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AGENCY FOR INTERNATIONAL DEVELOPMENT
UNITED STATES A.I.D. MISSION TO BRAZIL

AUDIT REPORT
OF
SALVADOR WATER TREATMENT PLANT
UNDER
PROJECT AGREEMENT No. 512-11-520-062
(FORMERLY 512-P-52-AA)
FOR THE PERIOD
MARCH 1, 1962 THROUGH MARCH 31, 1965

REPORT No.
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SECTION I - INTRODUCTION

A. PURPOSE

The purpose of this audit was to review and evaluate the performance under this project as compared to project plans and objectives as set forth in the project agreement, including an examination of the records maintained and the procedures established by the Superintendência de Águas e Esgôtos do Recôncavo (The Superintendency of Water and Sewers of Bahia) (SAER), and of the Mission's performance and its records pertaining to the project. The purpose was further to confirm that the other signatory to the project agreement, the State of Bahia, had met its commitment for contribution to this project in a timely manner and in the amount specified.

B. SCOPE

This was the initial audit of the Salvador Water Treatment project and covered the period from its inception on March 1, 1962 to March 31, 1965.

We examined the accounting records and related files in the USAID/B Controller's Office, Rio de Janeiro and Recife. Meetings and discussions were held with personnel of the USAID/B/NEAO Engineering and Natural Resources Division, Water Supply Branch in Recife and

their files were examined. A field trip was made to Salvador, Bahia, during the period April 19 to April 23, 1965, where we made a selective review and evaluation of SAER's accounting system and records, supporting documents and files, and had meetings and discussions with the Superintendent and other personnel of SAER. During this trip we made a visit to the water treatment plant and other construction sites agreed upon in the project agreement.

The audit was made in accordance with applicable Manual Orders, other directives and generally accepted auditing principles.

SECTION II - GENERAL

The principles of the Alliance for Progress, as expressed in the Act of Bogota and the Charter of Punta del Este, emphasize measures to supply safe drinking water as a public health measure essential to social and economic progress. The State of Bahia, and in particular the capital city of Salvador, had for a long time felt the effects of its inadequate water system and in 1961 the State of Bahia therefore made a study of the needs of the city of Salvador, at the same time trying to arrive at the estimated cost of renewing and reconstructing the whole water system of Salvador. This study indicated that the estimated cost of such a project would amount to approximately \$8,127,200, or Cr\$2,031,800,000 at the then prevailing rate of exchange.

Since such costs far exceeded the financial capacity of the state, a loan application was filed with the International Development Bank (IDB), giving all details of the plan for improvement. The IDB, after studying the application, approved a loan of \$4,120,000, or 50.7% of the total estimated cost. The plan as approved called for the construction of an aqueduct from the Rio Joanes to Salvador, a water treatment plant, reservoirs, and a distribution network.

The State of Bahia, at the same time that it filed the loan application with the IDB, also filed an application for a cruzeiro grant with USAID/B. The USAID/B, relying on IDB's technical evaluation of

the plan and specifications, and IDB's essential part in the financing, agreed to make a grant of Cr\$200,000,000, and a project agreement was signed on March 1, 1962 between USAID/B and the State of Bahia, with the concurrence of the GOB's Special Commission for Agreements concerning Agricultural Products (CEAPA). The cruzeiro funds made available under this agreement were to finance the cruzeiro expenses involved in the construction and the furnishing of equipment to the water treatment plant mentioned above. The total estimated cost for completion of this plant was Cr\$254,500,000 and \$250,000. The financing of the dollar expenses and Cr\$29,200,000 of the cruzeiro expenses (or 11.4%) would be made from the IDB loan, the State of Bahia would contribute Cr\$25,300,000 (or 10%) and the USAID contribution would cover the remaining Cr\$200,000,000 (or 78.6%). The State of Bahia also agreed to contribute funds for any additional costs.

The water treatment plant was completed before the end of 1963. However, since a power transmission line to the treatment plant was not available, the plant could not be put into operation. In addition, some modifications were needed in the transmission system and improvements were required to the Bolandeira plant, which forms part of the system, and to the plant grounds. Service connections to areas adjacent to the water transmission line were also required. The USAID/B therefore entered into a new agreement with the State of Bahia, as represented by SAER, and with the concurrence of the Coordinating Commission for the Alliance for Progress (COCAP), a successor to CEAPA. The supplemental project agreement obligating an additional Cr\$220,000,000 was signed on March 21, 1964 and included provisions for the completion of work necessary to put the water supply and treatment facilities into effective operation.

For a detailed explanation of the respective contributions committed and received by the signatories to the project agreement, see Section IV, B.

SECTION III - SUMMARY OF AUDIT CONCLUSIONS

Based on our examination of the records maintained, the reports issued by the USAID/B/NEAO Engineering & Natural Resources Division, Water Supply Branch, our physical observations, and on our interviews with personnel of WSB and SAER, it is our opinion that the project was successfully completed as outlined in the project agreement with AID. Our review indicated also that the total Salvador Water Program had not been completed, mainly due to the fact that the State of Bahia had not met its contributions, that SAER did not realize the cruzeiros expected on conversion of the dollar loan from IDB, and that IDB had not provided authoritative engineering inspection services during the early period of the project.

Our examination further revealed that the State of Bahia, and SAER as its representative, had not submitted to USAID the financial and technical reports required under the AID project agreements and that the funds advanced by USAID had not been deposited in the bank agreed upon, nor maintained in a special account.

The report was discussed in draft with the USAID/B/NEAO Engineering & Natural Resources Division, Water Supply Branch, whose comments were taken into consideration. Detailed discussion of our audit findings supporting these conclusions, together with recommendations for corrective action, are set forth in the following section.

SECTION IV - FINDINGS AND RECOMMENDATIONS

A. PROJECT PROGRESS

The total program as outlined in the loan application to IDB indicated a complete reconstruction and improvement of the water system of the city of Salvador and the surrounding municipalities Camaçari, Candôias and São Francisco do Conde. The goal of the project agreement signed in 1962 between USAID and the State of Bahia was to construct a water treatment plant in Salvador which would form part of the overall plan designed to give the city of Salvador a safe and adequate water supply system. At the time of signing, Salvador had

an old water treatment plant; however, the plant did not function properly and the water treated was inadequate for a city the size of Salvador. In addition, the distribution system was deficient, in need of repairs, and in need of coverage over a larger area. Statistics of the State of Bahia showed that at that time (1962) the city of Salvador had a population of about 680,000 people and that the plant was capable of treating about 60,000 cubic meters per day, whereas the minimum requirement for a population of that size would be 100,000 cubic meters. That the water treatment was not 100% effective was indicated by the infant mortality rate, which at this time was 160/1,000, the principal causes of which were gastroenteritis, dysentery, typhoid and virus, all caused by the consumption of contaminated water.

The plant was properly built as planned and was completed by the end of 1963.

At the completion of the plant, however, it was found that the plant could not be put into operation because a power transmission line to the plant was not available. Further, some modifications had to be made in the water transmission system and some improvements were required in the old water treatment plant because it forms part of the water system, and some service connections to areas adjacent to the water transmission line were also required. USAID/B therefore entered into the supplemental agreement in March, 1964 obligating an additional Cr\$220,000,000 for the purpose of completing the work necessary to put the water supply and treatment facilities into effective operation.

This work was subsequently completed and the plant was formally inaugurated and put into operation on August 9, 1964 in the presence of the President of Brazil, Mr. Castelo Branco. The plant as it now stands has a capacity of 86,400 cubic meters per day, and this capacity will be utilized progressively in accordance with a schedule which includes a plan for reconditioning the old plant. Thus, at inauguration the plant was treating 22,500 cubic meters from the river Ipitanga. This was increased to 45,000 cubic meters in October 1964

and to 60,000 in February 1965. By June 1965, at the completion of an aqueduct to the river Joanes, the plant will reach full capacity of 86,400 cubic meters. At the same time, the old plant will be disconnected for improvements, and it is estimated by SAER personnel that the two plants will be in full operation by February 1966 with a combined capacity of 146,400 cubic meters per day. Further plans of the State of Bahia call for increasing the daily capacity of the new plant to 112,300 cubic meters, which, together with the old plant capacity of 60,000 and 14,600 from other sources, will give a total daily water supply of 186,900 cubic meters. This amount of water is estimated to be sufficient to supply a population of 813,000 at a rate of 230 liters (about 30 gallons) per day per person. The 1965 census shows a population of 791,000 for the city of Salvador, with an annual increase of 3.5%.

During the early period of the total program, progress was not made as rapidly as had been estimated. During this period USAID engineers made frequent inspection trips to Salvador, but properly relied on the IDB to provide supervision for those aspects not involving AID financing. Not until early 1964 did IDB appoint a consulting engineering firm to represent its interests.

As of March 31, 1965 the total program as outlined in the loan application to IDB was not yet complete. That part of the program which called for participation by USAID was completed and operable by August 1964; however, the major part of the program, viz., the improvement of the distribution system, has been postponed with substantially little done. Only the construction of concrete pipelines are about 45% completed and preparations have been made for the construction of the remaining 55%.

There are several reasons for this non-completion. The main reason is that, whereas it was understood that the State of Bahia would contribute the balance of the funding necessary to complete the program, or approximately \$4,000,000, it actually contributed nothing. In its reports, SAER indicates that it has contributed Cr\$400,000,000

towards the cost of the water treatment plant. However, of these funds Cr\$215,000,000 were derived from the SUDENE grant and Cr\$185,000,000 from the IDB loan. Another reason is that the dollar funds received from IDB had to be converted to cruzeiros through the Bank of Brazil at the "official" rate, which at this time was very much lower than the "free market" rate, thus reducing the amount of cruzeiros available for the project, and that IDB delayed assigning a consulting engineer to supervise the progress of the construction.

The funding for the total program consisted of the following items as of March 31, 1965:

	<u>COMMITTED</u>	<u>RECEIVED</u>
IDB Loan	US\$4,120,000	US\$3,492,120.98
USAID Grant	Cr\$420,000,000	Cr\$420,000,000
SUDENE Grant	Cr\$500,000,000	Cr\$440,000,000

The dollar funds received from IDB amounted to Cr\$3,070,437,000 after conversion at various rates of exchange in the "official" market. If the funds had been converted at the "free" rate, they would have amounted to Cr\$4,385,000,000.

Between August 1964 and February 1965, the State of Bahia made various requests to IDB for additional funding, but the replies had been negative. The State of Bahia had also approached USAID and SUDENE with a request for additional funds, but without success. In the opinion of the USAID/B technicians in the Water Supply Branch, the USAND financed water treatment plant is of greatly reduced value without the concrete raw water pipeline, which so far is not complete. In August 1965, the IDB announced that it would increase the amount of the loan to provide the necessary funding for completion. Under this new agreement FSESP will be the implementing agency with responsibility to see that the work is effectively completed.

B. FUNDING

1. USAID Contribution

a. Cruzeiro Funds

From funds generated by the Second Agricultural Commodities Agreement, PL 480, Title I, Section 104(e), USAID agreed on March 1, 1962

to contribute an amount not to exceed Cr\$200,000,000, with a final contribution date of September 1, 1963, subsequently extended to March 31, 1964. This contribution was released in various advances, the last advance being made on January 24, 1964. Accountings for these advances have been submitted to USAID amounting to Cr\$194,345,384, covering disbursements to November 20, 1963. No accountings have been received since the last release of funds by USAID.

The project agreement stipulates that "within ninety days after the final release of funds for the project, the State of Bahia will present to USAID acceptable reports covering any amount of cruzeiros for which reports have not previously been submitted to and accepted by USAID". As of March 31, 1965 this financial report is thus about one year overdue.

In the supplemental agreement, signed March 2, 1964, USAID agreed to contribute an amount not to exceed Cr\$220,000,000, from funds generated by the Fourth Agricultural Commodities Agreement, PL 480, Title I, Section 104(e). This agreement has a final contribution date of December 15, 1965. The USAID contribution was released in two installments, Cr\$120,000,000 on April 6, 1964 and Cr\$100,000,000 on June 22, 1964. When SAER requested the second installment, it simultaneously submitted a partial accounting for the first installment, amounting to Cr\$53,000,000 for the period to June 12, 1964. No accountings have been received since that time, and there are thus a total of advances not accounted for amounting to Cr\$167,000,000.

The second project agreement does not place any responsibility on the State of Bahia or SAER to make a final accounting of advances, it merely suggests that these parties shall submit such financial reports as may be requested by USAID. The USAID/B/NEAO Engineering & Natural Resources Division, Water Supply Branch has made several requests to SAER for submittal of such reports; however, no report has been submitted.

RECOMMENDATION No. 1

That the USAID/B/NEAO Engineering & Natural Resources Division, Water Supply Branch follow up on their requests

Recommendation No. 1 (Cont'd)

to SAER for a financial report as required under the first project agreement, and for an accounting for the remaining balance under the second project agreement.

The initial project agreement estimated that the total cruzeiros cost of the water treatment plant would be Cr\$254,500,000, towards which USAID would contribute Cr\$200,000,000 or 78.6%. The State of Bahia would contribute Cr\$25,300,000, or 10%, from its own funds and Cr\$29,200,000, or 11.4%, and the dollar costs from funds derived from the IDB loan. Thus, USAID would make available 78.6% of the total cost and the State of Bahia 21.4%.

The project agreement also stipulated that, whenever USAID made an advance against its contribution, the State of Bahia would make a release in the same proportion, i.e., 78.6% and 21.4%. No direct contributions were ever made by the State of Bahia to comply with this provision.

The second project agreement did not contain a proportionate-percentage-of-releases clause.

Both project agreements required SAER to deposit all funds received from USAID in a special account in the Bank of Brazil in Salvador.

Our examination showed that USAID funds released under the first project agreement were deposited in the Banco do Fomento do Estado da Bahia. The USAID funds released under the supplemental agreement were deposited in the Bank of Brazil in Salvador. However, these funds were not deposited in Special Accounts, but were rather commingled with SAER receipts from other sources. Since SAER still has an unexpended balance of USAID funds, according to reports submitted by this agency, these funds should be transferred to a special account in order to comply with the provisions of the project agreement.

RECOMMENDATION No. 2

That the USAID/B/NEAO Engineering & Natural Resources Division, Water Supply Branch request SAER to transfer the unexpended balance of USAID funds to a special account in the Bank of Brazil, Salvador.

Since the funds were commingled, we were unable to determine the amount of interest earned on USAID funds.

b. Dollar Funds

In addition to the local currency funding in the second agreement, USAID also agreed to make available not to exceed \$12,000 for United States consultant services in connection with the operation of the Salvador water system and in redesigning the Bolandreira treatment plant.

The USAID contribution was subobligated through the issuance of two Project Implementation Orders/Technicians (PIO/T), each for \$6,000. As of March 31, 1965, advices of charge from AID/W amounting to \$5,735.80 had been charged against PIO/T No. 40129 for consultant services of one technician, leaving a small balance of \$264.20. No charges had been recorded against PIO/T No. 40128.

We examined the USAID/B Controller's files and found them to be in order. The local currency funds had been properly released and the advices of charge had been properly posted against the PIO/Ts. The balances remaining in the subobligations for the PIO/Ts were justified.

For a further discussion respecting the U.S. consultants, see Section IV, H.

2. State of Bahia-SAER Contributions

The first project agreement stipulated that the State of Bahia would contribute Cr\$25,300,000 towards the cost of completing the water treatment plant, and any amount in excess of this which would be needed for the completion of the plant. The second project agreement provided that SAER, as a representative of the State of Bahia, would contribute Cr\$180,000,000 to the project.

The USAID financed project never did receive any direct contribution from the State of Bahia. The state considered that the grant received from SUDENE could be used to discharge its responsibility for contributions. Thus, whereas the project agreements called for a total contribution by the State of Bahia amounting to Cr\$205,300,000, the total cost of the water treatment plant was actually financed as follows:

USAID Grant	Cr\$420,000,000
SUDENE Grant	215,000,000
IDB Loan	<u>185,000,000</u>
TOTAL	<u>Cr\$820,000,000</u> =====

3. SUDENE Contribution

Although SUDENE was not a signatory to the project agreement, it did make a commitment to the State of Bahia that it would contribute Cr\$500,000,000 to the total program. As of March 31, 1965, Cr\$440,000,000 had been released to the State of Bahia, of which Cr\$215,000,000 was applied against the water treatment plant and Cr\$225,000,000 against the pipeline system.

C. INTERNATIONAL DEVELOPMENT BANK LOAN

The loan agreed upon between the State of Bahia and the International Development Bank, signed March 1, 1962, amounted to \$4,120,000, which represented 50.7% of the cost of the total program.

At the time of signing, it had been estimated by the State of Bahia that the total cost would amount to \$8,127,200. As of March 31, 1965 the International Development Bank had released \$3,492,120.98. The last release was made on February 4, 1965 and amounted to \$142,041.43. As of December 31, 1964 SAER had expended \$3,195,925.01.

D. SAER WATER TAX RATES

In the second project agreement, the SAER expressed its willingness to increase its water tax rates and maintain them on a current basis in order to attempt to make the water system financially self-sufficient, and to provide for capital improvements. In order to comply with this provision, the Governor of the State of Bahia on April 1, 1964 approved new water rates retroactive to January 1, 1964. As a result of this rate adjustment, the SAER revenue from water taxes increased from Cr\$188,000,000 in 1963 to Cr\$470,000,000 in 1964.

In March, 1965 the Bahia Water and Sewer Council approved a further increase in the water tax rates, and this proposal was also approved by the Governor of the State of Bahia.

The total increases in the rates over the 1963 rates will then amount to approximately 300%.

E. SAER ACCOUNTING SYSTEM AND PROCEDURES

During our field trip to Salvador, Bahia we examined SAER's records and accounts and found that SAER maintains accounts sufficient to permit us to identify the goods and services financed by USAID under the project.

We found that the accounts were in good order and that proper procedures had been established for verifying and approving payment vouchers submitted by the contractors. The vouchers were properly certifying that the work performed was in accordance with the terms and specifications of the contract.

F. BIDDING PRACTICES

The State of Bahia found at the start of the total program that it had two courses open in letting the contracts for the program. It could either split the program into small units and let the local contractors compete in the bidding or it could consider the whole program as one unit and advertise for bids on a national scale. The latter alternative was decided upon since this would lower the cost. We found that firms in a position to perform the construction had been requested to submit bids. We examined the minutes of the bid opening and found that proper procedures had been followed and that the contract had been awarded to the lowest bidder.

G. SAER REPORTS

As discussed under Section IV, B. 1.a. the State of Bahia and SAER were required to submit financial reports accounting for previous releases whenever requesting further advances. We found that these reports had been properly submitted. However, the first project agreement further required the State of Bahia to submit a final report ninety days after receipt of the last release. This report has not been submitted. The second agreement only stipulated that SAER would submit such financial reports as requested by USAID. Although reports have been requested no reports have been received, and a recommendation that

such reports should be submitted is made in Section IV, B. 1.a. The second agreement also required SAER to submit monthly reports on the progress of the construction. We could find no evidence that such reports were submitted. Since the project is now complete, SAER should be required to file a final completion report.

RECOMMENDATION No. 3

That the USAID/B/NEAO Engineering & Natural Resources Division, Water Supply Branch follow up on their request to SAER for a completion report until such report is submitted.

We examined the files of the USAID/B/NEAO Water Supply Branch in Recife and found that many trip reports had been prepared by the technicians of that office. The reports indicated that the technicians had kept in close touch with the project and had made frequent inspection trips to Salvador. A special report on the status of the project had also been submitted to the Deputy Director, USAID/B in February 1965.

H. U.S. CONSULTANT SERVICES

The second project agreement, signed in March 1964, provided that USAID would make available an amount not to exceed \$12,000 for U.S. consultant services in connection with the operation of the Salvador water system and in redesigning the Bolandreira water treatment plant. On June 1, 1964 contract No. AID-12-239(NE) was signed between USAID and Kenneth F. Knowlton. Mr. Knowlton arrived in Salvador, Bahia on June 6, 1964. We were informed by SAER engineers that Mr. Knowlton had helped organize and establish a very efficient training program and had assisted in teaching chemical dosage, filter, and operation and maintenance of mechanical and electrical equipment. During Mr. Knowlton's stay, 22 engineers were trained in chemical and filter processing and 13 in electrical and mechanic operation and maintenance.

Mr. Knowlton left Salvador on September 3, 1964 and a second U.S. technician was expected to arrive in April 1965.

I. PUBLICITY

The first project agreement did not have a definite requirement in regard to publicity. The second project agreement, however, requires that the signatories will do everything possible to give adequate publicity to the progress and goals achieved by the project through radio, newspaper and other means, clearly identifying it as part of the Alliance for Progress. When the water treatment plant was inaugurated in August, 1964 by President Castelo Branco, two plaques were unveiled; however, the plaques have no reference to the Alliance for Progress, USAID, or IDB. Some newspaper publicity has been given the project, mostly in connection with advances being made by USAID. U.S. Information Service (USIS) has given several releases on the project. During our visit to the project we observed a big panel about 15 by 45 feet indicating that the project was being constructed with the help of USAID and IDB. It also showed the Alliance for Progress (Torch) symbol and the USAID (Handclasp) symbol.