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DATE SENT 1/9/1979

FROM - JAKARTA
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SUBJECT - PROJECT EVALUATION SUMMARY (PES)

REFERENCE -

Attached are one copy each of the following Project Evaluation Summary (PES):

1. PES 79-1 - West Java Transmission I and II Loans H 023/032, Project No. 497-0215/0232

2. PES 79-2 - Surakarta Potable Water Loan U-044 Project No. 497-0262

GARDNER

Attachments

12-14-78

BEST AVAILABLE DOCUMENT

PAGE 1 OF 1 PAGES

DRAFTED BY	OFFICE	PHONE NO.	DATE	APPROVED BY
Kusanto:si	rogram	244	1/5/79	RRC:RCohen

AID AND OTHER CLEARANCES

PES: RFZimmerman

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PROJECT EVALUATION SUMMARY (PES) — PART I

Report Symbol U-447

1. PROJECT TITLE	2. PROJECT NUMBER	3. MISSION/AID/W OFFICE
West Java Transmission I and II	497-0215/0232	Jakarta

4. EVALUATION NUMBER (Enter the number maintained by the reporting unit e.g., Country or AID/W Administrative Code, Fiscal Year, Serial No. beginning with No. 1 each FY) 79-1

[X] REGULAR EVALUATION [ ] SPECIAL EVALUATION

5. KEY PROJECT IMPLEMENTATION DATES			6. ESTIMATED PROJECT FUNDING	7. PERIOD COVERED BY EVALUATION
A. First PRO-AG or Equivalent FY 4/73	B. Final Obligation Expected FY 4/73	C. Final Input Delivery FY 12/31	A. Total $ 46,600*	From (month/yr.) 3/77
			B. U.S. $ 36,900	To (month/yr.) 9/78
				Date of Evaluation Review 9/28/78

8. ACTION DECISIONS APPROVED BY MISSION OR AID/W OFFICE DIRECTOR

A. List decisions and/or unresolved issues; cite those items needing further study. (NOTE: Mission decisions which anticipate AID/W or regional office action should specify type of document, e.g., airgram, SPAR, PIO, which will present detailed request.)	B. NAME OF OFFICER RESPONSIBLE FOR ACTION	C. DATE ACTION TO BE COMPLETED
Extension of TDD may be required. Chas. T. Main, Engineers will advise.	J. Wright	To be determined after substation equipment has firm delivery date.

* GOI is providing $9,700,000 equivalent in local funds from their own sources.

9. INVENTORY OF DOCUMENTS TO BE REVISED PER ABOVE DECISIONS

- [ ] Project Paper
- [ ] Financial Plan
- [ ] Logical Framework
- [ ] Project Agreement
- [ ] Implementation Plan e.g., CPI Network
- [ ] PIO/T
- [ ] PIO/C
- [ ] PIO/P
- [ ] Other (Specify) _____
- [ ] Other (Specify) _____

10. ALTERNATIVE DECISIONS ON FUTURE OF PROJECT

- A. [X] Continue Project Without Change
- B. [ ] Change Project Design and/or [ ] Change Implementation Plan
- C. [ ] Discontinue Project

11. PROJECT OFFICER AND HOST COUNTRY OR OTHER RANKING PARTICIPANTS AS APPROPRIATE (Names and Titles) Mr. Thomas C. Niblock, Director
Jack Wright/P.O., A. Grayson, Chief/PTE, A.Evans/OMF,
Ir. Mrs. Kadarman; Ir. Rosid, Ir. Sofyan/PLN,
J. Brower, C.J. Whitby/C.T. Main.

12. Mission/AID/W Office Director Approval

Signature [illegible]

Typed Name Thomas C. Niblock

Date 12/14/78

AID 1330-15 (3-78) Clearance: PRO:RFZimmerman

West Java I - PES

13. SUMMARY - The West Java Transmission Project consists of Phase I, financed by AID Loan 497-H-028 and Phase II, financed by AID Loan 497-W-032. When completed a 150 KV transmission line will have been installed, with related substations, between Jakarta, Bogor, Bandung, Cirebon, and Tegal. Phase I includes the portion between Tegal and Bandung; Phase II between Jakarta and Bandung.

The total project is 20% complete based on funds disbursed. Tower foundations are 85% complete. Tower erection is to commence October 1. Conductor stringing should begin within 3 months after start of erection of steel. Bid documents for materials and equipment were issued by Chas. T. Main Engineers, in the spring and summer of 1977. Evaluation of bids was completed in approximately 6 months. Signing of contracts was completed by April 1978, but requests for and issuance of L/COMMS and L/C's were very slow. The last L/COMM was issued in August, 1978. There has been considerable trouble experienced in securing right-of-way. Several times the route of the line had to be changed after staking, because of changes in military plans for the land. Also, there was difficulty in getting the local contractors to adhere to specifications for the tower foundations. After a very slow start, those problems were overcome, and performance is generally good. The contractor on West Java II is considerably better qualified, and is doing a much better job than the contractors on Phase I. However, all foundations will meet specs. The training program has been very successful. Approximately 100 trainees have attended formalized courses in foundation inspection, tower erection, and conductor stringing. On-the-job training is to continue throughout the project.

14. EVALUATION METHODOLOGY - Reason for the evaluation is to measure progress. This is a normal periodic evaluation. Regular site inspections have been made, and project meetings have been attended at Project headquarters in Bandung and PLN/Jakarta headquarters. Other information for the review was obtained from files and discussions with the GOI counterpart (PLN), American Engineer (MAIN), and the American Contractor (Irby).

15. EXTERNAL FACTORS - Originally the project included distribution rehabilitation in Cirebon and Bandung. Initial effort was devoted to engineering for this portion of the project. However, estimates on the costs after engineering was finished, disclosed that there were insufficient funds in the Loan for transmission, substations, and distribution. Therefore, the distribtution was eliminated from the project. (This is now being financed by ADB). Attention was then focused on the transmission lines and substations.

Design of substations had to be altered slightly, due to the necessity of incorporating American protection and communication technique/methodology/equipment into existing and planned French designed systems on the PLN

transmission grid. Transmission routing had to be changed a few times to satisfy military requirements, and the usual complications were experienced in securing right-of-way from land owners. PLN cannot resort to condemnation; so persuasion and sufficient compensation for loss of productive land are the only tools that could be used to obtain the necessary property for tower foundations. Refusal to sell requires a new survey with the additional loss of time and effort.

16. INPUTS - AID is financing $17,200,000 for design, supply and supervision of construction of the double circuit 150 KV line and related substations between Tegal and Bandung (Phase I). For the section between Jakarta and Bandung (Phase II) AID is financing $19,700,000 for design, supply, and supervision of construction of the line and related substations, and also the contract for the construction of the line, only. Construction of the line in Phase I and substations in Phase I and II, will be done by PLN under force account with local currency. GOI is providing $5,800,000 local currency for Phase I and $3,900,000 for Phase II.

It is too early to know what problems will appear in the way of commodities and delivery. Technical services and training have been timely and adequate to date. However, a contract amendment is being drafted to make certain additions in the MAIN/PLN contract. Details are not yet known. Considerable handicap resulted from shortage of vehicles for use by PLN inspectors and MAIN field personnel. Training of inspectors and tower erection crews has been excellent.

17. OUTPUTS - Due to the original concentration on distribution, the transmission portion of the project was delayed in starting. A further slippage developed as a result of the length of time between opening of bids and awarding of contracts. There was also an unreasonably long delay in issuing L/COMMs and L/Cs after contracts had been signed. However, during this period final staking on most of the route was completed and tower foundations poured. The Engineer is of the opinion that it will be necessary to extend the completion date by six to eight months; however, an accurate determination must wait until steel erection begins.

A contributing factor to the erratic progress has been the turnover of the Engineer's Project Managers. The immediate past manager was the third to be replaced. His replacement has been nominated but insufficient bio-data delayed AID approval. The Administrative Officer is Acting Project Manager at present. Main has not seen fit to explain why they did not have a replacement ready before this last Project Manager was transferred to Boston. The first manager was appointed on an interim basis until a permanent manager was available. The second was killed on the job. The third is now in Boston, and his replacement will be the fourth, and hopefully will be the last.

18. PURPOSE - The specific purpose of the project is to provide a 150 KV transmission tie between Tegal and Bandung (Phase I) and between Jakarta and Bandung (Phase II) complete with related substations. The total project will provide an interconnection between West and Central Java. Achievement is expected by mid-1981. When completed PLN will have power supply facilities to provide W. Java and Central Java with reliable service until reinforced by a proposed 500 KV line.

Due to the urgent need to make use of excess power available in Cirebon, PLN and GOI have placed the highest priority on completing the Tegal-Cirebon section as soon as possible. Completion of the entire line, Jakarta-Tegal is vitally important for reliability of the system.

The project will complete the transmission grid connecting Jakarta, through W. Java, to Semarang in Central Java. (The link between Pekalongan and Semarang was financed by West Germany, and that between Pekalongan and Tegal by AID Loan 024). When completed this will permit transfer of power from generating facilities in Central Java to Jakarta and vice-versa as needs dictate. Transfer in this manner was calculated to give an economic rate of return of 19%. This is based on value of increased usage permitted by the project with 50 MW optimum transfer. Incremental costs used in arriving at this figure included deferment of additional power/generation facilities as a result of the project.

19. GOAL/SUBGOAL - The sector goal of PLN and GOI is to establish an interconnected transmission system with sufficient power supply and distribution facilities to provide reliable electric service to every existing and potential customer on Java at a reasonable rate.

In the near future, PLN has plans for installing a backbone 500 KV transmission line reaching from the western edge of W. Java to the western edge of East Java. This line will connect the 2000 MW coal-fired Suralaya Power Plant on the west tip of Java to proposed nuclear power plant in the proximity of the East Java - Central Java boundary. Tentative plans indicate there will be intermediate step-down substations connecting the 500 KV to the 150 KV systems at Semarang, Cirebon, Bandung and Jakarta.

20. BENEFICIARIES - This project will allow interchange of power/energy between Central and West Java thru the transmission line and substations which will serve as the interconnection facility. The beneficiaries consist of the estimated 50,000 additional customers directly affected and the 250,000 existing customers indirectly affected by the additional power to become available for their use as well as having more reliable service. During the period of construction the 300-500 Indonesians required for building the project will of course benefit directly. Of these, probably 100 will be placed on the permanent payroll of PLN as operators, linemen, electricians, office workers and maintenance men. Indirectly the entire

economy will benefit from the increased production as a result of this available power, which should generate additional revenue of over $10,000,000 per year within the region. The effect on agriculture, infant mortality, population growth control, and income equality is impossible to determine at this time.

21. UNPLANNED EFFECTS - The project has had no unexpected impact as yet. It is unlikely there will be any noticeable effects on social structure, or environment. However, as an integral part of Java's power supply, the project will have a part in bolstering the economy by making available additional power and energy for the newly launched rural electrification program, and also for industry.

22. LESSONS LEARNED - This will probably be one of the last transmission projects to be financed by AID. Nevertheless, there is one problem common to nearly all projects which can be a source of trouble: the turnover of key project personnel. Just as this project was picking up momentum, and organization patterns were being developed, the Engineering Consultant's Project Manager was suddenly, and with only a one-month notice, taken off the job and transferred to the Home Office. No replacement was made available for overlap. Such an action results in a definite slow-down on the Project and inevitable confusion. On the W. Java project, turnover of the Project Manager had occured twice before, and undoubtedly sluggish implementation was the result. There is need to have more assurance that both the Engineer and Contractor will install key personnel that will stay with the project to completion.

Another problem that is necessary to be resolved and is common to all projects is that of providing transportation. This has been a serious handicap on this project, as PLN was unable to supply sufficient transportation for field staff, inspectors and the C.T. Main Engineers/supervisors.

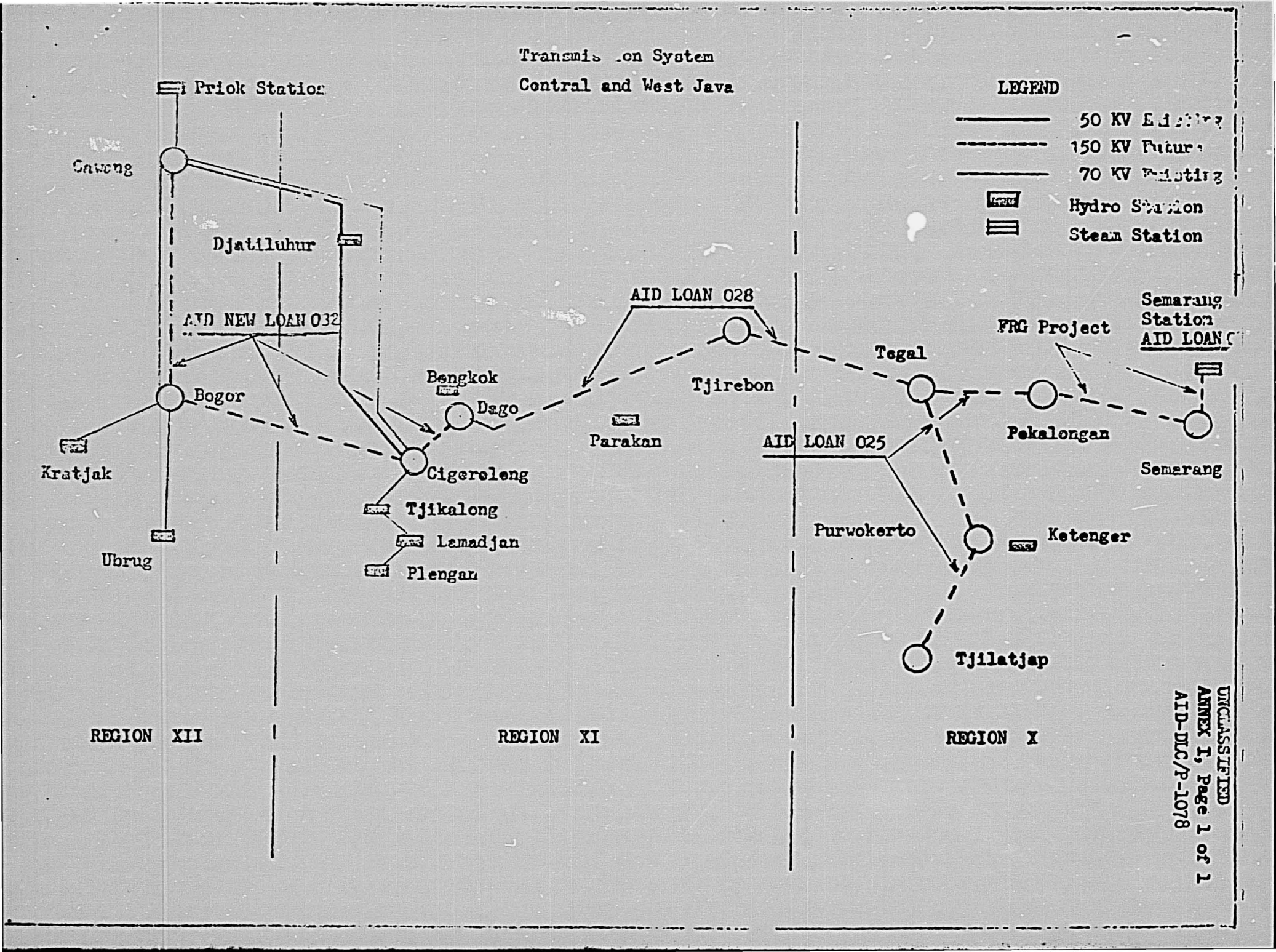
On this project, we have an example of the pitfalls encountered in awarding contracts for firms on the basis of low bids without sufficient consideration of their background; especially financial condition. One difficulty with the Phase I foundation contractors was that they did not have sufficient working capital to meet their payroll. As a result, PLN had to advance funds, but even so, many of the workers quit because of the slow pay. This resulted in continually breaking-in of new men. The Phase II contractor was methodical, a good business man, and ran his job professionally.

23. SPECIAL COMMENTS/REMARKS - Not pertinent at this time.

RATING OF PROJECT PERFORMANCE

Unsatisfactory			Satisfactory		Outstanding	
1	2	3	4	5	6	7
			X			

The rating made in May, 1977 was 3. It is felt that during this past year the project has come to life and implementation is gaining momentum, the change of Engineer's Project Manager and initial Phase I tower foundation difficulties not withstanding.



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ANNEX I, Page 1 of 1
AID-DLC/P-1078

CLASSIFICATION

PROJECT EVALUATION SUMMARY (PES) — PART I

Report Symbol U-447

1. PROJECT TITLE	2. PROJECT NUMBER	3. MISSION/AID/W OFFICE
Surakarta Potable Water Project	497-0262	Jakarta

4. EVALUATION NUMBER (Enter the number maintained by the reporting unit e.g., Country or AID/W Administrative Code, Fiscal Year, Serial No. beginning with No. 1 each FY) 79-2

☒ REGULAR EVALUATION ☐ SPECIAL EVALUATION

5. KEY PROJECT IMPLEMENTATION DATES			6. ESTIMATED PROJECT FUNDING	7. PERIOD COVERED BY EVALUATION
A. First PRO AG or Equivalent FY 1/77	B. Final Obligation Expected FY 1/77	C. Final Input Delivery FY 1/24/82	A. Total $ 10,600 B. U.S. $ 6,800	From (month/yr.) 4/78 To (month/yr.) 11/78 Date of Evaluation Review 11/28/78

8. ACTION DECISIONS APPROVED BY MISSION OR AID/W OFFICE DIRECTOR

A. List decisions and/or unresolved issues; cite those items needing further study. (NOTE: Mission decisions which anticipate AID/W or regional office action should specify type of document, e.g., airgram, SPAR, PIO, which will present detailed request.)	B. NAME OF OFFICER RESPONSIBLE FOR ACTION	C. DATE ACTION TO BE COMPLETED
No major corrective actions necessary at this time. *GOI is providing $3,800,000 equivalent in local funds from their own sources.		

9. INVENTORY OF DOCUMENTS TO BE REVISED PER ABOVE DECISIONS

- ☐ Project Paper
- ☐ Financial Plan
- ☐ Logical Framework
- ☐ Project Agreement
- ☐ Implementation Plan e.g., CPI Network
- ☐ PIO/T
- ☐ PIO/C
- ☐ PIO/P
- ☐ Other (Specify) _____
- ☐ Other (Specify) _____

10. ALTERNATIVE DECISIONS ON FUTURE OF PROJECT

- A. ☒ Continue Project Without Change
- B. ☐ Change Project Design and/or ☐ Change Implementation Plan
- C. ☐ Discontinue Project

11. PROJECT OFFICER AND HOST COUNTRY OR OTHER RANKING PARTICIPANTS AS APPROPRIATE (Names and Titles)

Mr. Walter Bollinger, A/DIR; A. Grayson, P.O./PTE; P. Thorn, PTE; R. Cohen, PRO; L. Marshall, PRO; A. Evans, OMF; Ir. Aziz, Chief of Construction, Cipta Karya.

12. Mission/AID/W Office Director Approval

Signature: [signature]

Typed Name: Thomas C. Niblock

Date: 12/28/78

AID 1330-15 (3-78)

Clearance: PRO: RFZimmerman [signature]

Surakarta Potable Water Project - PES

13. SUMMARY - The Surakarta Potable Water Project provides for the construction of a new water transmission main, 27 Km, from Cokrotulung Spring to Surakarta City and the installation of an additional 26.6 Km of water distribution mains. The project further includes new public bathouses and public faucets, the upgrading of public latrines, a groundwater development study, and training of water enterprise personnel. The project is financed by AID Loan 497-U-044.

The transmission main, which brings water to the city, involves off-shore procurement of all materials with resultant long leadtime. The distribution mains, which distribute water throughout the city, utilize locally procured materials. Refer to 22, Lessons Learned for additional comments on the transmission main.

The Consultant, Burns & McDonnell/Trans-Asia (BM/TA), came on-board effective October 1, 1978 after lengthy contract negotiations. BM/TA was also the design consultant for this project and continued to provide technical assistance, primarily for off-shore procurement, during the contract negotiations by agreement with Directorate General of Cipta Karya.

Installation of the distribution mains with locally procured materials continues ahead of schedule. 19.81 Km or 75% of the scheduled 26.56 Km have been installed. The remaining 6.75 Km will be installed in CY 79, well ahead of the scheduled October 1, 1980. Inspection of the pipe laying needs to be improved and the consultant's O&M staff will assist in upgrading the inspection capabilities of the Cipta Karya personnel.

Contracts for transmission main off-shore materials, with exception of one secondary list, were awarded on August 11, 1978 and L/Comm issued for $3.4 million on November 7, 1978. L/C's are being expedited but procurement actions have been protracted and transmission pipe installation cannot start by March 79 as planned. Installation will likely start in the second half of 79. BM/TA will make a final recommendation on use of 3-4 contractors, rather than two as initially planned, to compensate for current delays and complete pipe installation by March 81 as scheduled. Contractors have been prequalified and tender documents drafted.

BM/TA has the Hydrogeologist and Management Specialist on-board and there is ample time remaining for completion of the groundwater development study and water enterprise training by 12/80 and 6/81, respectively.

The project includes a study of the social, economic and health impact of the project on the population served by the improved water system. U.S. Bureau of Census (BUCEN) staff were in Indonesia from November 6-17 laying the groundwork for the study including participation by Cipta

Karya and a program to develop analytical capability within the Ministry for future studies. This Impact Study is off to a good start.

Prospects remain good that the project's purpose will be achieved as planned.

14. EVALUATION METHODOLOGY - This is a special evaluation at an appropriate time as the consultant has finally come on-board after lengthy negotiations, procurement actions on primary materials are being completed, and rescheduling of certain activities is in process. Evaluation is based on recent reviews of project planning, budgeting and construction activities. The evaluation is further based on regular meetings with Cipta Karya and consultant supervisory, planning and logistic personnel both at central and in the field.

15. EXTERNAL FACTORS - There have been no major changes in project setting at this stage of the project. The assumptions basic to the project continue to be valid. See attached Log Frame for assumptions.

One point of interest might be noted. The project provides for training, both in-country and abroad, for Surakarta Water Enterprise personnel. Cipta Karya is now planning to establish a country-wide training program, with assistance from the Dutch Government, for all water enterprise staffs and may seek some assistance from AID. Coordination between project training and the planned nationwide training program will be developed as appropriate.

16. INPUTS - AID is financing $6,800,000 or 64% of total project costs for materials and equipment (primarily transmission main and service connections), training, groundwater study, impact study, and supervisory engineering services. The GOI is financing $3,800,000 in local currency or 36% of the total project costs for the distribution system and other local costs in support of the varied activities involved.

If L/C's can be expedited, off-shore materials and equipment could start arriving at Semarang around June 79. Off-loading facilities at Semarang and transport facilities to Surakarta appear adequate. The GOI has provided sufficient funds to date in support of all activities.

17. OUTPUTS - (a) The following OUTPUTS (distribution main installation) were completed as of November 30, 1978:

11.00 Km	of 300 mm (12 in).
2.45 Km	of 200 mm (8 in).
1.51 Km	of 150 mm (6 in).
4.85 Km	of 100 mm (4 in).
19.81 Km	

(b) The following OUTPUTS (distribution main installation) are in process and will be completed in CY 79:

1.25 Km of 300 mm (12 in).
1.00 Km of 250 mm (10 in).
4.50 Km of 150 mm (6 in).
6.75 Km

(c) As noted above, transmission main installation will start at least 3 and possibly 6 months later than currently planned which will compress the time allocated for the works. This delay will be compensated for by the use of additional contractors.

(d) Initial work on the impact study confirms earlier indications that the study will require much greater staff time than was initially contemplated. This should be manageable with assistance from BUCEN and Dr. Okada.

18. PURPOSE - The Project's purposes are:

1. To increase the amount, reliability and quality of the potable water delivered to present users in Surakarta.
2. To extend the availability of such water as much as possible to lower income families, providing free water and sanitary facilities including paramedical health care units to the really poor and the destitute.
3. To evaluate periodically the social, economic and health impact of project outputs over a five year period.

The GOI shares USAID's strong commitment to this project and has continued to allocate the necessary budget in spite of tremendous demands on Cipta Karya for similar projects for every city in Indonesia. The rapid progress on the installation of the distribution main reflects this commitment. To insure that the benefits of this project flow to the lower income families and the destitute, the city continues committed to the policy that there will be no more industrial, commercial or house connections to the city system until additional water supply sources are located and brought into the system.

There is no direct impact on the project purposes at this stage of the activities. The only progress toward End-of-Project Status is the continued installation of the distribution main. Achievement of project purposes continues to be a realistic assumption under current evaluation.

19. GOAL/SUBGOAL - The Goal to which this project contributes is to improve the health and sanitary conditions in Indonesia. For Repelita II, the GOI has established a goal for a national increase of from 350 million gallons per day (MGD) to 662 MGD in the supply of potable water available to urban users. This project is part of this plan.

Since improved health is a project goal and so little is actually known about the health effects of such a project beyond a general association between improved quality and, particularly, increased quantity of water and reduced incidence of enteric disease, the impact study will continually evaluate the health, economic and social impact of the project.

Although a large quantity of distribution main has been installed, no new services have been connected and additional water cannot be added to the system until completion of the transmission main. Therefore, no indicators toward Goal achievement are currently available.

This project is only one of a number of similar projects in process or planned for other cities in Indonesia. USAID is funding the Medan Urban Development/Sanitation Study which includes a master plan for water supply. USAID has completed feasibility studies for improvement to the water supply systems for Semarang, C. Java, and Surabaya, E. Java, and funding for the construction phase is to be provided by ADB and IBRD, respectively. Feasibility/design studies for improved water supply and sanitation for every major city in Indonesia are being planned. Cipta Karya has recently requested AID technical assistance for development of standardized potable water systems for towns and villages thruout Indonesia. Construction is currently underway for improvement to the water supply system for the city of Bandung, W. Java, funded by ADB.

20. BENEFICIARIES - As noted above, the benefits are to flow to the lower income families and the destitute who currently depend upon contaminated sources of water for drinking, food preparation and bathing. The project will directly benefit an estimated 138,000 urban poor in Surakarta's most congested areas who will receive potable water from yard hydrants and public faucets. An additional 10,000 destitute will receive medical treatment benefits at paramedical facilities at public bath houses in addition to potable water.

The project will further indirectly benefit the 49,680 current residental users of the existing water supply system by an increase in the amount, reliability and quality of potable water. Some 644 non-domestic customers who employ an estimated 27,660 persons will receive the same indirect benefits of an improved water supply system.

There is every reason to believe that the nature of the benefits and the large number of beneficiaries involved more than justify the cost of this project.

21. UNPLANNED EFFECTS - There have been no unplanned effects at this early stage of the project. It is anticipated that noticeable effects in the social, economic, and environmental sectors will become evident during the life of the project and the impact study will serve to identify and evaluate such effects.

22. LESSONS LEARNED - 1. The implementation schedules as developed in project papers are often not based on a realistic appraisal of the time required to carry out certain key activities. For example, the original implementation schedule for this project targeted the installation of the transmission main to commence 21 months after the signing of the Loan Agreement. Within those 21 months, 13 CP's had to be met, IFB's for off-shore procurement prepared and advertized, bids evaluated, contracts awarded, L/Comm and L/C's issued, materials delivered from the U.S. to the nearest port and trucked to Surakarta, and, finally, contracts bid and awarded for the pipe installation. This is an impossible schedule. As a result, L/C's are only now in process at 23 months after the signing of the Loan. Scheduling is further compounded by the fact that suppliers will not commence manufacture of materials until L/C's are in hand.

2. Contracting for consultant services are very difficult when long lead time for materials is involved. Consultant services must be phased in carefully in the early stages of a project to avoid wasted manmonths and results in problems with mobilization. This explains much of the protracted contract negotiations.

3. Close attention must be paid to managerial and logistical details in the early stages of such type projects to preclude later delays in implementation. This includes close monitoring of the workload of the various offices involved in starting up the project.

4. Improved water supply is a major requirement throughout Indonesia and this project could be duplicated for many cities/villages in Indonesia at great benefit to the people.

23. SPECIAL COMMENTS/REMARKS - The results of the impact study to evaluate the health, economic and social impact of the project should prove of immeasurable value to other proposed potable water improvement systems in Indonesia and other LDC's.

The initiation of the impact study is developing a greater awareness within Cipta Karya regarding environmental considerations and the need to develop environmental assessment capability within the Ministry. This can develop hand-in-hand with the need to emphasize the importance of health education in relation to improvement of a water system in order to preclude early contamination of the system.

Surakarta Potable Water Project - PES

RATING OF PROJECT PERFORMANCE

Unsatisfactory		Satisfactory			Outstanding	
1	2	3	4	5	6	7
		X				

The project is well within the ultimate time frame and some activities, such as installation of the distribution mains, are well ahead of schedule. The project could rate higher once procurement of the transmission main materials has been completed.

PROJECT TITLE:

SURAKARTA POTABLE WATER PROJECT, LOAN 497-U-044

I. Impact re Section 102(d) Criteria: (Explain How)

☐ Increase Agricultural Productivity

☒ Reduce Infant Mortality : Due to contamination of primary water sources (shallow wells and canals), water-borne diseases are endemic in Surakarta. 50% of deaths are among pre-school children with diarrhea and enteritis in children under the age of two being the leading cause of mortality.

The availability of clean water to the urban poor in the most congested areas of the city plus the addition of public bath houses and latrines with paramedical health care facilities will provide the conditions for a reduction in mortality and morbidity among children, particularly in the age group 0-5.

☐ Control Population Growth

☒ Promote Greater Income Distribution

The reduction in diseases among recipients of clean drinking water will reduce the amount of lost time and pay from their jobs due to sickness. This will result in an increase in family income in some of the poorest areas in Surakarta.

☐ Reduce Un-Under Employment

And related criteria:

☐ Strengthen/Create institutions which aid social/economic development

☐ Improve condition of women: Social/Economic/Political

II. Benefit Incidence* (Please specify effect on women wherever possible)

A. Direct Beneficiaries

	(Number)	(Who)	(Where)
Income			
Labor			
Agricultural Production			
Education/Training/Management			
Medical Treatment (Reduction of Disease, available facilities/ services)	10,000	Urban Destitute.	At Surakarta public bath houses with paramedical facilities.
Living Conditions Improved (water, housing, sanitation, nutrition, institutions, decrease cost of living)	138,000	Urban Poor Water Users.	In Surakarta's most congested areas.
Provision of Power/Transportation			

Estimated Overall Total Without Double Counting 138,000

B. General Population in an Area that indirectly benefits from:

increased availability of food _____
increased mobility in area _____
general health improvement _____
or overall economic improvement _____

Overall None

C. People in Area not affected. Why?

D. People in Area adversely affected. How?

* Most of these figures are not mutually exclusive and many will include people who benefit in two or more ways.

Surakarta Municipal Water Supply

LOGICAL FRAMEWORK MATRIX

I. A. Program or Sector Goal	B. Measures of Goal Achievement	C. Means of Verification	D. Assumption
1) Improve the health and sanitary conditions in Indonesia	1) Reduction of morbidity and mortality from water-borne diseases in Indonesia	1) Provincial and National Health statistics of GOI	1) GOI data is available reliable
2) Contribute to the GOI Repelita II goal of a national increase of from 550 MGD to 662 MGD in the supply of potable water available to urban users	2) Reduction of mortality and morbidity among children in Indonesia in the age group 0-5	2) Health Impact Study of Surakarta Project	2) Impact Study will be effective
	3) Increase in life span of average Indonesian	3) GOI Repelita II reports and evaluation	3) Priority of goal in Repelita II is maintained
	4) Increase of potable water available to urban users in Indonesia		

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NO. ANNEX D

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A. Outputs

1) Transmission Main - From Cokrotulung Spring to Kartosuro reservoir and on to Jebres reservoir - total distance 27.3 km. Necessary fittings, valves, meters and communication equipment to operate main plus chlorination equipment.

2) Distribution System - 51.5 km of new water main will be installed. Leak detection, maintenance and repair program will become operational to upgrade old network and maintain new reticulation.

3) Services and Meters - Unrepairable meters in present system will be replaced and meters will be installed on all public faucets, latrines, bathhouses, swimming pools etc. as well as on all new yard hydrants installed.

4) New Service Connections - Construction of yard hydrants, public faucets and bathhouses. Water supplied to existing latrines.

5) Groundwater Study - Additional source of water supply located sufficient enough to meet long range needs of city.

6) Health, Social and Economic Impact Study

B. Magnitude of Outputs

1) Iron ductile pipe

Size	Length
450 mm (18 in)	10.0 km
500 mm (20 in)	9.2 km
600 mm (24 in)	8.1 km
total	27.3 km

2)

Pipe size	Length
100 mm (4 in)	35.5 km
150 mm (6 in)	1.5 km
200 mm (8 in)	2.3 km
300 mm (12 in)	12.2 km
total	51.5 km

3) 15,157 meters

4) 13,000 yard hydrants
200 public faucets
10 bathhouses
147 latrines

5) 10 boreholes

6) Continuous Evaluations

C. Means of Verification

1) Contractors reports

2) Consultants reports

3) GOI reports

4) Surakarta Water Enterprise Data

5) Site inspections

6) Impact Study reports

D. Assumptions

1) Adequate construction capability exists in the areas

2) Surakarta Water Enterprise will be able to locate leaks and upgrade old system

3) Yard hydrants will effectively replace shallow wells

4) Public faucets and bathhouses will be used by and adequately serve needs of very poor

5) The groundwater investigations will locate sufficient additional sources of water to meet the medium term and long range needs of the city

6) A local University is capable of conducting an accurate, meaningful and useful study

IV. A. **Inputs**

AID Financing

1) Construction transmission main, fittings, valves, meters, communication and chlorination equipment

2) New distribution mains, service connections, meters and associated appurtenances

3) Materials cost of yard hydrants, public faucets, bathhouses and upgrading of latrines

4) 75% of Groundwater Study

5) 100% of Impact Study

6) Expatriate Supervision of Construction

7) Technical Assistance and Training

GOI Financing

1) Labor costs of installation of transmission main and distribution system
2) Upgrading of old distribution system
3) Labor cost of construction of yard hydrants, public faucets, bathhouses and upgrading of latrines
4) 25% of Groundwater Study

B. **Implementation**

Disbursements
(millions US$)

1)

Year	AID	GOI	TOTAL
FY77	282	527	809
FY78	4791	1510	6311
FY79	249	778	1027
FY80	708	548	1256
FY81	765	377	1142
FY82	-	43	43

(See Implementation Plan for added details)

C. **Means of Verification**

1) GOI Reports

2) AID Monitoring

3) Consultants Reports

4) Vouchers

D. **Assumptions**

1) That the Governor of Central Java will grant in writing an additional allocation of 250 l/s to the city of Surakarta from the Cokrotulung Spring

2) That TA can be recruited and candidates for training will be found

3) That the materials will be provided on time and in sufficient quality and quantity

4) That the local contractors are sufficiently skilled to do the job under supervision

5) GOI makes budget provisions for and provides other inputs on a timely basis

Note:
Assumption 1 will be a CP for disbursement

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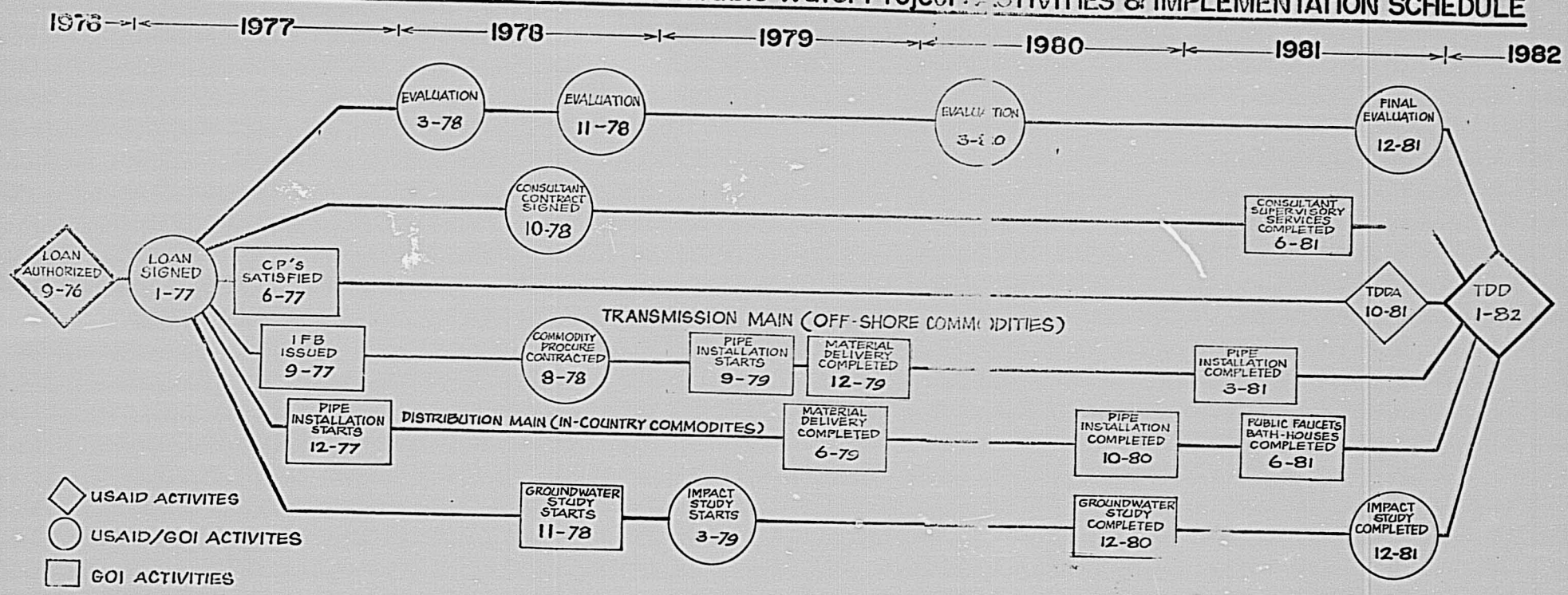
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