Report No. 747

CONFIDENTIAL

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

PROJECT PERFORMANCE AUDIT REPORT

on

SINGAPORE SECOND TELECOMMUNICATIONS PROJECT

(Loan 647-SI)

May 22, 1975

Operations Evaluation Department

SINGAPORE SECOND TELECOMMUNICATIONS PROJECT

TABLE OF CONTENTS

PROJECT PERFORMANCE AUDIT

SINGAPORE SECOND TELECOMMUNICATIONS PROJECT

PROJECT BASIC DATA - Loan 647-SI

Borrower/Beneficiary:		Singapore Telephone Board (STB), which merged in April 1974 with the Telecommunication Authority of Singapore (TAS) to form new Telecommunication Authority of Singapore (TAS).
Loan Amount:		US$ 11 million
Amount Disbursed:		US$ 11 million
Date of Loan:		December 19, 1969
Effective Date:		February 27, 1970
Closing Date:	Original and Final:	May 31, 1974
Date of Final Disbursement:		April 1974
Terms of Loan:		20 years, 4½ years grace period, Interest rate 7% p.a.
Exchange Rate:	-	Original US$ 1.0 = S$ 3.06
	-	Final US$ 1.0 = S$ 2.47
Fiscal Year:	Through 1971:	January 1 to December 31
	In 1972/73:	January 1, 1972 to March 31, 1973
	Thereafter:	April 1 to March 31
Appraisal Report:		PU-22a; November 28, 1969
Appraisal Mission:		July 1969
Supervision Mission:		October 1970 and January 1973
Project Completion Report:		dated August 14, 1974
Project Completion Date:	Forecast:	December 1973
	Actual:	May 1974
Total Project Cost:	Forecast:	S$ 113.5 million
	Actual:	S$ 118.5 million

SUMMARY

The Singapore Telephone Board (STB), which merged in April 1974 with the Telecommunication Authority of Singapore (TAS), received Loan 647-SI of US$ 11 million, which was signed in December 1969 and closed, fully disbursed, in April 1974. The project -- the 1970-73 four-year tranche of STB's investment program -- comprised the expansion of the exchange capacity by 99,000 lines together with the installation of 70,000 additional subscribers' lines and was expected to be completed by end of 1973. The project was executed virtually as originally planned and completed four months behind schedule with total costs only about 4% higher than originally projected. The project helped STB to almost double its system and to maintain an adequate quality of service, satisfactory operations and financial viability. Greater than expected growth of demand and difficulties in securing reasonable equipment prices from manufacturers and consequent delays have led to the build-up of a sizeable waiting list since installation of the equipment financed with the Bank loan.

A serious issue in connection with the loan was the procurement and financing of the exchange equipment, for which US$ 3 million was finally included in the loan. STB had in 1967 called for tenders, with full Bank concurrence and approval, for some 18,000 lines to be financed by a first loan (513-SI), with an option for a further 32,000 lines, assuming the Bank would have no difficulty in financing such further purchases under a new loan, if one were granted. The Bank eventually showed great flexibility and commendable lack of embarrassment in reversing an earlier decision 180° when it agreed in October 1969 to finance these purchases, but this was after nearly a year of intermittent discussion and it would appear that the issues - mainly connected with advance contracting and standardization - could and should have been resolved considerably earlier. Nonetheless this long delay was inconvenient but not in the end costly to STB and it did help to evolve policies now laid down in the Bank's Telecommunications Sector Paper and in an Operational Manual Statement on Advance Contracting which should prevent the recurrence of such problems.

Aside from this procurement problem, the Bank handled the loan and its supervision efficiently and appropriately inexpensively. The Bank gave good advice, which has been applied, in regard to the need to merge TAS and STB and in connection with postponement of a major construction project, but it could usefully have helped more to convince the Government of the desirability of reforming STB's tariff structure, which appears to subsidize business subscribers unduly.

PROJECT PERFORMANCE AUDIT MEMORANDUM

SINGAPORE: SECOND TELECOMMUNICATIONS PROJECT

Introduction

1.01 Singapore Telephone Board[1/] (STB), fully owned by the Government, was established under the 1953 Singapore Telephone Board Ordinance to be responsible for Singapore's local public telephone system and took over in 1955 the assets and operations of the former telephone company. The Government's Department of Telecommunications - which was converted to the Telecommunication Authority of Singapore on April 1, 1972 - was responsible for all other aspects of telecommunications (telegraph, telex, and international services). There was a close relationship between the Department of Telecommunications and STB which leased circuits to the Department for telegraph, telex and other services, and metered and billed on its behalf for trunk calls to Malaysia; for these services, STB was reimbursed only for direct costs but did not share in the large profits made by the Department on the remunerative international services.

1.02 STB's assets grew from S$ 13 million in 1955 to S$ 80 million in 1969. The fully automatic telephone system comprised by mid-1969 11 exchanges with a capacity of 106,000 lines of which 86,000 were in use. Exchange equipment installed before 1969 was of the step-by-step type (British manufacture). By the middle of that year the first 8,000 lines of crossbar equipment had been installed, under a contract awarded to L. M. Ericsson of Sweden in 1967 following international competitive bidding, and a further 18,000 lines of Ericsson crossbar equipment were nearing completion, largely financed out of the first Bank loan (513-SI of US$ 3 million) towards STB's 1968-69 expansion program. Due to buoyant conditions in trade and industry, demand for telephone connections increased rapidly after 1967, and the backlog of applicants increased from 2300 by end-1966 to 4000 by end-1968.

Project Preparation

2.01 The Bank received in December 1968 an application from STB for a loan of US$ 14.5 million to cover the foreign exchange cost (net of carry-over in 1969 from Loan 513-SI) of STB's four-year 1969-72 expansion program. The Bank pointed out that the gap in STB's project financing plan to be filled by the loan was due mainly to dividend payments to the Government very substantially in excess of the limit on dividend payments agreed upon under the first loan.[2/] The Government recognized this, but expressed its

---

1/ On April 1, 1974, STB became the Telephone Department of the Telecommunication Authorities of Singapore (TAS) with which it merged then - see page 3 of the Project Completion Report (Attachment).

2/ This limit was S$ 2.4 million or 30% of STB's net earnings, whichever is lesser, for 1969; STB's projected dividend payments for 1969-72 were S$ 7 million p.a.

hope that the Bank would continue to follow the liberal policy applied in the first loan, whereby loans to STB were justified, despite STB's ability to finance most of its investments, on the grounds that Government's revenues from STB were used for expenditures in other sectors not amenable to external financing; moreover, the Government expressed its reluctance to restrict itself in advance on STB's dividend payments.

2.02 The most serious issue was with regard to procurement and financing of telephone exchange equipment. To attract competition and ensure some standardization, STB had called for tenders in 1967, with full Bank concurrence and approval, for a four-year 50,000 line supply contract rather than only for the 18,000 lines to be covered by Loan 513-SI. It assumed that the Bank would have no difficulty in financing further purchases under the contract along these lines that had been awarded to L.M. Ericsson with Bank approval. Considerable discussion in the Bank through the first half of 1969 eventually led to the position adopted by the July 1969 appraisal mission that, irrespective of the agreement with Ericsson, equipment other than that to be added to existing exchanges must be submitted to new international tendering and in no case could funds from a new Bank loan be made available to cover orders firmly given before loan signature; this, together with the fact that STB was then reaching agreement with Ericsson for establishment of a local factory to meet equipment requirements from about 1973 on, would effectively preclude Bank financing of switching equipment, and the loan as appraised was largely confined to outside plant and cables. STB wrote to the Executive Director of the Bank responsible for Singapore, urging reconsideration of the Bank's position. After reviewing various alternatives, the Bank offered to finance with its new loan further exchange equipment procurement, beyond the existing contract with Ericsson, but STB showed no interest. Finally, in October 1969, in a 180° reversal of the firmest position it had taken throughout the discussion, the Bank decided that, since prices under the original Ericsson contract "compare favorably with those it /STB/ would have obtained by asking for new bids", it was, after all, prepared to finance any payments not made prior to the date of loan signature, irrespective of when the orders had been placed.

2.03 On this basis some US$ 3 million, for exchange equipment, was added to the US$ 8 million, for cable and accessories, proposed as the loan amount by the Bank's appraisal mission. Of the 99,000 lines of exchange equipment to be installed by STB under its 1970-73 program, 14,000 to be commissioned early in 1970 had been covered by Loan 513-SI, 33,000 outstanding under the original arrangement with Ericsson would be largely covered by Loan 647-SI and most of the remainder would be obtained (without Bank assistance) from the planned STB/Ericsson Singapore manufacturing plant.

2.04 During negotiations, it was agreed that:

a - STB's tariff would be sufficient to earn a rate of return of at least 10% on average net fixed assets;

b - The Government would extend term loans[1] to fill STB's foreseen financial gap over the 1970-1973 period, as and when necessary; and

c - STB's dividend payments to the Government would not exceed 30% of its annual net earnings during 1970-1973 and 40% thereafter.

The loan was signed in December 1969 and became effective in February 1970.

Project Implementation, Cost, and Achievements; Financial Performance

3.01 Project Implementation, Cost and Achievements are described in the attached Project Completion Report (PCR) prepared by the Bank's Public Utilities Department of the Central Projects Staff and modified in its annexes after review with STB. Project construction covered the period January 1970 - May 1974 as compared to January 1970 - December 1973 projected. Some 96,000 exchange lines were commissioned, bringing STB's total exchange equipment capacity to 209,700 lines approximately as forecast; the number of additional connections installed was 72,365 bringing the total number of connections in the network to 164,365 (160,000 forecast). The final cost of the project exceeded the estimated cost by 4.4%, which is low for a four-year project (Annex 3 of Attachment). Foreign costs were higher than estimates by 20.7%, and were financed by IBRD for 39% and STB for 61%. The major foreign cost overrun on exchange equipment seems to originate from higher prices negotiated by STB with Ericsson for exchange lines ordered beyond the original 50,000 line contract of 1968; average unit cost of equipment was S$ 269 per line for the first 33,000 partially financed with Loan 647-SI, and S$ 393 per line for the other lines. Larger than foreseen purchases of subscribers' apparatus and telephone instruments explain the second major increase in foreign costs.

3.02 Financial performance of STB has been satisfactory, and the rate of return on average net fixed assets has been at least 11% (see PCR for further details). Investment requirements have been met to the extent of some 75% from internally generated funds, significantly higher than expected, and the expected call on Government lending has not been necessary; dividends of some US$ 1-2 million equivalent yearly have been paid to Government, consistent with loan covenants.

3.03 The waiting list reached a minimum of 1655 applicants for lines by end of 1971 (representing 1.3% of demand) and increased quickly thereafter, reaching 12,600 line waiters or 7.4% of the recorded demand by the end of 1973 and 21,700 or 11.0% of recorded demand by the end of 1974[2];

1/ Terms of Government loans should be those of the Bank loan, i.e. repayable over 15 years at 7% p.a. interest, but without a grace period.

2/ The STB standard, quoted by the Bank's appraisal report, is that the waiting list should be less than 3% of demand.

there have been, in addition, waiters for exchange connection, which numbered 420 by end 1972 and 2145 by end 1973. No exchange equipment was delivered in 1973, following cancellation of contracts placed with Ericsson due to a dispute1/ about the Telephone Industry of Singapore (TIS), the STB-Ericsson joint venture set-up in 1969 to assemble exchange equipment (para. 2.02). The disruptions in installation of exchange equipment relating to the difficulty of finding a competitive supplier have been responsible for much of the waiting list increase. STB's present supplier is Fujitsu (Japan) with which a contract for 100,000 lines was negotiated in early 1973 at a price of some S$ 265 per line.2/

Tariffs

4.01 In late 1969, STB envisaged a tariff adjustment to convert the flat rate rental charge for business connections into a "message" rate at a specific rate per call (untimed local call metering). However, the Government refused to permit the new tariffs to be put into effect; flat rental charges were simply adjusted upwards in October 1971 (Annex 6 of Attachment). STB however feels that the present tariff structure may have induced an unnecessarily high demand from business customers who may be moreover subsidized by residential customers3/; STB considers that tariffs more in line with marginal costs should be instituted.

Bank's Performance

5.01 During project implementation, Singaporean firms competed for tenders called by STB. On one tender for cables, a local firm was the second lowest bidder by 4% and STB, which had to pay 40% duties on imported goods, requested Bank approval to award the contract to the local firm. The Bank could not agree, and the Loan documents had to be amended to avoid future similar cases, because no provision had been made in the ori-

---

1/ At the moment of commissioning TIS plant, a review of TIS financial forecasts showed that it was no longer viable because orders from sponsors, and therefore plant production, would drop below economic operating size. STB-Ericsson association ceased and TIS was put under liquidation. TIS plant was later sold to Fujitsu, Ericsson's successor as STB's supplier.

2/ Fujitsu could not have won the 1968 tender won by Ericsson because its equipment then was not compatible with STB's installed plant; compatibility was achieved later. The 1973 contract with Fujitsu was made after international tendering under an Asian Development Bank loan of 1972 had also produced offers at prices even higher than Ericsson's then price and much higher than some other developing countries were then paying; this led STB to cancel the Asian Bank loan and to negotiate the contract with Fujitsu, which it would finance itself.

3/ Business subscribers put an average of 16 calls per day, compared to an average 6 calls per day for residential subscribers.

ginal Loan Agreement for preference for local suppliers[1/]; loan documents were further amended to allow for disbursement on a percentage basis against the foreign exchange component of locally manufactured goods.

5.02 It is fortunate that STB went ahead with placing firm orders with Ericsson under its 50,000 line contract so that there was no delay in securing these lines and the waiting list in fact fell significantly until the end of 1971. While the Bank showed a creditable flexibility and lack of embarrassment, in reversing its position on exchange equipment procurement in October 1969, and that decision seems in retrospect to have been wise - since prices paid were low - it must be questioned whether decision-making procedures in the Bank were satisfactory if it took, as it did. nearly a year of intermittent discussion to reach that point. On one hand, the debate on this case should probably be seen as part of the very difficult process of formulating appropriate policies for reconciling fundamental Bank principles of international competitive bidding with the need, more significant in telecommunications than in many other fields, to allow for the advantages of a certain amount of standardization - a process which eventuated in a clearer policy statement in November 1971.[2/] On the other hand, since there was no change in the underlying situation over the course of 1969, and the Bank was making its decision on the basis of essentially the same set of facts at the end as at the beginning of the year, it must be wondered whether there should not have been a procedure for laying out the case, the questions it raised, and the alternatives open, more fully at the start of the discussion - and, if necessary, presenting the matter explicitly to the Executive Directors, insofar as their believed preferences were always a major background factor to the various positions struck. It is possible that the Bank's slowness in resolving the issues and prolonged apparent rigidity may have been a factor causing STB not to follow up the tentative talk in 1972/73 of a further Bank loan; as mentioned, it went to the Asian Development Bank in 1972 even though that loan too was not eventually drawn.

5.03 The Bank had a positive role in several ways. During negotiations, the Bank pointed out to the Government the advantages of merging STB with TAS, i.e. better operating efficiency and coordination of investment planning; as noted, the merger was recently implemented. The Bank also advised STB to reconsider its intention to invest in a high-rise building which might have required STB to borrow some S$ 9 million; STB dropped this project.

1/ The Bank apparently did not foresee that Singaporean firms would be able to manufacture telephone cables - at least, in sufficient quantity that they would need to be financed out of loan funds rather than STB's own resources.

2/ See Bank's Sector Policy Paper for Telecommunications. Moreover, the Bank policy on the key issue on which the Bank reverted itself - financing of contracts signed before loan signature - has been clarified and liberalized in OMS 2.41 in such a way that the delay which arose in this case should probably not recur; however it might be desirable to treat explicitly in the policy statement the cases of long-term borrowers receiving repeated Bank loans and of contracts signed to take up options obtained in international bids under previous loans.

Finally, once the project was underway, administrative costs to the Bank were held extremely low and there were in fact only two supervision missions to STB over the four and a half years between loan approval and final disbursement. This was possible in part because STB provided good periodic reports in timely fashion and was an efficient correspondent. The Bank's decision to keep supervision costs low for this efficient borrower seems wise in retrospect.

Conclusion

6.01 The second Singapore telecommunications project has been useful, not least in helping to develop Bank policies in this sector, since it raised difficult procurement questions. The project was executed as originally planned and achievements somewhat exceeded expectations, with a slight cost overrun. It has helped STB to expand its system rapidly and to maintain its good quality of service, satisfactory operational performance and financial viability. Apart from the significant expenditure of time to clarify Bank policies during loan preparation, the Bank handled the project appropriately inexpensively.

Attachment

PROJECT COMPLETION REPORT

SINGAPORE SECOND TELECOMMUNICATIONS PROJECT

Project Description

The project is the four-year tranche beginning January 1, 1970 of the Borrower's ongoing program for the expansion of its local telephone service. It comprises the expansion of the exchanges from a capacity of about 110,000 lines to a capacity of about 200,000 lines together with the associated junction and subscribers' cables necessary to increase the number of subscribers' lines from about 90,000 to about 160,000. The project was expected to be completed by December 31, 1973.

Objectives and Achievements

The objective of the Loan was to finance development of the local telephone network which was being expanded to meet the increasing demand. Demand had increased by 8% per annum between 1961 and 1966, 12% in 1967, 14% in 1968 and 16% during the first half of 1969. The 1970-1973 program was based on a 14% growth rate of demand and designed to come within 3% of meeting that demand. This would have resulted in a maximum waiting list at the end of 1973 of 5,000 subscribers which is equivalent to an average waiting time of about 90 days.

From January 4, 1970 to May 31, 1974 -- the project's construction period -- about 96,000 exchange equipment lines were commissioned bringing STB's total installed equipment capacity to 209,700 lines. During the same period, the number of additional connections installed was 72,365 bringing the total number of connections in the network to 164,365. The number of telephone stations in service rose by 125,214 to a total of 261,481.

Demand and supply were in line with the forecast in 1970 and 1971 and the waiting list actually decreased slightly. During 1972 and 1973, demand increased faster than projected whereas supply continued to be in line with the forecast thus resulting in a rapid build-up of the waiting list and a substantial lengthening of the waiting time. Over the 1970-1973 period demand increased by 16% per annum compared to the projected 14% per annum and supply increased by 14% per annum compared to the forecast 15% per annum. The original estimates and the performance of the Borrower have been good.

	Actual 1969	1970	1971	1972	1973	Est. 1974	Average Growth Rate 1970-1973 (% p.a.)
Demand (Subscribers' lines)							
Actual (000's)	94	109	123	143	169	197	16
Appraisal (000's)	97	111	125	142	162	182	14
Variance (%)	(3)	(2)	(2)	1	4	8	
Supply (Connections)							
Actual (000's)	92	106	122	137	157	176	14
Appraisal (000's)	93	108	123	140	160	179	15
Variance (%)	(1)	(2)	(1)	(2)	(2)	2	
Waiting List							
Actual	2,109	2,417	1,655	5,217	12,593	21,679	
Appraisal 1/	2,910	3,330	3,750	4,260	4,860	5,460	
Variance (%)	(28)	(27)	(56)	22	159	297	
Waiting Time							
Actual (days)	134	49	58	51	104	171	
Appraisal (days)	82	70	80	79	77	92	
Variance (%)	63	(30)	(27)	(53)	35	86	

1/ Appraisal target (waiting list should be less than 3% of demand).

Construction Schedule

The estimated and actual cut-over dates of various exchanges are set out at Annex 1. The appraisal report did not set out any construction schedule. The slippage in project completion is small.

Project Cost Estimates

The estimated cost of the Bank-financed project as appraised and the final cost of the project are set out at Annex 3. The final costs exceed the estimated costs by 4% which is insignificant for a project of this type and extending over a four-year construction period.

No exchange equipment was delivered in 1973 while the (1970-1973) project provided for payment for this equipment. This equipment would normally have been commissioned in 1974 to 1976, and as such, the physical targets for exchange installations during 1970-1973 have not been affected. There would, however, be a year's slippage in the installations proposed to be completed between 1974 to 1976.

Allocation of Loan Proceeds

The allocation of the loan proceeds was as follows:

Category	US$	S$ Equivalent
Outside Plant	8,000,000	24,000,000
Switching Equipment	2,300,000	6,900,000
Unallocated	700,000	2,100,000
Total	11,000,000	33,000,000

The allocation was subsequently revised by reallocating the amount in "Unallocated" to "Outside Plant" and "Switching Equipment." The final reallocation was as follows:

Category	US$	S$ Equivalent
Outside Plant	8,444,140	25,298,000 1/
Switching Equipment	2,555,860	7,702,000
Total	11,000,000	33,000,000

The goods procured were substantially the same as proposed at the time of appraisal. The list of goods is set out at Annex 2.

1/ includes S$ 3,198,000 for the supply of 120,000 Table Telephone Instruments (item 4 of Annex 2).

Consultants' Performance

Consultants were not retained under the project.

Organization and Management

On January 1, 1972, the then Director of Telecommunications Department (a Government Department) was concurrently appointed as the General Manager of the Singapore Telephone Board (STB). On April 1, 1972, the Telecommunications Department was converted into a statutory body known as the Telecommunication Authority of Singapore (TAS). Members of the STB were concurrently appointed members of the new TAS and a Joint Board existed as of April 1, 1972. These appointments were programmed to ensure a smooth merger of the two statutory bodies which occurred on April 1, 1974.

The rationale behind the merger was to cut out wasteful duplication of telecommunication activities and to enable technical expertise to be more fully developed. Further there were high revenue surpluses in overseas telecommunications, and the merger into a single corporation would make it easier to utilize available finances and to borrow capital required in excess of internal cash generation of the amalgamated enterprise. The new organization is now structured along functional lines for Administration, Customer Services, Engineering, Finance and Management Services.

Additional Works

In addition to the completion of the Bank-financed project, other major projects undertaken or planned by the Board during the project period were:

(a) The Telecenter -- a training center established for the training of the merged Authority's technical, operational and management staff as well as for technicians from Radio and Television Singapore -- is in the final stages of completion. This project is assisted by the United Nations Development Programme and the International Telecommunication Union. The Telecenter is expected to be completely operational by early 1975.

(b) Since the administrative centers of the merged Authority are widely located and do not contribute to efficient management, the Authority is planning to construct a multi-million dollar Communications Center. The expected date for completion of the COM center is 1977. When completed, the COM center will provide accommodation facilities for the Administration, Engineering and Finance Personnel as well as provide floor space for accommodating expansion of equipment facilities.

(c) The new Bedok Exchange building with an ultimate capacity of 30,000 lines was completed. The East and City South Exchanges buildings with capacities of 40,000 and 60,000 lines respectively were about 50% completed.

(d) The Trunk Telephone Exchange operating to West Malaysia with a capacity of 600 lines was cut into service in November 1973.

Finances

The financial results of STB's operations have been generally satisfactory (Income Statements are in Annex 4). Due to a tariff increase (Annex 5) on October 1, 1971, not included in the forecasts, operating revenues have exceeded the forecasts but since operating expenses also have exceeded forecasts due to unexpected salary increases and increased depreciation[1/] net operating income has been in line with the forecasts. Some financial indices are shown below:

1/ Appraisal forecast was based on a composite rate of 5% whereas the actual has been about 6% since 1971.

	1970	1971	1972/73[1/] [2/] (12 months)	1973/74[2/] (12 months)
Net Operating Income				
Actual (S$ million)	11.8	13.0	15.2	15.9
Appraisal "	11.9	13.2	14.5	16.0
Variance (%)	(1)	(2)	5	2
Rate of Return				
Actual (%)	13	11	11	11
Appraisal (%)	13	13	11	10
Variance (%)	-	(15)	-	-
Operating Ratio				
Actual (%)	59	63	64	68
Appraisal (%)	56	57	57	58
Variance (%)	5	11	12	12
Debt/Long Term Cap.				
Actual (%)	15	20	21	23
Appraisal (%)	16	24	28	32
Variance (%)	(6)	(17)	(25)	(28)
Current Ratio				
Actual (times)	1.2	1.0	1.0	1.2
Appraisal "	1.0	.9	1.1	1.1
Variance (%)	20	11	(9)	6
Cash Contribution[3/]				
Actual (%)	14	14	15	15
Appraisal (%)	13	12	11	11
Variance (%)	8	17	36	36

1/ 1972/73 is obtained as 12/15 of the actual figure which is for 15 months.
2/ The appraisal figure is for CY 1972 and 1973 respectively.
3/ Net profit plus depreciation/Gross Plant.

Whereas uses of funds have been in line with the appraisal forecast (Summary of Funds Flow Statements is in Annex 6), the financing of the program has been different from appraisal expectations. Funds from operations exceeded appraisal estimates by 40%[1/] due to the tariff increase,

1/ The actual period is 51 months compared to the appraisal period of 48 months, a difference of 6.3%.

which was only partially offset by the increased operating expenses before depreciation. This made the loan expected to be made by Government unnecessary and accordingly decreased borrowings. Actual financing from internal sources of 77% was accordingly much higher than the appraisal estimate of 61%.

The financial position at the end of the project (March 30, 1974), was very favorable (Balance Sheet in Annex 4). The debt equity ratio of 23% was below the forecast and the current ratio of 1.2 was slightly above the forecast. The liquidity position (cash, banks and short-term-fixed deposits) of about S$ 30 million is very strong.

The future finances of TAS (the entity formed out of STB and TAS) during the next four years are expected to be very favorable. The operating ratio is projected between 55 and 60% and the rate of return between 25 and 30%. TAS is also expected to be able to fully finance from internal sources its additions to fixed assets which will be growing at more than 15% per annum, and in addition to maintain fairly sizeable dividends (the consolidated dividend in respect of 1972/73 was S$ 23 million).

Insurance

Insurance against fire is carried on the buildings and their contents, which includes materials and supplies, with a total coverage in 1973 of about S$ 92 million. Insurance also covers cash in vault and in transit, fidelity guarantee and third party liability on motor vehicles.

Auditors

The auditors, Goh, Tan, Foo and Kon, Chartered Accountants, Singapore, have been performing satisfactorily.

Central Projects Staff
August 1974

SINGAPORE

SINGAPORE TELEPHONE BOARD

Exchange Installation Program 1970-73

Exchange	Planned (Appraisal) Size/Type	Planned Cutover Date	Planned Partly Financed by	Actual Size/Type	Actual Cutover Date	Actual Partly Financed by
1970						
Bukit Timah	4,000 EX	3/70	513-SI	4,000 EX	8/70	513-SI
Orchard	10,000 NX	7/70	513-SI	10,000 NX	6/70	513-SI
City	4,000 EX	4/70	647-SI	4,000 EX	9/70	647-SI
Katong	4,000 EX	8/70	647-SI	4,000 EX	12/70	647-SI
Paya Lebar	4,000 EX	4/70	647-SI	4,000 EX	9/70	647-SI
Jurong	2,000 EX	5/70	647-SI	2,000 EX	10/70	647-SI
Bukit Panjang	1,000 ES	8/70				
Woodlands	1,000 NM	12/70				
	30,000			28,000		
1971						
North	5,000 EX	5/71	647-SI	5,000 EX	6/71	647-SI
Queenstown	4,000 EX	3/71	647-SI	4,000 EX	4/71	647-SI
Paya Lebar	4,000 EX	9/71	647-SI			
City	6,000 EX	12/71	647-SI			
Woodlands				1,000 NM	7/71	
Bukit Panjang				1,000 ES	11/71	
	19,000			11,000		
1972						
East	6,000 NX	12/71				
Bedok	8,000 NX	5/72				
Queenstown	4,000 EX	9/72		2,000 EX	9/72	
Jurong	3,000 EX	10/72		1,000 EX	9/72	
Bukit Timah	4,000 EX	9/72				
Nee Soon	1,000 EM	7/72				
City				6,000 EX	9/72	647-SI
North				4,000 EX	12/72	
	26,000			13,000		
1973						
East	4,000 EX	3/73		6,000 NX	4/73	
East				4,000 EX	10/73	
Bedok				10,000 NX	10/73	
Queenstown				4,000 EX	10/73	
Jurong				2,000 EX	3/73	
Bukit Timah				5,000 EX	8/73	
Orchard				3,000 EX	11/73	
Paya Lebar	4,000 EX	6/73		6,000 EX	4/73	647-SI
North	4,000 EX	12/73		1,000 EX	4/73	
Katong	4,000 EX	9/73				
Telok Blangah	6,000 NX	12/73				
Bukit Panjang	1,000 ES	3/73				
Changi	1,000 ES	5/73				
Nee Soon				1,000 EM	6/73	
	24,000			42,000		
Grand Total 1970-73:	99,000		**1974**			
			Queenstown	2,000 EX	4/74	
			Grand Total 1970-74	96,000		

Type:
- N - New Exchange
- E - Extension
- M - Mobile
- S - Step
- X - Crossbar

Annex 2

SINGAPORE

SINGAPORE TELEPHONE BOARD (STB)

List of Goods Purchased

1. 33,000 lines of ARF 102 Switching Equipment - 23,000 were partly financed and 10,000 lines fully financed under this Loan.

2. 100 Systems of P.C.M. Equipment.

3. (i) 229,961 pair Kilometers various types of Distribution Cables.

   (ii) 53,393 pair Kilometers of P.C.Q.T. and P.C.Q.L. Junction Cables.

   (iii) 19,434 pair Kilometers of Polythene Insulated Twin Type Local Distribution Cables.

   (iv) 98,270 pair Kilometers of Polythene Insulated Twin Type Fully Filled Local Distribution Cables.

   (v) 249,346 pair Kilometers of P.C.Q.T. Junction Cables.

   (vi) 312,800 pair Kilometers of P.C.U.T. Distribution Cables.

   (vii) 338,960 pair Kilometers of Cellular Insulated Unit Twin Polythene Cables.

   (viii) 11,692 pair Kilometers of Polythene Insulated Quad No. 5 Terminating Cables.

4. 120,000 Table Telephone Instruments.

5. 9,600 Units Fuse Mounting BPO Type 8064A and 8064B.

6. 200 Nos. of 1,800 pairs Cabinet, Cross Connecting, and 1,625 Nos. of 200 pair Cable Terminal Units.

7. 260 Nos. of 900/1800 pairs Cabinet, Cross Connecting, and 1,200 Nos. 100/200 pairs Cable Terminal Units.

8. 114 Nos. of Loading Coils, 900/440 coils, 88mH

SINGAPORE - SINGAPORE TELEPHONE BOARD - LOAN 647-SI

PROJECT COST ESTIMATES AND ACTUAL EXPENDITURE (S$ mln)

Class of Plant	Original Cost Estimate a/				Actual Expenditure c/			
	F. X. Cost		Local		F. X. Cost		Local	
	IBRD	Others	Cost	Total	IBRD	Others	Cost	Total
1. Outside Plant (cables, coils, lines)	24.00	3.31	16.66	43.97	22.10	10.92	11.93	44.95
2. Switching Equipment	6.90	25.91 b/	4.40	37.21	7.70	31.33 d/	4.74	43.77
3. Unallocated, Overhead, Tools	2.10	1.52	3.44	7.06	-	-	-	-
4. Subscribers' Apparatus, PABXs	-	5.91	1.97	7.88	3.20	8.82	2.03	14.05
5. Land, Buildings	-	-	17.33	17.33	-	-	15.75	15.75
Total	33.00	36.65	43.80	113.45	33.00	51.07	34.45	118.52

a/ Based on Annex 2 of Appraisal Report PU-22a.

b/ Includes expenditures estimated at S$ 2.57 million to be financed by the balance of Loan 513-SI.

c/ Actual Project Cost consists of total capital expenditure made in the period January 1970 - April 1974. (excluding build-up of stocks which increased by S$ 8.59 million, of which S$ 4.09 million for cables).

d/ Includes expenditure of S$ 5.27 million financed by Loan 513-SI for 14,000 lines.

S.T.B.: BALANCE SHEETS AND INCOME STATEMENTS

Forecast/Actual (S$ million)

By:	December 1970		December 1971		March 1973		March 1974	
	Forecast	Actual	Forecast	Actual	Forecast	Actual	Forecast	Actual
ASSETS								
Gross Fixed Assets	150.77	151.52	177.43	184.93	203.86	219.88	231.45	268.67
Less: Depreciation	48.33	49.97	53.83	55.03	60.56	62.90	68.54	96.46
Net Fixed Assets	102.44	101.55	123.60	129.90	143.30	150.98	162.90	172.21
Financial Investment	2.15	0.84	2.78	0.68	2.78	0.99	2.78	0.99
Current: Cash/Quasi Cash	1.55	8.92	0.86	6.91	0.53	19.56	0.64	29.95
Receivables	1.40	13.70	1.50	12.32	1.70	5.39	1.90	7.20
Supplies	4.32	4.85	4.96	6.71	5.66	5.19	6.41	11.98
Others	0.35	-	0.35	0.67	0.35	0.98	0.35	0.21
Total Current	7.62	27.47	7.67	26.60	8.24	31.13	9.30	49.34
TOTAL ASSETS	112.21	129.86	134.04	157.18	154.31	183.09	174.98	222.54
LIABILITIES								
Capital	50.00	40.00	60.00	40.00	60.00	40.00	60.00	49.04
Reserves	37.61	50.55	35.83	63.46	44.49	78.52	53.87	92.04
Total Equity	87.61	90.55	95.83	103.46	104.49	118.52	113.87	141.08
L. T. Debt: Government	-	-	1.92	-	6.17	-	10.70	-
IBRD	17.00	16.96	27.89	26.47	35.06	32.78	41.70	38.74
Current: Dividends accrued	3.00	3.00	3.60	3.60	3.60	6.00	3.60	5.00
Payables	1.30	10.65	1.30	11.52	1.40	10.46	1.40	19.96
Overdraft/Bank	-	0.51	-	-	-	-	-	-
Advanced Bills	1.80	8.20	2.00	12.13	2.10	15.33	2.20	17.76
Other	1.50	-	1.50	-	1.50	-	1.50	-
Total Current	7.60	22.36	8.40	27.25	8.60	31.79	8.70	42.72
TOTAL LIABILITIES	112.21	129.86	134.04	157.18	154.31	183.09	174.98	222.54
INCOME STATEMENT						(15 mos.)		
REVENUES: Rentals/Fees	24.87	27.26	28.02	33.41	31.31	51.57	34.96	49.17
Miscellaneous	2.23	1.27	2.46	1.22	2.70	1.63	2.97	1.19
Operating Revenues	27.11	28.53	30.48	34.63	34.01	53.20	37.93	50.35
EXPENSES: Salaries/Wages/Fund	) 8.26	7.34	9.12	8.32	10.02	11.97	11.09	13.19
Maintenance	)	0.99		1.28		1.48		1.72
Depreciation	6.99	7.11	8.21	10.15	9.53	15.39	10.88	14.14
Others	-	1.26	-	2.33	-		-	
Operating Expenses	15.25	16.70	17.32	22.08	19.55	34.17	21.97	34.44
Operating Income	11.86	11.83	13.15	13.03	14.46	19.03	15.96	15.92
Other Income	0.45	1.89	0.45	2.32	0.45	4.60	0.45	5.00
Interest Payments	0.98	1.05	1.78	2.53	2.66	2.58	3.42	2.40
Net Profit	11.33	12.67	11.82	12.82	12.25	21.06	12.99	18.52
(Proposed Dividends)	3.00	3.00	3.60	3.60	3.60	6.00	3.60	5.00
(Dividends as % net earnings)	26.5	23.7	30.5	28.1	29.4	28.5	27.7	27.0
Rate of Return, %	12.6	13.6	12.6	11.1	10.8	15.0	10.4	11.5

SINGAPORE

SINGAPORE TELEPHONE BOARD

SUMMARY OF TELEPHONE TARIFFS (S$)

Class of Service	Annual Rental 1958-1971	Annual Rental After 1971 a/	Installation Fees
Business line	250.00	300.00	50.00 *
Residential line	180.00	200.00	50.00 *
Internal extension	52.50	'	20.00
External extension	52.50	'	50.00 *
P.A.B.X. internal extension	82.50	No change	20.00
P.A.B.X external extension	82.50	'	50.00 *
Colored telephone	12.00	'	35.00
Private wire - within the same exchange	285.00	'	50.00
- involving more than one exchange	485.00	'	-

a/ Change became effective as of October 1, 1971.

* An additional installation charge will be applicable when long overhead lines are required.

The first year's rental and the installation fee must be paid in advance of the installation. Thereafter, rental for business and residential lines and private wires are paid quarterly in advance. Extensions and colored telephone rentals are always paid yearly in advance.

PRIVATE AUTOMATIC BRANCH EXCHANGE (P.A.B.X.)

Installation fees: Contractors' charge + 30% + any STB costs.

Annual Rental fees - Non-Government Subscribers:

Nil - PABX is purchased by subscriber.

Annual Rental fees - Government Departments:

Capacity to 30 extensions	- 26.42% of capital cost for minimum of 5 years
Capacity to 400 extensions	- 20% of capital cost for minimum of 7 years.
Capacity over 400 extensions	- 13.15% of capital cost for minimum of 12 years.

The above charges are to recover the capital costs of the P.A.B.X. In addition to these charges, P.A.B.X. subscribers pay the above listed costs for trunks (business lines) and P.A.B.X. extensions.

S.T.B.: CASH FLOW STATEMENTS

Forecast/Actual (S$ million)

	1970		1971		1972		1973		Total 1970-1973	
	Forecast	Actual	Forecast	Actual	Forecast	Actual (Jan.1972-Mar.1973)	Forecast	Actual (Apr.1973-Mar.1974)	Forecast	Actual[a] (Jan.1970-(Mar.1974)
SOURCES										
Bank overdraft - net	-	0.23	-	-	-	-	-	-	-	0.23
Net Internal Cash Generation	19.30	20.14	21.59	23.36	23.73	37.41	26.04	35.83	90.66	116.73
Less: Dividends	2.40	2.40	3.00	3.00	3.60	3.60	3.60	6.00	12.60	15.00
Net Internal Cash Generation	16.90	17.74	18.59	20.36	20.13	33.81	22.44	29.83	78.06	101.73
Borrowing: IBRD (Net)	9.45	9.37	9.25	9.51	4.96	6.31	4.01	5.96	27.67	31.15
Government	-	-	2.00	-	4.50	-	5.00	-	11.50	-
Total Borrowing	9.45	9.37	11.25	9.51	9.46	6.31	9.01	5.96	39.17	31.15
TOTAL SOURCES	26.35	27.34	29.84	29.87	29.59	40.12	31.45	35.79	117.23	133.11
APPLICATIONS										
Construction Programs	24.37	22.48	29.36	35.70	29.23	37.43	30.49	27.60	113.45	123.21
Financial Investments	0.65	0.15	0.63	-	-	0.31	-	-	1.28	0.46
Increase in Working Capital	1.33	4.70	(0.15)	(5.83)	0.36	2.38	0.96	8.19	2.50	9.44
TOTAL APPLICATIONS	26.35	27.34	29.84	29.87	29.59	40.12	31.45	35.79	117.23	133.11

a/ The actual comprises 51 months due to a change of fiscal year, or 6.3% more than the forecast period of 48 months.