in a $770,000 receivable in 1981 and 1980 that is contested by the Navy. The final resolution of this matter cannot presently be determined.

The accompanying financial statements have been prepared in conformity with generally accepted accounting principles which contemplate continuation of GPA as a going concern; however, GPA sustained an operating loss during fiscal year 1981. In addition, the $36,000,000 loan from the Federal Financing Bank (see note 4) is due in fiscal year 1982. Continuation as a going concern is dependent upon future profitable operations and/or extending the Federal loan. We do not express an opinion as to GPA's ability to sustain profitable operations or refinance existing debt.

In our opinion, subject to the possible effects of the matters discussed in the second and third paragraphs, the aforementioned financial statements present fairly the financial position of Guam Power Authority at June 30, 1981 and 1980 and the results of its operations and the changes in its financial position for the years then ended, in conformity with generally accepted accounting principles applied on a consistent basis.

Peat, Marwick, Mitchell & Co.

August 28, 1981
Source: Guam Power Authority

APPENDIX V

GUAM POWER AUTHORITY

Statements of Operations and Retained Earnings (Deficit)

Years ended June 30, 1981 and 1980

	1981	1980
Revenues:		
Sales of electricity	$ 48,493,293	39,074,235
Property rental	330,000	330,000
Miscellaneous	462,924	137,911
	49,286,217	39,542,146
Operating and maintenance expenses:		
Production fuel	53,962,228	36,009,680
Other production	5,002,415	4,613,374
	58,964,643	40,623,054
Transmission and distribution	4,197,523	2,873,384
Customers' accounting	1,436,511	1,550,958
Administrative and general	2,995,010	3,072,493
Depreciation	2,630,331	2,554,438
Less costs recovered from power pool (note 6)	(23,658,389)	(16,569,870)
	46,565,629	34,104,457
Operating income	2,720,588	5,437,689
Other deductions (income):		
Interest expense	6,414,629	5,364,057
Allowance for funds used during construction	(491,872)	-
Interest income	(611,435)	(675,960)
Elimination of accrual of in-lieu tax (note 5)	-	(470,995)
	5,311,322	4,217,102
Net income (loss) before cumulative effect of a change in accounting principle	(2,590,734)	1,220,587
Cumulative effect on prior years (to June 30, 1979) of changing to the deferral method of recognizing fuel costs (note 8)	-	2,018,141
Net income (loss)	(2,590,734)	3,238,728
Retained earnings (deficit), beginning of year	99,533	(3,139,195)
Retained earnings (deficit), end of year	$ (2,491,201)	99,533

See accompanying notes to financial statements.

APPENDIX V

GUAM POWER AUTHORITY

Assets	1981	1980
Utility plant, at cost:		
Electric plant in service	$ 83,406,986	82,118,433
Intangible	4,177,479	4,177,479
Construction work in progress	8,922,682	5,496,475
	96,507,147	91,792,387
Less accumulated depreciation	20,463,226	17,997,941
	76,043,921	73,794,446
Bond reserve funds (trustee)	2,895,653	2,887,475
Deferred fuel cost (note 8)	1,033,616	2,161,197
Current assets:		
Cash funds:		
Revenue	215,018	984,068
Maintenance and operation	197,679	808,915
General	374,996	1,128,608
Interest and principal (trustee)	1,461,148	1,407,134
Escrow - fuel oil contract	-	500,000
	2,248,841	4,828,725
Accounts receivable (note 3)	6,322,402	5,612,143
Materials and supplies	1,256,782	679,016
Fuel oil	1,037,116	1,122,603
Power pool settlement due from U. S. Navy (note 6)	830,804	1,946,208
Prepaid expenses	312,276	210,090
Total current assets	12,008,221	14,398,785
Other assets	49,362	118,230
	$ 92,030,773	93,360,133

See accompanying notes to financial statements.

APPENDIX V

Balance Sheet - June 30, 1981 and 1980

Liabilities	1981	1980
Capitalization:		
Equity:		
Grant by Government of Guam (note 2)	$ 7,898,440	7,898,440
Retained earnings (deficit)	(2,491,201)	99,533
Total equity	5,407,239	7,997,973
Long-term debt, less current maturities (note 4)	37,873,000	33,060,000
Total capitalization	43,280,239	41,057,973
Current liabilities:		
Current maturities of long-term debt (note 4)	37,203,000	36,465,000
Accounts payable:		
Fuel oil	3,299,097	8,250,679
Construction	179,032	1,461,438
Operations	895,354	511,251
Accrued payroll and employee benefits (note 7)	3,006,467	2,142,327
Interest payable	1,435,647	1,263,382
Customers' deposits	725,630	676,636
Total current liabilities	46,744,227	50,770,713
Retirement Fund deferred contributions (note 7)	2,006,307	1,531,447
	$ 92,030,773	93,360,133

APPENDIX V

GUAM POWER AUTHORITY

Statements of Changes in Financial Position

Years ended June 30, 1981 and 1980

	1981	1980
Funds provided:		
Operations:		
Net income (loss) before cumulative effect of accounting change	$ (2,590,734)	1,220,587
Cumulative effect of changing to the deferral method of recognizing fuel costs (note 8)	-	2,018,141
Net income (loss)	(2,590,734)	3,238,728
Add charges to operations which do not use working capital:		
Depreciation	2,630,331	2,554,438
Amortization	(34,553)	16,821
Retirement Fund deferred contributions	474,860	568,876
Funds provided from operations	479,904	6,378,863
Other sources (uses) of funds:		
Decrease (increase) in working capital (note 10)	(1,635,922)	37,999,304
Payments and current maturities of long-term debt	(1,413,000)	(36,585,000)
Decrease (increase) in deferred fuel costs	1,127,581	(2,161,197)
Decrease in other assets	103,421	46,754
(Increase) in bond funds	(8,178)	(8,223)
Proceeds from long-term borrowing	6,226,000	-
Total funds used for construction expenditures	$ 4,879,806	5,670,501
Construction expenditures:		
Balance, end of year	96,507,147	91,792,387
Balance, beginning of year	91,792,387	86,270,186
	4,714,760	5,522,201
Add back (less) credits (debits) on disposals:		
Depreciation	158,985	115,215
Cost of removal	23,893	33,085
Sale proceeds	(17,832)	-
	$ 4,879,806	5,670,501

See accompanying notes to financial statements.

APPENDIX V

GUAM POWER AUTHORITY

Notes to Financial Statements

June 30, 1981 and 1980

(1) Summary of Significant Accounting Policies

General

The Guam Power Authority (GPA) has adopted the Uniform System of Accounts prescribed by the Federal Energy Regulatory Commission (FERC).

Utility Plant

Utility plant is stated at cost, which as to certain plant transferred from the power division of Public Utility Agency of Guam in 1969, is based on estimated cost as determined by an independent appraiser. Cost includes $4,177,479 for GPA's share of the cost of a plant owned by the United States Navy which is operated by the Navy for the islandwide power system described in note 6. Cost also includes an allowance on certain projects for funds used during construction based on the net cost of borrowed funds used for construction purposes. The cost of utility plant retired or otherwise disposed of, plus removal costs and less salvage, is charged to accumulated depreciation. Contributions in aid of construction are deducted from the cost of the utility plant.

Depreciation is computed using the straight-line method over the estimated useful lives of the assets. Depreciation expense for 1981 and 1980 was approximately 3.1% of the average cost of depreciable properties. Such depreciation includes amortization over 30 years to 1995 of GPA's share of cost of the Navy plant.

Annual Leave and Sick Leave

Accrued annual leave and sick leave is paid to employees upon termination of their employment. Accordingly, the GPA accrues these benefits in the period earned.

Bond Premium and Expenses

Bond premium and expenses are being amortized under the straight-line method over the terms of the issues to which they pertain.

Reclassification of Prior Year Data

Certain reclassifications have been made to the 1980 financial statement amounts for comparative purposes.

(2) Grant by Government of Guam

The grant by the Government of Guam represents the assets and liabilities of the power division of the Public Utility Agency of Guam which were transferred to GPA when it commenced operations on April 1, 1969.

APPENDIX V

GUAM POWER AUTHORITY

Notes to Financial Statements, Continued

(3) Accounts Receivable

Accounts receivable at June 30, 1981 and 1980 are summarized as follows:

	1981	1980
Customers billed-private	$ 3,668,428	3,047,160
Customers billed-government	2,459,142	1,642,828
Accrued, unbilled	1,275,666	1,055,780
	7,403,236	5,745,768
Others	497,764	1,227,088
Less allowance for doubtful accounts	(1,578,598)	(1,360,713)
	$ 6,322,402	5,612,143

(4) Long-Term Debt

Long-term debt at June 30, 1981 and 1980 is summarized as follows:

	1981	1980
Bonds:		
1969 Series A, 6.90%, due $50,000 on July 1, 1981 and in increasing amounts thereafter to $110,000 in 1994	$ 1,060,000	1,105,000
1969 Series B, 7%, due $155,000 on July 1, 1981 and in increasing amounts thereafter to $400,000 in 1995	3,910,000	4,055,000
1969 Series C, 6.50%, due $135,000 on July 1, 1981 and in increasing amounts thereafter to $365,000 in 1996	3,710,000	3,835,000
1972 Series A, 6.10%, due July 1, 2007, sinking fund payments due $200,000 on July 1, 1981 and in increasing amounts thereafter to $2,025,000 in 2007	24,205,000	24,530,000
Total bonds	32,885,000	33,525,000
Notes Payable:		
Guam Oil and Refining Company, Inc., noninterest-bearing, due in 56 monthly installments of $110,553 commencing January 1, 1982	6,191,000	-
United States of America, Federal Financing Bank, 13.935%, due December 31, 1981	36,000,000	36,000,000
	75,076,000	69,525,000
Less current installments	37,203,000	36,465,000
	$ 37,873,000	33,060,000

APPENDIX V

GUAM POWER AUTHORITY

Notes to Financial Statements, Continued

Principal and interest on the note payable to the Federal Financing Bank are payable solely from funds derived from revenues obtained from GPA's system or from the proceeds of sale of the first additional revenue bonds or promissory notes issued by the Board of Directors of GPA. GPA is not obligated to pay the same except from said funds. This note is a special obligation of GPA, secured as aforesaid, and is issued subject to and subordinate to all outstanding revenue bonds heretofore issued by GPA. The note matures December 31, 1981 and may be extended by the Secretary of the Interior to December 31, 1990 with the concurrence of the Secretary of the Treasury as authorized by Congress in Public Law 97-205.

All gross revenues of GPA have been pledged to repay the bond principal and interest. Bonds of 1969 Series A, B and C maturing by their terms on or before July 1, 1981 are not redeemable prior to such dates. Bonds of 1969 series maturing subsequent to July 1, 1981 are redeemable prior to their maturity dates under certain conditions and with certain premiums. The bonds of 1972 Series A are redeemable prior to their maturity date, at the option of GPA on any date, as a whole or in part by lot under certain conditions and with certain premiums.

At June 30, 1981 GPA owed Guam Oil and Refining Co., Inc. $9,487,392. The parties have agreed to repayment terms formalized subsequent to June 30, 1981 composed of the following: cash payments, $2,119,596; short-term promissory note, interest at 22.25%, payable from the proceeds of GPA's receivable from Public Utility Agency of Guam, $1,176,796; and long-term promissory note, $6,191,000.

(5) In-Lieu Tax

On August 11, 1981 the Legislature in PL 16-25 repealed Government of Guam Code Section 21509(b) which required GPA to pay a 4% in-lieu tax on applicable sales of electricity. The Government of Guam has forgiven the 4% in-lieu tax for the years ended June 30, 1981 and 1980. The forgiveness of taxes in the year ended June 30, 1980 included the tax accrued for the calendar year 1979 and the first six months of 1980, resulting in a net credit of $470,955.

(6) Agreements with United States Navy

The islandwide power system for Guam consists (with minor exceptions) of production and transmission facilities owned or operated by the Navy and GPA. Since October 1972, costs of operating and maintaining the islandwide power system together with a return on the parties' investments therein are shared, based on power delivered to the parties as provided in a "Power Pool Agreement."

An amendment in 1979 to the agreement provides for continued sharing of operating and maintenance costs and a return to the Navy on Navy's investment in pool assets, and provides for a modified method for a settlement to GPA commensurate with GPA's debt service coverage obtained for its customers, but regardless of other conditions Navy has agreed to a minimum level of coverage applicable to its share of GPA's assets used in the pool.

APPENDIX V

GUAM POWER AUTHORITY

Notes to Financial Statements, Continued

In March 1981 the Joint Coordinating Committee identified a dispute between Navy and GPA. The Navy contests GPA's method of accounting for fuel oil costs, asserting that GPA has no right to report earnings which Navy feels would result in higher debt service payment under the terms of the Power Pool Agreement.

The Navy has not paid approximately $770,000 which GPA contends is due them in accordance with the debt service section of the Power Pool Agreement. The resultant dispute has been forwarded to the Chairman of the Board of Directors of the Guam Power Authority and the Commanding Officer, Navy Public Works Center, Guam, for resolution. If it remains unresolved, it will be referred to FERC for review and decision; the ultimate step in resolving a dispute is selecting an arbitrator. There is no way to foretell the outcome of the dispute at this time.

(7) Employees' Retirement Plan

Substantially all employees are members of the Government of Guam Employees' Retirement System, a defined benefit, contributory pension plan. The Plan is administered by the Government of Guam Retirement Fund to which GPA contributes based upon a fixed percentage of the payroll for those employees who are members of the Plan.

As a result of the most recent actuarial valuation, performed as of September 30, 1979, it has been determined that, for the years ended June 30, 1981 and 1980, an employer contribution rate of 17.73% plus employee contributions at the statutory rate of 6.5% of covered payroll is required to appropriately fund the current cost and amortize the prior service cost over periods of 14 and 40 years, respectively. GPA has accrued contributions of 7.626% of covered payroll to provide for the difference between the valuation rate of 17.73% and the employer's statutory contribution rate of 10.104%.

Subsequent to the most recent survey date, amendments to the Retirement Fund have extended certain retirement system benefits. The effect of these amendments on required contributions and unfunded prior service costs has not been determined by actuarial survey nor reflected in the 1981 or 1980 accrual figure.

The cost to GPA for retirement contributions for the years ended June 30, 1981 and 1980 was approximately $1,240,000 and $1,170,000, respectively. The amounts include cash contributions at statutory rate and accruals of $474,860 and $568,876, respectively, for current and prior period costs in excess of statutory contribution rates.

The most recent actuarial valuation performed as of September 30, 1979 did not provide a breakdown of actuarial present value of vested and nonvested accumulated plan benefits, net assets available for benefits and assumed rates of return for determining the actuarial present values of vested and nonvested accumulated benefits.

APPENDIX V

GUAM POWER AUTHORITY

Notes to Financial Statements, Continued

(8) Accounting Change

Prior to July 1, 1979 GPA recorded the cost of fuel used for generation in the month burned. That part of fuel cost in excess of fuel costs contained in GPA's rate schedule was billed to customers in subsequent months under the fuel adjustment clauses.

Effective July 1, 1979 GPA adopted the accounting policy of deferring fuel costs in excess of base rate costs contained in rate schedules until the billing recovery of such excess costs to its customers. Deferral of the excess fuel costs for accounting purposes was adopted due to the sharp and significant increases in the cost of fuel. This policy obtains a better matching of costs and revenues.

This accounting change resulted in a decrease in fuel costs for 1980 of $143,056, and $2,018,141 representing the cumulative effect of the change prior to July 1, 1979.

Effective April 1, 1980 the Authority was authorized to revise its fuel billing procedure to bill increased fuel costs in the month of increase which will also be the month burned. Unrecovered fuel costs at the time of the revision are being amortized over a 24-month period.

(9) Contingencies

The Federal Environmental Protection Agency (EPA) has directed GPA to bring its Cabras Island Steam Power Plant into full compliance with the New Source Performance Standards (NSPS) promulgated under Section 111 of the Clean Air Act and subsequent 1977 amendments. EPA issued its Delayed Compliance Order (DCO) on May 15, 1981. The DCO will enable GPA to test innovative technology in a seawater scrubber designed to reduce sulphur dioxide emissions to compliance levels until August 15, 1982, by which date GPA will have resolved what mode of compliance it will adopt to meet NSPS.

APPENDIX V

GUAM POWER AUTHORITY

Notes to Financial Statements, Continued

(10) Changes in Working Capital

The increase (decrease) in working capital for the years ended June 30, 1981 and 1980 as affected by the changes in the individual components is detailed as follows:

	1981	1980
Cash and cash items	$ (2,579,884)	(457,100)
Accounts receivable	710,259	2,567,426
Inventories	492,279	481,955
Power pool sett ement	(1,115,404)	1,926,392
Prepaid expenses	102,186	(123,174)
Other current maturities of long-term debt	(738,000)	(36,075,000)
Accounts payable:		
Fuel oil	4,951,582	(4,886,504)
Construction	1,282,406	(1,311,585)
Operations	(384,103)	(34,959)
Accrued payroll and employee benefits	(864,140)	(1,268,148)
Interest payable	(172,265)	(183,579)
Accrued power barge overhaul costs	-	946,240
Accrued in-lieu tax	-	470,995
Customers' deposits	(48,994)	(52,263)
	$ 1,635,922	(37,999,304)

United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

May 7, 1982

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

Dear Mr. Eschwege:

Secretary Watt has asked me to respond to your letter of April 8, 1982. We have reviewed the proposed report entitled, "Navy's Transfer of the Island-Wide Power System to the Guam Power Authority Has Been Delayed." We offer the following comments on the report.

Foremost, we are in complete agreement with the report's conclusion that Navy and the Guam Power Authority (GPA) should work as rapidly as possible to accomplish the objectives of the agreement, which are to transfer the operational control of the island-wide power system to GPA and for Navy to become a customer.

The Department agrees that there has been an insufficient number of rate increases. We believe GPA needs to be more timely in seeking rate increases in order to keep in line with the high costs of power production and making necessary system improvements. We feel this has been a contributing factor to GPA's precarious financial condition. However, we do not believe that rate increases alone will solve all of GPA's present and future financial dilemmas. Moreover, GPA and Navy must continue to explore options for reducing operating costs. In this regard, the Department will be working with GPA and Navy in examining the possibility of using alternate sources of fuel which would ensure a reliable supply of energy at reasonable rates. As stated in the report, we realize that additional funds are required if GPA is to continue as a viable power utility.

Regarding the application of the Clean Air Act to Guam, the Department has supported Guam's exemption from Sections 111 and 123 of the act because there is no public health benefit to be gained by its application since Guam's air quality exceeds the National Ambient Air Quality standards and for economic reasons. We are working closely with the Environmental Protection Agency on resolving this issue.

We feel that more information is required regarding the assignment of service lives to the YFP-14 power barge and the Orote and Agana power plants and the valuation of the YFP-14 power barge. We agree with the report's conclusion that continual assessment should be made of the military reserve requirement. Adjustments to the power pool agreement should be made accordingly or the Navy should bear the extra costs.

In summary, we believe that GPA and Navy must continue to work together in resolving the current financial problems. Both parties have a vested interest in the establishment of a viable power utility for the island of Guam. During the period of transition from the power pool arrangement to a single utility, the power pool agreement must be continuously reviewed and adjusted to reflect changes in GPA's and Navy's operations. Eventual establishment of a single utility should have immediate cost savings through the elimination of the duplicate management and administrative functions being performed by Navy and GPA.

Thank you for the opportunity to comment.

Sincerely yours,

Pedro A. Sanjuan
Assistant Secretary
Territorial and International Affairs

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

MAY 7 1982

OFFICE OF
POLICY AND RESOURCE MANAGEMENT

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

Dear Mr. Eschwege:

The Environmental Protection Agency (EPA) has reviewed the General Accounting Office (GAO) draft report, "Navy's Transfer of the Island-wide Power System to the Guam Power Authority Has Been Delayed" (ID-82-28). As required by Public Law 96-233, EPA submits these comments for review and consideration while the final report is prepared.

As a preliminary matter, it seems that the final report should either be limited to the problem of the relationship of the Navy to the Guam Power Authority (GPA) or expanded to discuss the general financial condition of GPA with a comparable degree of thoroughness and analytical detail. As it now stands, the report's discussion of the Clean Air Act requirements in the latter connection is incomplete. At a minimum, we feel the report should be revised to reflect the following points.

On page 64, lines 5 and 6, the following sentence appears: "On August 15, 1982, the order expires and GPA must decide how they will comply with the Act."

The current delayed compliance order for GPA will expire by February 15, 1985 (depending upon the control option chosen). However, by August 15, 1982, according to the current order, GPA must decide on the type of technology or fuel it will use so that GPA complies with the Clean Air Act's continuous emission control provision. This decision will require GPA to make financial obligations for one or more contracts necessary to provide for essential technology or fuel.

GPA will make the necessary decisions on a compliance method by August 15, 1982, in the absence of interim relief, which either modifies the consent decree or alters current Clean Air Act requirements affecting GPA.

We suggest the report be changed to reflect the current situation. Perhaps the following language would be useful as substitute language:

"While the delayed compliance order expires on February 15, 1985, at the latest (depending upon the alternative control solution chosen), GPA is required under the order to decide by August 15, 1982, whether it will (1) install seawater scrubbers, (2) install conventional scrubbers or (3) switch to low sulfur oil as the means of complying with the Clean Air Act continuous emission control requirement. The requirement of such a control election, unless it is modified or altered, would require GPA to enter into contracts for needed technology or procurement of more expensive fuels, and thus incur substantial financial obligations."

On page 64, second paragraph, it should be noted that the interim strategy of using intermittent controls does not meet air quality standards; violations of the interim strategy constitute a violation of the delayed compliance order.

On page 65, lines 2 and 3, the following sentence appears: "If this bill does not pass, GPA will have to select one of three alternatives to comply with the Act."

Again, this sentence should be modified to acknowledge that interim administrative or judicial relief could be granted. Furthermore, the sentence should acknowledge the possibility of similar or alternate legislation (other than H.R. 3658) being introduced.

Therefore, we suggest this sentence be modified to read as follows:

"If this bill or similar legislation does not pass, and unless other action is taken to modify or alter current requirements facing GPA, GPA will have to select one of three alternatives to comply with the Act."

We appreciate the opportunity to comment on this draft report prior to its publication. We hope you find these comments useful in clarifying the report.

Sincerely yours,

Joseph A. Cannon
Acting Associate Administrator
for Policy and Resource Management

(467301)

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