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OFFICE OF THE ASSISTANT DIRECTOR/CONTROLLER

UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT (USAID) KOREA

REPORT OF AUDIT

AID LOAN NO. 489-H-033

TO THE GOVERNMENT OF THE REPUBLIC OF KOREA

KOREA ELECTRIC COMPANY

FOR SEOUL THERMAL POWER PLANT

For the Period from February 5, 1966 to February 28, 1969

489-26-220-641

REPORT NO. 69-25

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SCOPE OF AUDIT

We have performed an interim audit of AID Loan No. 489-H-033 to the Government of the Republic of Korea (ROKG) and the Korea Electric Company (KECO). The purpose of the loan was to provide financing of the U.S. dollar cost of services, including engineering services, and commodities related to the construction of a 137.5 megawatt (MW) thermal power plant. Our examination covered the period from the date of the loan, February 5, 1966, through February 28, 1969.

The purpose of this audit was to (1) determine compliance with applicable laws and AID regulations, the Loan Agreement and related documents; (2) review procurement and arrival accounting procedures and utilization of commodities; and (3) identify and report on any procedures that may affect or have adversely affected the timely implementation and completion of the project.

Our examination was performed in accordance with the audit guidelines established in AID Manual Order 794.1, Audit of Capital Assistance, and included such other auditing procedures and tests of the accounting records as we considered necessary.

This report is limited to a discussion of only those areas we found to be deficient or possible problem areas. It does not include narrative on the various provisions of the Loan Agreement and related documents that were satisfactorily complied with or the detailed audit procedures related thereto.

BACKGROUND

The Seoul Thermal Power Plant was the first power project undertaken by KECO following the formulation by KECO and the J.B. Thomas Power Survey Team (PST) of long-range plans for the development of Korea's power system, commonly known as Plan 4BR. The PST Report, completed in October, 1965, recommended the construction of a 125 megawatt (MW) thermal generating unit to be completed in late 1968. This recommendation coincided with and supported the feasibility report prepared by Gilbert Associates, Inc. (GAI) submitted to KECO in August, 1965. The GAI report recommended the construction of a 125MW plant (capacity subsequently changed to a guaranteed continuous output of 137.5MW. See page 6) to be located at Dukso, an area approximately 20 kilometers east of Seoul (site area subsequently changed to Tangin-ri, an area on the western outskirts of Seoul. See page 5). This project was assigned a high priority both by ROKG and the USAID on the basis that there would be an estimated deficiency of generating capacity in the Seoul area of approximately 100MW by the end of 1968. The original cost of this project was estimated at $29.7 million of which $7.6 million in won equivalent was to be furnished by KECO and the ROKG to cover local commodity procurement and construction expenses.

The loan agreement, signed on February 5, 1966, provided for AID to loan the ROKG $22.5 million. The ROKG, in turn, was to loan the entire amount to KECO, the beneficiary. The loan agreement provided for the ROKG to repay the principal to AID in 61 equal installments; the first installment to be due and payable 9½ years after the first interest payment is due, or May 19, 1977. Interest on unpaid principal, or any unpaid interest, accrues at the rate of 1% per annum for 10 years after the first disbursement, and at the rate of 2½% per annum thereafter.

The sub-loan agreement between ROKG and KECO was entered into on July 29, 1966 embodying the terms and conditions set forth in the original loan agreement. The latter agreement provides for KECO to repay the principal to the ROKG in local currency in 32 equal installments within 20 years from the date of the first disbursement including a four year grace period. Interest accrues at the rate of 5 3/4% per annum and is payable semi-annually, with the first payment due and payable six months after the first disbursement.

The present corporate structure of KECO was created on July 1, 1961, by the merger of three utility corporations then in existence in Korea. The purpose of this merger was to expedite the development of electric power and to improve the effectiveness of management, by consolidation, of the electrical power utilities in the country. Control of KECO is vested in the ROKG through the ownership of approximately 52% of the outstanding shares of stock. The remaining outstanding shares are held by corporate entities and individuals.

KECO's physical facilities include a main office located in Seoul, 22 power plant sites, and fifteen branch offices throughout Korea. An employees' training center, hospital, and electric laboratory are located in Seoul.

KECO is the sole supplier of electrical power to Korea. As of February 28, 1969 the total generating capacity of KECO was approximately 1,629MW. KECO currently has a staff of approximately 12,000 employees and provides electrical service to approximately 1.6 million customers.

Since 1954, U.S. dollar assistance directed toward the expansion of power generation and distribution in Korea has amounted to $157.0 million of which $93.2 million was in the form of development loan assistance and $63.8 million was grant assistance. In addition, counterpart funds released to KECO since 1954 totaled Won 2.5 billion in grants (dollar equivalent of $8.9 million) and Won 8.1 billion (dollar equivalent of $28.8 million) in loans repayable to the Korea Reconstruction Bank (KRB).

USAID responsibilities for administering the loan and for the project supervision are borne by the Assistant Director/Development Loans (AD/DL) and the Industry-Engineering Division (IED) within their respective fields of competence. The responsibilities of the ROKG have been assigned to the Economic Planning Board (EPB) and the Ministry of Commerce and Industry (MCI). KECO is responsible to MCI.

SUMMARY OF FINDINGS

As of February 28, 1969, the monthly progress report submitted by KECO, estimated that the total foreign exchange cost of this project to be $21.3 million. As the Loan was authorized in the amount of $22.5 million, approximately $1.2 million is available for deobligation (See Recommendation No. 1, page 5).

Our examination indicated that this project, almost from inception, has been hampered by a series of delays which have resulted in the project completion date being extended from December, 1968 to mid-July, 1970, with an additional possible extension of six months due to delay in procurement of routine procurement items. These extensions have chiefly resulted from 1) delay in site selection; 2) change in plant capacity; 3) delay in awarding the prime construction contract; 4) lack of adequate storage area at project site; and 5) the apparent unsatisfactory performance of the consulting engineer.

Our examination indicated that of the total value of commodity arrivals as of February 28, 1969, approximately $6,050,000, or 71% of the total arrivals, had remained in customs area for an average of 190 days. Storage charges on these commodities resulted in an additional won cost to KECO of the dollar equivalent of approximately $53,000. The delay in the release from customs area was primarily due to using the customs area as a storage area while awaiting the award of the construction contract and the subsequent mobilization of the contractor. Included in the amount of $6,050,000 were seven separate shipments with a total value of $245,000 that arrived at the port of Inchon in April May and June, 1968 but were being held in customs pending receipt of complete shipping documents. Our visit to the port area and the project site in early, April, 1969, revealed that all the above commodities had been released from customs and received at the site area. Commodities that arrived subsequent to December 31, 1968, were being cleared through customs in a timely manner.

Although all commodities financed under this loan were shipped, CIF, Inchon, KECO's arrival procedures did not provide for a complete and thorough inspection until the commodities arrived at the off-site storage area. Therefore, as inspection was delayed on many commodities for six months or more after arrival at port, long after the marine insurance had expired, claims for items damaged while in transit could not be made even though the insurance was financed under the loan (See Recommendation No. 2, page 13).

KECO has not complied with certain covenants and warranties provided in the Loan Agreement. We found that KECO had not adjusted its electrical rates as of June 30, 1968, as required by Section 6.1(b) of the Loan Agreement. The ROKG equity position of 68% of the total outstanding stock as of the date of the Loan Agreement had decreased to 52% of the total outstanding stock as of December 31, 1968. Such a decrease of ROKG equity was contrary to the provisions of Section 6.1(c), which provided that the ROKG was to maintain the same equity position in KECO that it had at the date of the Loan Agreement, namely 68% of the total outstanding stock. Additionally, a ten-year plan prepared in February, 1969 reflected that KECO would only be able to provide approximately 17% of the required investment capital as compared to the 40% required by Section 6.1(c) (See Recommendation No. 3, page 15).

During our examination, we noted that USAID files did not contain adequate documentation as to the justification for allowing a certain overhead rate that became an integral part of the lump-sum contract award to the consulting engineer. This apparently occurred due to a lack of a formalized Mission policy at the time the contract was awarded, establishing the area of responsibility of the Mission Controller in reviewing the financial aspects of Mission approved contracts (See Recommendation No. 4, page 16).

Our review indicated that KECO's unaudited financial statements as of December 31, 1968, did not reflect an accrual for corporate income taxes in the amount of Won 1,550 million (equivalent of $5.5 million) and did not provide for the estimated retirement fund liability of Won 6,545 million (equivalent of $23.4 million).

Other than the exceptions and deficiencies discussed above, our examination indicated that the performance of ROKG, as the Borrower, and KECO, as the Beneficiary, was satisfactory in all material respects and in accordance with applicable AID regulations.

FINDINGS AND RECOMMENDATIONS

EXCESS LOAN FUNDS

As shown in Exhibit I, as of February 28, 1969, the total amount of Letters of Commitment authorized was $19,397,534 and disbursements totaled $9,410,738. In their progress report as of February 28, 1969, KECO reported the estimated dollar cost for this project to be $21.3 million which indicates that the authorized loan amount of $22.5 million may not be needed to complete this project. IED officials stated that they preferred that deobligations be deferred until completion of procurement of all U.S. materials.

RECOMMENDATION NO. 1

> AD/DL should review the estimated total dollar cost of this project and initiate appropriate deobligation action for amounts not needed to complete the project.

DELAY IN TIMELY PROJECT IMPLEMENTATION

Due to the acute electrical power shortage existing in Korea at the time Seoul Thermal Power project was approved, and due to the then estimated generating capacity deficiency that would exist at the end of 1968, both the USAID and ROKG assigned a high priority to this project in order to meet the target completion date of the end of CY 1968. Despite this project being considered as priority, it has been hampered, almost since its inception, by a series of delays that have resulted in the final completion date being extended to July, 1970, some 18 months later than the target date envisioned in the Capital Assistance Paper. As of the date of this report, it is conceivable that the final completion date may be extended an additional six months to January, 1971, due to the consulting engineer, GAI, allowing routine procurement items to become critical to project completion. KECO's monthly progress report, as of February 28, 1969, indicated that this project was 46% complete. Our examination indicated that the various delays were chiefly attributable to the enumerated points discussed, in detail, below.

1. Site Selection - In the Feasibility Study prepared by GAI in August 1965, two sites were considered as desirable locations for a 125MW plant. One was at Tangin-ri, the site of existing power facilities on the western outskirts of Seoul, and the second proposal was at Dukso, an area on which power plants had not previously been constructed, twenty kilometers east of Seoul. The Feasibility Report recommended the Dukso site based on a slight cost savings and lower transportation costs for fuel. However, because of the desirability of both sites and because USAID felt that the cost data for both sites had not been developed in sufficient depth, the Loan Agreement was signed with a Condition Precedent that prior to issuance of a letter of commitment that a project site would be selected.

Based upon USAID's request for a more refined cost analysis and due to extensive flooding of the Dukso site in July, 1965, coupled with the fact that Dukso become partially occupied by an industrial firm, GAI performed a re-evaluation of their original proposal and issued an "Addendum to Feasibility Study." This "Addendum" recommended Tangin-ri as the more favorable location based on a dollar-cost savings under the loan of approximately $912,000.

The proposal to consider Tangin-ri as the project site was submitted to USAID for approval on April 2, 1966, and after KECO's submission of evidence of site availability on April 27, 1966, approval was granted on May 13, 1966, three months after the signing of the loan agreement.

2. Change in Plant Capacity Resulting in Delay in Awarding Steam and Turbine Generator Contracts - The Loan Agreement and the related supporting documents as well as the Feasibility Report and the initial Project Design Report all provided for a thermal power plant with a guaranteed generating capacity of 125MW. It was not until May, 1966, some three months after the loan agreement was signed, that USAID received, a copy of a letter GAI had written to KECO regarding specifications for the steam and turbine generators, that USAID become aware that a change in plant capacity from a continuous guaranteed output of 125MW to 137.5MW was contemplated. The USAID subsequently determined that the decision to increase the plant capacity had been made by KECO as early as February, 1966, and KECO had made known this intent to GAI, although neither GAI nor KECO requested USAID approval of the proposed change.

Due to the acute power shortage existing in Korea, KECO, with USAID concurrence, authorized GAI to prepare IFB documents to provide for alternate bids: one for 125MW, the other for 137.5MW. The IFB's were issued and were scheduled to be opened on July 15, 1966. The additional foreign exchange requirements due to the increase in the size of the unit was estimated to be approximately $1.1 million.

As AID/W had not authorized the increase in the plant capacity at the time scheduled for the bid openings, AID/W advised USAID to inform KECO and GAI to delay bid openings until AID/W was assured that the amendment to the Loan Authorization would be approved. AID/W approval was somewhat delayed due to the thorough review required in AID/W in order that they could be assured that KECO, with USAID concurrence, was not simply trying to take full advantage of available loan funds resulting from the savings attributable to the change of site.

AID/W approved the increase in plant capacity on September 12, 1966, and authorized the opening of the bid documents on this same date. Although the bid documents for both the steam and turbine generators were opened in September, 1966, the contract awards were not approved until January and February 1967, due to length of time involved in bid evaluation as a result of KECO and GAI failure to reach agreement with USAID as to what constituted a non-responsive reply. The contract for the steam generator was awarded to the Foster-Wheeler Corporation and the turbine generator to the International General Electric Company on February 27, 1967, some eight months later than the original engineering plan estimated.

3. <u>Delay in Awarding the Prime Construction Contract</u> - It was originally planned that the mobilization of the construction contractor would be required to be completed in the fall of 1967 if a project completion date, as originally planned by GAI, of March-April, 1969 was to be achieved. The actual mobilization of the construction contractor, Dillingham Overseas Corp. (DILCO) was not completed until September, 1968. The primary reason for this lengthy delay was the time required by GAI and their apparent inability to prepare adequate specifications and bid request (See page 9). Another factor which contributed to the delay of construction contract award was the omission of certain cost factors by DILCO which were not discovered by DILCO until subsequent to the bid openings. This error of omission resulted in DILCO's original bid being increased by $432,000.

The bids were opened on February 14, 1968, and of the seven submissions, DILCO was found to be the most favorable. In fact, DILCO's offer was so much lower than the next offer (37% lower or 40% lower than GAI's estimate) that a meeting was held in AID/W with GAI personnel to determine if DILCO's low bid was prompted by any short-coming in the IFB. However, neither AID/W nor GAI were able to find any errors in DILCO's proposal. AID/W recommended, that KECO should obtain a confirmation of the bid from DILCO, and the USAID acted accordingly. Before such a confirmation had been requested, DILCO notified GAI that in reviewing the details of their bid documents the clerical omission of $432,000 had been discovered.

In order to determine that DILCO was able to present clear and convincing evidence that their bid, as submitted, contained a clerical error, and that it was not merely an attempt to negotiate an adjustment of their bid price, DILCO officials were requested to come to Korea to offer explanation as to how the error occurred. At this meeting, attended by various representatives from USAID, GAI, DILCO and KECO, DILCO officials explained that the total error amounted to $432,000 and resulted from (1) builder's risk insurance of $162,000 being deducted twice (as the bid evaluation excluded insurance this factor should have been deducted from the total cost estimate); (2) an amount of $270,000 for construction equipment which had been originally planned for Won financing but subsequently shifted to dollar financing. The amount of $270,000 was deducted from the Won cost, but never added to the dollar cost. DILCO also submitted copies of working papers which supported their verbal remarks as to how the error occurred and a notarized affidavits from DILCO's vice-president stating that the clerical error was unintentional and not an error of judgement.

Based upon the above evidence, USAID concluded, as did KECO and GAI, that the error was unintentional and DILCO was allowed to increase their original proposal by $432,000 which still allowed DILCO to maintain their position as low bidder.

The USAID approved the award to DILCO on April 30, 1968. The contract between KECO and DILCO was signed on May 24, 1968, in the lump-sum amount of $2,528,007, with local costs being reimbursable in Won.

4. Lack of Adequate Storage Area at Project Site - At the time the Loan Agreement was signed, the only power plant being planned for construction at the Tangin-ri site was the plant being financed under this loan. Although three other power generating units were located on the Tangin-ri site, the available unoccupied area was considered entirely adequate to permit on-site storage. However, in July, 1967, KECO entered into an agreement with a Japanese firm for the construction of a 250MW thermal plant to be located adjacent to the AID financed power plant. This Japanese plant was constructed on a turnkey award, as compared to 31 separate bid documents required for the AID financed power plant. Physical construction commenced in January, 1968, and the plant was completed in February, 1969, at a foreign exchange cost of $26 million. Although the Japanese plant was almost completed at the time construction commenced on the AID financed plant, the limited lay-down area available at the site as a result of the area occupied by the Japanese plant, presented a storage problem. As a result, KECO had to obtain a storage area approximately two miles from the plant site. The distance between the storage area and the plant site resulted in some delay in construction progress due to the time lost in transporting large-sized and heavy construction materials from storage area to project site and the additional time lost because of working conditions resulting from operating in a cramped area. Additionally, the location of the storage area at other than the project site resulted in an increased foreign exchange cost of approximately $18,000 as a result of an amendment to DILCO's contract which extended builder's risk insurance coverage to materials and equipment located at other than the project site.

As stated previously, the construction of the Japanese financed plant adjacent to the AID financed plant did result in some delay although we do not feel that it could be considered a major element that contributed to the overall delay of the project. In retrospect, the completion of the Japanese plant in early 1969 alleviated an electrical power shortage in Korea that was partially caused by the AID financed plant not being completed by the end of 1968 as originally planned in the Capital Assistance Paper.

5. Performance of the Consulting Engineer, Gilbert Associates, Inc. - It is the opinion of both USAID and KECO that the performance of GAI has been entirely unsatisfactory, resulting in the extension of the project completion date, the latest being the possible delay of project completion for an additional six months due to GAI allowing routine procurement items to become critical to project completion. USAID's and KECO's dissatisfaction with GAI's performance commenced almost from the beginning of the project and has been the subject of numerous messages between USAID, AID/W and GAI.

The selection of GAI by KECO as the consulting engineer for this project was based upon GAI's previous experience and satisfactory performance, particularly on the feasibility study for the two Tangin-ri 66MW unit projects in 1962 and the feasibility study completed in August, 1965, pertaining to this project. In order that the initial engineering could commence prior to the signing of the Loan Agreement, and thereby allowing a rapid implementation of this priority project, KECO, with AID approval, signed a provisional contract with GAI on October 14, 1965. The main contract was approved by AID and signed by KECO and GAI on February 22, 1966. The contract award was for a lump-sum amount of $1,069,000, except for an amount not to exceed $50,000 allowed for training KECO personnel on a cost reimbursable basis. The original contract called for 44 man-months of supervision but a proposed increase was approved by USAID in August, 1968 to provide for an additional 43.5 man-months, and in February, 1969 the USAID approved KECO's request for an additional 12 man-months of supervision. In summary, the total man-months has been increased from 44 stipulated in the original contract to the current requirement of 99.5 man-months, at a dollar cost increase of $154,570. GAI, in requesting approval of the additional man-months, stated that the increase was due to additional responsibilities not contemplated in the original contract. Correspondence we reviewed indicated that the USAID, in approving these increases, stated that while some of the causes for additional man-months can be attributed to GAI's performance, the delays were not solely attributable to the Engineer or its personnel, and therefore authorized the increase in the dollar fee as provided under the contract.

Commented on below, are selected actions or areas of performance which we feel will clearly illustrate GAI's unsatisfactory performance as the consulting engineer for this project.

A. Preparation of Bid Documents - GAI, in their contract with KECO, represented that they were capable of preparing complete procurement invitation documents in accordance with AID regulatory requirements. Their preparation of the turbine and steam generator documents and the construction contract document were hardly illustrative of GAI's ability to perform according to their contract specifications. The turbine and steam generator documents were not only some four months late in being submitted to KECO and USAID for review, the documents required extensive review and editing by USAID personnel in order that the documents could conform to USAID requirements.

GAI's performance on the construction contract documents was a repetition of their performance on the turbine and steam generator documents. Despite repeated requests by USAID and KECO that the specifications should be submitted in a timely manner, GAI was some five months late in submitting the documents. These documents were so poorly prepared that a five month period of time was required, by USAID and KECO to review and prepare an acceptable format. KECO, at USAID request, notified GAI that USAID could not justify the expenditure of so much time in reviewing IFB documents and suggested that if GAI did not have qualified personnel to perform in accordance with their contract that a contract specialist should be hired. USAID also informed a vice-president of GAI in August, 1967, of their displeasure of GAI's performance, particularly the performance of the project manager.

B. Procurement of Structural Steel - In August, 1967, in order to avoid an additional project delay of an additional eight months, the GAI project engineer recommended to KECO, that AID concurrence be obtained to procure some

950 tons of structural steel on a proprietary basis. GAI advised the Mission that procurement could not have been initiated at an earlier date due to the delay in awarding the steam boiler, as steam boiler specifications are necessary for steel design. KECO, with concurrence of USAID and GAI, was able to obtain a firm offer from Foster Wheeler Corp., the supplier of the steam boiler that Foster Wheeler would guarantee, as a change order to the steam boiler contract, delivery of 950 tons by April 30, at a total CIF of $515 per ton. GAI advised KECO and USAID that no lower price could be anticipated from competitive bidding and on this advice USAID requested AID/W in October 1967 to approve procurement on a proprietary basis.

AID/W did not approve the above request and stated that despite the GAI project manager stating that $515 per ton was reasonable, GAI's home office informed AID/W to the contrary. AID/W was able to initiate a streamlined bid procedure for the structural steel which resulted in the contract being awarded in early December, 1967, at a cost of $432 per ton, $83 per ton less than the Foster Wheeler proposal. Had AID/W approved the proprietary procurement as recommended by the GAI project manager, the additional and unnecessary cost to KECO would have approximated $92,000.

C. Performance of Certain GAI Personnel - GAI's unsatisfactory performance can be directly related to the performance of the project manager and to a lesser extent the performance of the resident engineer. USAID has, on numerous occasions, expressed its concern to GAI officials, and AID/W as to the professional qualifications and abilities as well as the apparent lack of concern of the project manager with the project. The friction and lack of communication between the project manager and the resident engineer have contributed to the overall unsatisfactory performance of GAI.

The delay in submitting IFB documents to KECO and USAID for approval and the unsatisfactory manner in which such documents were prepared was chiefly the responsibility of the project manager. The USAID recommendation to AID/W to authorize structural steel to be procured on a proprietary basis was the result and advice given by the project engineer. There have been cases where the project manager issued change orders without the prior approval of KECO or USAID. A review of USAID files indicated that letters of intent to award a contract were issued on at least two occasions prior to AID approval of the award. These letters were, however, issued with the approval of KECO despite the fact that both KECO and GAI were aware that such a practice was improper under AID procurement regulations. Our review indicated also that in another case, following a bid opening but prior to the award, there was an exchange of correspondence between GAI and two bidders in which GAI requested that the bidders alter their bid so that they would be fully responsive.

The project manager was also responsible for the failure to periodically revise the construction schedule prepared at the time of the award of the construction contract. As a result, four routine procurement items have become critical for plant completion and may result in delaying the completion date another six months, to January, 1971. As the USAID was unable to obtain a current construction schedule from the project manager, AID/W was requested to have GAI's home office provide a detailed procurement and design schedule from which a meaningful revised construction schedule could be developed.

Due to KECO's and USAID's failure to obtain from GAI any indication that action was being initiated to correct the deficiencies in the performance of their personnel, USAID recommended in March, 1969, to AID/W that AID/W refuse to approve any AID financing of future GAI contracts.

In summary, the main problem has been the various delays in implementation which resulted in extending the completion date from December, 1968 to mid-July 1970, with a possibility of an additional six month delay to January, 1971. The delays resulted partially from the (1) change in site selection, (2) change in plant capacity, (3) the delay in awarding the construction contract, and (4) lack of adequate storage area at the project site. As these problem areas have since been resolved no further action is required.

The problem still facing this project is the performance of the consulting engineer. Despite the fact that USAID and KECO have had various meetings and discussions with GAI on their unsatisfactory performance, the problem still prevails. AID/W has been advised in numerous messages from USAID of the unsatisfactory performance of GAI. We believe that USAID's recommendation to AID/W that in the future AID/W should not approve GAI contracts for AID financing was justified. The only other apparent recourse would be for AID to recommend that KECO terminate its contract with GAI and obtain a new consulting engineer. However, such a course of action, although it may result in greater efficiency and better coordination of project activities, would undoubtedly result in the project being delayed even longer than presently anticipated, due to the time lost in obtaining and orienting a new engineer. The USAID technical divisions are maintaining close surveillance over this project and the problem described above. Contact with KECO is maintained, almost on a daily basis, regarding this and other AID financed projects, and in addition personnel from IED-Power Branch attend weekly progress meetings on this project held at the project site. Accordingly, we do not feel that a recommendation is warranted.

<u>DELAY IN UTILIZATION OF COMMODITIES</u>

During the months of November, 1968, through April, 1969, we made a number of visits to the port area, project site, and storage sites for the purpose of physically examining commodities and to review arrival and distribution procedures and related records. The first shipment of commodities arrived at the port of Inchon in March, 1968 and as of February 28, 1969, the total value of arrivals at port approximated $8,502,000.

Our examination indicated that of the total value of arrivals as of February 28, 1969, approximately 71%, or $6,050,000, had remained in customs area for on an average of 190 days. In discussing the reasons for commodities remaining in customs for such a long period of time, KECO stated, and the USAID technical divisions confirmed, that the primary reason was due to the delay in awarding the prime construction contract which in turn delayed the mobilization of the construction contractor. The mobilization of the contractor was originally scheduled to be completed in mid-January, 1968, but was not completed until the beginning of October, 1968, with the subcontract for local construction services being awarded on October 31, 1968. This delay, compounded by a limited storage area at the immediate site due to the construction of a Japanese financed power plant adjacent to the AID financed power plant, resulted in KECO delaying release from the customs area those commodities not immediately required at the job site, thereby utilizing a bonded customs area as storage space. This delay resulted in additional storage charges to KECO, payable in won, in the dollar equivalent of approximately $53,000.

Included in the amount of $6,050,000 above, were seven separate shipments in the approximate amount of $245,000 that arrived at the port of Inchon during April, May and June of 1968. These commodities were physically examined by us during one of our port visits in February, 1969. We were informed by KECO that although the commodities would soon be needed they were unable to obtain customs release as GAI had not provided the complete set of shipping documents as required by their contract. KECO, in the meantime, and prior to our port visit, had corresponded directly with the supplier in an attempt to obtain the appropriate shipping documents.

Our subsequent visit to the Inchon port and the project site in early April, 1969, revealed that all commodities in the port area, as of December 31, 1968, had been released from customs and transported to the job-site storage area. Additionally, commodities that arrived subsequent to December 31, 1968, were being released from the customs area on a timely basis. Our examination did not indicate that the above delays in customs clearance had any material effect on the timely implementation of the project. As the above findings were acted upon during this audit, no recommendation is made. KECO's delay in not utilizing $3.4 million of commodities for a half year period resulted in an unnecessary interest cost to KECO of the dollar equivalent of approximately $199,000. This in turn cost the ROKG, as the Borrower, approximately $32,000 in foreign exchange.

<u>MARINE INSURANCE</u>

All commodities financed under this loan were shipped CIF, Inchon, and the cost of the marine insurance was financed from proceeds made available from the loan. The terms of the insurance usually provided that the insurance was to be effective until commodities were delivered to the job-site or sixty days after arrival at the port of entry, whichever occurred first. Inasmuch as KECO's arrival procedures at the Inchon port did not provide for a thorough inspection of commodities until arrival at job-site, KECO was unable to obtain full benefit from the loan-financed insurance as KECO could only make claims for the obviously missing or damaged commodities at the time of arrival at port. For commodities that remained in the port area for over sixty days, as did the majority of the commodities arriving prior to December 31, 1968, the dollar-financed marine insurance would not be applicable.

Our discussions with KECO personnel during the course of this examination regarding the insurance situation, confirmed that there were some shortages and damaged commodities and that KECO was initiating claims with the local transportation firm for those losses that could be directly attributable to the transportation firm. In one instance, KECO initiated procurement from a United States firm for the replacement commodity, financing the cost from its own resources (the foreign exchange being obtained from the Korea Foreign Exchange Bank). KECO further informed us that they had never attempted to file a claim under the insurance financed from the proceeds of this loan because, as indicated above, complete inspection of the commodities had not been made at the time of arrival but rather after they had been delivered to the project storage site. We were also told by KECO officials that they had not officially informed AID of the extent of the losses that may have been recoverable under the provisions of the marine insurance. As of the date of this report, KECO was in process of performing a detailed review to determine the extent of damaged commodities.

RECOMMENDATION NO. 2

AD/DL should (1) request KECO to submit complete details as to value and extent of commodity damages or shortages, and plans for replacement and (2) determine what action is required regarding the non-utilization of dollar-financed marine insurance.

COVENANTS AND WARRANTIES CONCERNING THE PROJECT

Our examination indicated that certain covenants and warranties were not being satisfactorily complied with. Specifically, Section 6.1(b), of the Loan Agreement, in accordance with a recommendation of the PST, provided that "Borrower shall permit Beneficiary to increase its power rates annually, if necessary to attain a minimum rate of return of 8½% for the year 1967 and 9% for the year 1968 and each year thereafter on the rate base as adjusted....." Due to KECO's apparent inability to comply with the above requirement, as well as certain other warranties and covenants, the provisions of Section 6.1(b) were amended by Amendment No. II, dated June 17, 1967, and further amended by a letter of agreement dated October 8, 1967.

Section 6.1(b) as finally amended, provides "Beneficiary shall increase its rates no later than June 30, 1968, and annually thereafter, to provide a percentage of increase in operating revenues over those which otherwise would have been realized, such increase to be not less than the percentage in value due to revaluation of Beneficiary's net utility plant."

In December, 1967, KECO submitted to the USAID financial data on their plant revaluation computations for the period June 30, 1965 to June 30, 1967. This data reflected that a 3.3% rate increase would be required to satisfy Section 6.1(b). As KECO had increased their rates by 15% in November, 1967, the USAID Power Rate Committee concluded that Section 6.1(b) had been satisfied.

In accordance with letter of agreement amendment dated October 8, 1967, which authorized KECO to restate its rate base of January 1 of each year, KECO submitted data for the period July 1, 1967, to December 31, 1967, reflecting an increase of the rate base, and therefore requiring a subsequent increase of power rates, of 4.88%. The Power Rate Committee, in a memo to the USAID Director dated October 8, 1968, confirmed the 4.88% increase and stated that USAID could request KECO to increase its power rates proportionately. However, the Committee concluded that "since the rate effective in November, 1967, was 15% it is concluded that the conditions of the Loan Agreement have been satisfied and no increase in electric rates should be recommended at this time."

We do not feel that the intent of Section 6.1(b) as it was stated in the original Loan Agreement and subsequent amendments was to allow an overstatement of a rate increase in one period to be carried forward to the next period. The letter of agreement amendment of October 8, 1967, specifically stated "...... acceptance of their (KECO's) proposal would also mean that once the revaluation of their assets is completed as of January 1, 1968, a second rate increase may be called for under our loan agreements within 6 months' following that date, namely June 30, 1968....." KECO did not increase their rates as of June 30, 1968, nor have they proposed a rate increase as of the date of this report.

Section 6.1(c) of the Loan Agreement provides the "level of revenues established in accordance with sub-section (b) above require continuance of the Borrower's present policies, namely: i) retention of its present equity position in the Korea Electric Company." At the date of the Loan Agreement, ROKG equity was represented by 68% of the total outstanding stock, the remainder of the stock was held by corporations and individuals. As of December 31, 1968, the ROKG equity was represented by only 52% of the total outstanding stock, or a decrease of 16% in less than a three-year period. Inasmuch as the ROKG is required under the terms of the loan agreement to reinvest any dividends received from KECO, any increase in equity by the private sector results in additional dividends payable to the private sector and thus a drain on working capital.

The non-compliance with Section 6.1(c)i) is even more serious in view of the fact that the provisions of this Section were based on the premise that according to the recommendation of PST, power rates would be adjusted annually to permit a minimum rate of return of 9% on the rate base for all years 1968 and thereafter. During the past three years there has been a continuous decrease in the rate of return on net utility plant as reflected below.

Rate of Return on Net Utility Plant
(Excluding Construction in Progress)
As of December 31

Year	Rate of Return
1966	6.6%
1967	4.2%
1968	3.9%

Section 6.1(c) further provides that "....the operating revenues of the Beneficiary shall be adjusted as necessary to enable the Beneficiary to finance from its own resources forty to fifty per cent (40-50%) of the investment capital required for the next ten years....." We were unable to satisfy ourselves that KECO continues to satisfy this requirement. A ten-year plan developed in September 1967 projected that KECO would be able to finance approximately 45% of its investment capital requirements. A revised ten-year investment plan prepared as of February, 1969 reflected that in the ten-year period (1969-78) KECO would only be able to provide approximately 17% of the required investment capital - 23% below the minimum level established by Section 6.1(c).

Officials of AD/DL and IED with whom we spoke indicated that in their opinion certain of the covenants of the loan agreement were too restrictive.

RECOMMENDATION NO. 3

AD/DL in cooperation with IED should either (1) initiate necessary action to assure KECO compliance with Section 6.1(b) and 6.1(c) of the loan agreement, or (2) amend the loan agreement, as necessary.

USAID REVIEW AND APPROVAL OF THE ENGINEERING CONTRACT BETWEEN KECO AND GAI

During our examination we reviewed the procedures employed by USAID in reviewing and approving contract awards. As detailed in another section of this report, the contract for engineering services between KECO and GAI was signed on February 22, 1966, and was in the negotiated lump-sum amount of $1,069,000 except for cost of training KECO personnel which was to be on a reimbursable basis not to exceed $50,000.

The selection of GAI by KECO was approved by USAID and AID/W on a prospective basis, that is, in advance of the approval of the loan subject to the execution of a loan agreement and the approval by USAID of the contract with GAI. The contract proposal was reviewed by the USAID Project Committee, and based upon the Committee's approval, USAID approved the contract on February 21, 1966.

A review of the documentation on which the Project Committee based its approval of the total contract amount revealed that a detailed cost analysis had not been submitted by GAI for review by the Committee. In fact, the only cost data available was in a highly summarized form and included on overhead factor at 70% of the engineering, design, and procurement labor and an allowance of 15% of overhead and labor for profit, escalation and contingencies. The overhead factor and profit, escalation, and contingencies factor become an integral part of the lump-sum amount.

The Project Committee, in approving the overhead rate of 70% did not request historical cost data from GAI to substantiate the 70% factor which, in the absence of a confirmed audited overhead rate, is the only sound basis for determining a reasonable overhead rate. The justification given by the Project Committee was that "the general range of overhead fees charged by engineering firms in the United States ranges from about 65% to 110%....... So we may conclude that the 70% overhead proposed by Gilbert is reasonable and probably lower than might prevail in New York or Chicago." Additionally, the Project Committee did not comment or attempt to document the reasonableness or acceptability of the 15% profit, escalation, and contingencies factor.

It is our opinion that the above manner of evaluating the allowable overhead and profit escalation factor was not in accordance with acceptable accounting or sound business practice. Despite the fact that AID Manual Order 222.1 states that "the Mission Controller has responsibility for participating in the review of proposed contracts financed in local currencies or dollars which are to be executed or approved for financing by the Mission" we were unable to detect any evidence indicating that the Mission Controller had reviewed the financial aspects of the GAI contract. It apparently was not a Mission policy at the time of the GAI contract award, to require Controller review of Mission approved contracts. There is currently a formalized Mission policy, U.S.Mission Order No. 1201, dated February 7, 1969, which provides that the Controller, at the discretion of the Director, may be asked to serve as an ad hoc member of the Capital Assistance Policy Committee, and the Controller, at the discretion of AD/DL, may serve on the Loan Committee. The Loan Committee, as stated in the Mission Order, is responsible for monitoring and evaluating capital assistance.

Section V,G, of AID Manual Order 222.1 enumerates twelve specific areas of responsibility of the Mission Controller as related to his role in the Capital Assistance process. We do not believe that Mission Order No. 1201 fulfills all the requirements of AID Manual Order 222.1 as the Mission Order does not clearly define the areas of responsibility of the Mission Controller.

The Controller indicated that the various divisions within USAID had been verbally informed of the responsibilities of the Controller in reviewing contracts, financial plans, reports, etc., as set forth in AID M.O. 222.1. He also stated that he has been consulted in the past and is currently being consulted on these matters.

RECOMMENDATION NO. 4

The USAID Director should amend U.S. Mission Order No. 1201 to clearly define the role of the Mission Controller in the Capital Assistance process as required by AID Manual Order 222.1.

FINANCIAL CONDITION

Due to the fact that KECO's audited financial statements for the year ended December 31, 1968, were not available at the completion of our audit field work, the financial data presented in Exhibits II and III of this report as of December 31, 1968, was taken from KECO's unaudited financial statements for the period then ended. Our examination did not include a detailed review of KECO's financial statements and we are, therefore, unable to render an opinion as to the reasonableness and fairness of the data presented as of December 31, 1968. However, on a test basis, we verified that KECO's financial statements as of December 31, 1968 were in agreement with their general ledger accounts. Our review of the year end financial statements, as well as the monthly financial statements submitted to the USAID, indicated that KECO's account classifications were generally in accordance with U.S. Federal Power Commission requirements and that, with few exceptions, KECO's financial statements were prepared in accordance with generally accepted accounting principles. These exceptions were as follows:

1. Failure to reflect provision for corporate income taxes

KECO's monthly financial statements did not include a provision for corporate income taxes which for the year ended December 31, 1968, amounted to approximately Won 1,550 million. KECO has followed the practice, which is acceptable in Korea, of appropriating corporate taxes directly from unappropriated surplus during the fiscal year immediately following the period when the taxes should have been accrued. The Certified Public Accountant, in issuing his opinion on the financial statements for the year ended December 31, 1967, took exception to this practice and qualified the accountant's opinion accordingly.

2. Failure to record full liability to retirement pension fund

KECO's liability to the retirement pension fund was reflected on the financial statements as of December 31, 1968, in footnote form only. Such a practice results in an overstatement of current and prior years' income and the understatement of long term-debt in the approximate amount of Won 6,545 million (approximately $23.4 million).

3. Failure to record AID loan disbursements on a timely basis

Our review of KECO's accounting procedures revealed that KECO experiences a delay of one to two months in recording disbursements on AID loans. This is caused by the delay in receiving the statement of disbursements from AID/W. Such a practice results in the understatement of fixed assets and long-term debt.

As the failure to provide for the current corporate tax liability from current year earnings did not have a material effect on the financial statements as of December 31, 1968, and due to the fact that the retirement fund liability was disclosed, in footnote form, on the financial statements, we are not making a recommendation in this report. Furthermore, the above deviations from generally accepted accounting principles have been commented on in previously issued audit reports (Audit Report Nos. 68-12 and 69-4).

Exhibit IV reflects KECO's source of long-term debt and is provided for informational purposes. During the course of our examination, we verified that all increases in long-term debt subsequent to December 31, 1967, the latest period during which KECO's financial statements were covered by a USAID audit, were approved by USAID in accordance with the requirements of the Loan Agreement. For the purpose of determining the ability of KECO to repay its long-term debt in a timely manner, we made a general review of recent financial projections submitted by KECO to the USAID in February. The financial projections included estimated construction expenditures, local currency requirements, proposed financing sources, proforma financial statements and cash forecasts through the year of 1978. We did not attempt to verify the accuracy of KECO's projections, but our review indicated that such projections appeared to be reasonable, and that KECO would be able to meet its long-term requirements for the ten-year period covered by the forecast.

We further noted, that KECO was experiencing a shortage of working capital and subsequent to February 28, 1969, obtained approval from ROKG and requested USAID approval for a $30 million loan from a United States firm to assist in alleviating this shortage. The USAID has been constantly aware of this problem and has been maintaining close surveillance over it.

LOAN REPAYMENTS AND INTEREST

ROKG payments of principal to AID/W have not fallen due nor have KECO's payments of principal to the ROKG have become due. As of February 28, 1969, ROKG had made three interest payments to AID/W in the total amount of $63,745 and KECO had made three interest payments to the ROKG in the total amount of ₩101,985,428 ($364,233). Interest payments made by KECO were deposited to the "Foreign Loan Repayment Fund Special Account" maintained in the Bank of Korea. All the above interest payments were made on a timely basis.

COUNTERPART FUNDS

Project Agreement No. 9003, dated September 20, 1968, provided a release of Won 2.5 billion of counterpart funds to KECO. These funds, together with Won 4.1 billion from the ROKG General Account were to be utilized as a capital subscription to KECO. The Won 2.5 billion (counterpart) was to be utilized to finance the local currency costs pertaining to the implementation of five AID development loan projects. The Ministry of Finance released the Won 2.5 billion to the Korea Reconstruction Bank (KRB) on September 21, 1968. The KRB transferred the Won 2.5 billion to KECO's regular demand account on November 2, 1968.

Although we did not perform a detailed review of the financial records maintained for counterpart funds, our review indicated that the counterpart funds were used for this project and the other four projects specified in the ProAg in accordance with the ProAg provisions. As of February 28, 1969, the local currency expenditures made by KECO in support of this project amounted to Won 1.2 billion (equivalent to $4.2 million).

KOREA ELECTRIC COMPANY
SEOUL THERMAL POWER PLANT
AID Loan No. 489-H-033

EXHIBIT I

SUMMARY OF STATUS OF LETTERS OF COMMITMENT
AID Loan No. 489-H-033
As of February 28, 1969

Engineering services-authorized	$ 1,070,000.00
Disbursements	663,120.46
Unliquidated balance	$ 406,879.54
Construction contract-authorized	$ 2,533,007.00
Disbursements	89,869.91
Unliquidated balance	$ 2,443,137.09
Commodities and construction materials-authorized	$15,794,526.72
Disbursements	8,657,747.91
Unliquidated balance	$ 7,136,778.81

RECAPITULATION

Letters of Commitment issued	$19,397,533.72
Disbursements	$ 9,410,738.28
Unliquidated balance	$ 9,986,795.44

EXHIBIT II

KOREA ELECTRIC COMPANY
CONDENSED COMPARATIVE BALANCE SHEET
As of December 31, 1967 & 1968
(in Millions of Won)

ASSETS	1967	1968
Utility plant:		
Electric plant, net	91,246	129,950
Street railway, net	424	-
Net Utility Plant	91,670	129,950 (A)
Other Property and Investments	1,053	1,349
Current Assets:		
Cash and deposits	1,334	2,047
Accounts and notes receivable, net	1,140	1,503
Materials and supplies	2,845	4,393
Advances and prepayments	2,473	2,176
Other	747	1,511
Total Current Assets	8,539	11,630
Deferred Charges and Miscellaneous:		
Construction costs - NCS contracts	4,291	2,000
Long-term loans receivable	3,010	5,610
Other	533	1,403
Total	7,834	9,013
TOTAL ASSETS	109,096	151,942
Current Ratio	.7-1	.6-1
Equity/Debt Ratio	.94-1	.86-1
Rate of Return	4.2%	3.9% (B)

PROPRIETARY CAPITAL AND LIABILITIES	1967	1968
Proprietary Capital:		
Common stock	20,138	50,191 (C)
Property revaluation surplus	21,566	6,255
Legal and special reserves	4,102	4,360
Unappropriated surplus	516	479
Total Proprietary Capital	46,322	61,285
Other Items of Capital Nature:		
Dividends due ROKG	4,140	5,781
Contributions in aid of construction	2,282	2,623
Total	6,422	8,404
Operating Reserve	123	361
Long-Term Debt-Domestic	27,394	35,157
" " " -Foreign	10,299	20,179
Total	37,693	55,336
Current Liabilities:		
Loans and notes payable	6,413	13,736
Accounts payable	972	1,772
Accrued taxes	2,652	1,685 (D)
Accrued interest	322	613
Accrued dividends	538	1,887
Other	879	1,191
Total Current Liabilities	11,776	20,884
Deferred Credits and Miscellaneous:		
Advances from NCS construction	4,284	2,000
Contract guarantees	84	85
Other	2,392	3,587
Total	6,760	5,672
TOTAL CAPITAL & LIABILITIES	109,096	151,942 (E)

(A) Includes approximately ₩5.2 billion in property revaluations recorded during 1968.

(B) Based on net utility plant, excluding construction in progress, at end of year.

(C) 1968 increase includes ₩20 billion stock dividend appropriated out of property revaluation surplus as provided by the Korea Electric Company Act.

(D) Includes the estimated provision for corporate income taxes in the amount of ₩1.55 billion. See footnote on Condensed Comparative Statement of Income and Unappropriated Surplus.

(E) No provision has been made for the liability for retirement pay which approximated ₩6.5 billion as of December 31, 1968.

EXHIBIT III

KOREA ELECTRIC COMPANY
CONDENSED COMPARATIVE STATEMENT OF INCOME AND UNAPPROPRIATED SURPLUS
For the Years Ended December 31, 1967 & 1968

	(In Millions of Won)	
	1967	1968
Electric Department		
Operating revenues	21,800	29,407
Operating expenses	15,602	21,506
Net Operating Income (% of Revenues)	6,198 (28.4%)	7,901 (26.8%)
Street Railway Department		
Operating revenues	121	54
Operating expenses	306	253
Net Operating Loss	185	199
Net Utility Operating Income	6,013	7,702
Other income and (expenses), net	(1,162)	(2,460)
Net Income Before Corporate Taxes (% of Total Revenues)	4,851 (22.1%)	5,242 (17.8%)
Corporate Income Taxes	2,295	1,550
Net Income (% of Total Revenues)	2,556 (11.7%)	3,692 (12.5%)
Unappropriated Surplus		
Balance, beginning of period	2,147	516
	4,703	4,208
Appropriations:		
Reserves	2,753	275
Dividends	1,509	3,417
	4,262	3,692
Adjustments	75	(37)
Net Unappropriated Surplus	516	479

Note: Net income as reflected above differs from the amount reported in KECO's unaudited financial statements by the amount of the liability for corporate income taxes.

KOREA ELECTRIC COMPANY
SEOUL THERMAL POWER PLANT
AID Loan No. 489-H-033

EXHIBIT IV

SOURCE OF LONG-TERM DEBT
KOREA ELECTRIC COMPANY
As of December 31, 1968
(In Thousands of Dollars)

Description	Loan Authorization	Amount Disbursed	Loan Principal Repayment	Loan Balance
Domestic Long-term Debt	$161,301	$161,301	$ 965	$160,336
Foreign Long-term Debt:				
AID Loan	93,210	45,833	6,094	39,739
U.S.A.	12,066	9,049	2,686	6,363
Japan	76,923	7,236	251	6,985
W.Germany	41,962	18,200	1,047	17,153
France	19,881	2,259	-	2,259
Italy	24,003	2,101	-	2,101
Panama	974	974	195	779
England	3,192	2,857	-	2,857
Total Foreign Debt	$272,211	$ 88,509	$10,273	$ 78,236
Total Foreign & Domestic Debt	$433,512	$249,810	$11,238	$238,572
Foreign Loans in Process (Not yet approved by AID)				$ 74,276

KOREA ELECTRIC COMPANY
SEOUL THERMAL POWER PLANT
AID Loan No. 489-H-033

EXHIBIT V

DISTRIBUTION OF REPORT

	No. of Copies
USAID/K	
Director	1
Deputy Director	1
AD/DL	1
IED	1
LEG	1
IIS/K	1
C&R	1
Auditor-in-Charge:Darrell L. Dolley	1
AID/W	
C/AUD	2
EA/NEA	1
EA/PMCA	2
EA/CDF	1
IGA/W	1

KOREA ELECTRIC COMPANY
SEOUL THERMAL POWER PLANT
AID Loan No. 489-H-033

EXHIBIT VI

REPORT CONTENT DATA

(1) Activity identification

Capital Assistance
AID Loan No. 489-H-033

(2) Value audited

Dollar (in millions)	$9.4
Local Currency (in million - dollar equivalent)	$4.2

(3) Man-months expended on audit

American	2.0
Local	6.0
	8.0