東南アジア・ケーブル計画
（フィリピン）調査報告書

昭和39年6月

海外技術協力事業団

はしがき

日本政府はフィリピン共和国政府の要請にもとづき、同国も参画している東南アジア海底ケーブル計画に関するフィリピンにおける基礎調査を行なうことになり、昭和３８年度予算をもって、その実施を政府の実施機関である海外技術協力事業団に委託した。事業団はフィリピンにおける通信事業の発展と、同国のみならず、関係各国の急増する国際通信需用に対処する海底ケーブルによる通信幹線建設の重要性に鑑み、その効率的な実施を期して、郵政参事官渡辺　淳氏を団長とする４名の調査団を派遣した。

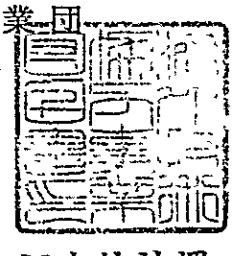
調査団は、昭和３９年２月２５日より２０日間にわたり現地に滞在し、計画の各分野につき討議、研究するとともに現地を踏査し、資料の収集を行なった。幸い現地における調査は、フィリピン政府関係者の熱意ある支援と協力によって円滑に行なわれ、調査団は全員無事帰国し、ここに調査報告書提出の運びとなった。

当事業団は、日本政府が行なう海外技術協力の実施機関として昭和３７年６月に発足以来、開発途上にある国々に対する専門家の派遣、研修生の受入、コンサルティング・サービスの提供など、各種の政府ベース技術協力を実施して、ちゃくちゃく実効をあげているが、この報告書がフィリピン政府における東南アジア海底ケーブル計画の推進に役立ち、日本・フィリピン両国の友好親善を促進するとともに、民族、国家間の文化の交流、意志の速やかな伝達手段として大きな役割を果すケーブル建設に寄与することができれば、これにまさる喜びはない。

終りに本調査の実施にあたり、支援と協力を惜しまれなかったフィリピン政府関係者に対し、また調査団々員各位、現地において調査に協力された在外公館の方々、ならびに調査団の派遣に協力いただいた外務省、郵政省、国際電信電話株式会社に対し、ここに厚くお礼申し上げる。

昭和３９年６月

海外技術協力事業団
理事長　渋沢信



調査統計課

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Ⅰ　ま　え　が　き

1　調査の目的

東南アジア・ケーブル計画（注）推進のため、１９６２年２月、東京で開催された第１回東南アジア・ケーブル会議は、第２回会議を再び東京で開催することを約し、それまでに関係国が単独もしくは協力して、ケーブル陸揚地点の選定、通信量予測などの作業を行なうことを勧告した。

一方、東南アジア地域には、この東南アジア・ケーブルのほか、英連邦ケーブル（SEACOM）や米国ＡＴＴの計画によるグアム～マニラ・ケーブル計画が進行しており、わが国としても東南アジア・ケーブル・プランの提唱国として、その早期実現を推進する必要に迫られた。

このため第２回会議を昭和３９年３月に開催、関係国とさらに協議することになったが、関係国の電気通信主管庁においては本計画に賛意を表し、前記の作業を履行する意向を有しながらも、技術的そのほか諸般の事情により、東南アジア・ケーブル・プラン検討のために必要とされる基礎的調査の実施が遅れているものが多い実情であった。

そこで政府は、次の諸項目につき、関係国に対し調査協力を行なうことを目的とした投資前基礎調査（昭和３８年度予算）を実施することにし、調査団の関係国への派遣を計画したが、種々の事情により３８年度はフィリピン共和国についてのみ行なうことになった。

〔項目〕

(1)　ケーブル陸揚地の選定

(2)　陸揚地点と関門局を結ぶ通信幹線路の建設

(3)　国内主要通信系の改善整備

(4)　海洋調査を行なうための事前連絡

(5)　ケーブル保守要員の確保

(6)　通信需要量の予測

(7)　ケーブル協定の締結・履行に際しての国内法令

(8)　その他

2　調査団の編成

団長　　渡　辺　　淳　（郵政省大臣官房郵政参事官）

団員　　江　副　卓　爾　（国際電信電話株式会社海底線建設部海底線課長）

団員　　塚　田　謙　三　（国際電信電話株式会社営業部国際協力課連絡係主任）

団員　　岡　田　淳　吉　（郵政大臣官房電気通信監理官室国際協力係長）

3　期間および日程

昭和３９年２月２５日～３月１５日（２０日間）

２月２５日東京発～マニラ着

３月１５日マニラ発～東京着

旅行日の２日間を除く１８日間の調査活動は次のとおりである。

	（第１班、渡辺、岡田）	（第２班、江副、塚田）
討議・指導	４日間	３日間
資料収集	５日間	４日間
資料調査	３日間	３日間
現地踏査	２日間	４日間
資料作成	４日間	４日間

4　概　　況

今回の調査は、基本的に政府対政府ベースのものであり、われわれが主として接触したのも公共事業通信省の電気通信局であった。

フィリピン電気通信局は、電気通信行政について若干の権限を有してはいるものの、フィリピンにおける電気通信、特に電話については、基本的には民営を原則として多元的に運営され、政府は、私企業ではサービスが普及することが困難な部面を補完する立場で、電気通信事業を行なってきていたもののようである。電気通信局は、政府の行なう電気通信事業を実施することをおもな任務とする事業官庁であり、したがってフィリピンの電気通信事業は、この政府企業のほかに、大は政府企業の規模を上回るものから地方小都市単位の群小企業に至る、数十の民間および地方自治体などにより設立された企業体によって運営されている。それゆえこれら

民間企業に関する情報は非常に重要なものであったが、民間企業相互の競争は熾烈で、同業者はもとより、第三者に対しても極端な秘密主義をもってのぞんでいるため、私企業への接触は困難を極めた。

一方、これらの企業体に対する国の監督機関、監督権限は多岐にわたって分散しているため、私企業の実態を把握するに足る統一的な資料は、いかなる政府機関にも存在していない実情であった。

このような事情からフィリピン政府所掌範囲内のものについては、おおむね所期どおりの調査ができたが、民営通信事業についての入手資料は乏しいものになった。

しかし本調査団が意図した東南アジア・ケーブル・プラン推進のため、当面必要とする調査および協力並びにこれら諸活動を通じての意思交流は極めて順調に行なわれ、調査終了後、間もなく開催された前述の第2回東南アジア・ケーブル会議に寄与することができた。

本調査団は現地で次の諸氏から多大の協力を得た。ここに心から謝意を表する次第である。

フィリピン公共事業通信大臣　：Brigdo Vallencia 氏.

同省電気通信局長：Antonio Gamboa Jr.　氏およびそのスタッフ

フィリピン駐在日本大使：板垣　修氏および大使館員各位

（注）東南アジア・ケーブル・プラン

この計画は、日本と台湾、香港、フィリピン、ヴィエトナム、カンボディア、タイ、マレーシア、インドネシアを結ぶ海底同軸ケーブルによる通信幹線の建設構想であり、はじめ日本主管庁が提唱し、国際電気通信連合のプラン会議（1959年、東京および1960年、ニューデリー）において原則的承認を得ているものである。

Ⅱ 公衆電気通信事業の概要

1 事業体および監督機構

フィリピンの電気通信事業は１８６７年、スペイン領であった時代にはじまり、米国においてワシントン～バルチモア間に最初の実用電信回線が建設されてから２３年にして、マニラ～コレヒドール間に最初の電信線がつくられている。１８８８年、電話も開設されており、1897年に至りスペイン政府と Eastern Extention および China Telegraph Cable Co. との間に、主要４都市を結ぶ海底ケーブル運用協約が締結され、これらの企業体による島嶼間ネットワークが１９１８年まで行なわれていた。

米国植民地時代に入ると、軍用としての電信線、海底ケーブルの建設が行なわれ、部分的には電話も設置されたが、これらの施設は後に民政府に引きつがれて太平洋戦争時代にまで至っている。この間１９１１年に至り電話は廃止され、戦争勃発時は政府施設として無線局１０８、有線電信線路１４,６００Km、それに海底ケーブルを所有していた。

フィリピンの電気通信網は、第二次大線中の破壊により極端な混乱状態におちいった。戦後、これらの通信網を急速に復旧、拡充する必要にせまられたが、中央政府は十分な復旧資金の確保が困難であったため、多数の私企業に通信事業運営の認可を与えた。また、地方政府もそれぞれの地域における通信需要を満すため、独自の通信網を建設したので、その結果、数多くの公私事業体が全国各地に散在し、全国的な統一または相互の調整を欠いたまま通信事業が運営されている。

これらの通信事業体のうちおもなものをあげると、次のようになっている。

(1) 国内電話

a. Bureau of Telecommunications

b. Provincial Government

c. City Government

d. Philippine Long Distance Telephone Co.

e. Republic Telephone Co.

(2) 国内電信

a. Bureau of Telecommunications

b. Clavecilla Radio System

c. Radio Communications of Philippines, Inc.

d. Oceanic Wireless System

e. Lemi & Company

f. Felix Albert & Co.

g. Capitol Wireless System

h. Telefast

(3) 国際電話

a. RCA

b. Philippine Long Distance Telephone Co.

(4) 国際電信

a. RCA

b. MACKAY

c. Eastern Extension Australasia and China Telegraph Co.

d. Clavecilla Radio System

以上のように多数の私企業が公衆電気通信業務を取り扱っているが、これらの私企業を監督する機構には統一的なものがなく、下記のごとく、いくつかの官庁または部局が、それぞれ分散した監督権限を持っている。

(1) Public Service Commission

電気通信およびその他の公衆事業の設立運営認可証を発行し、私営電信電話会社などの料金を規制する。さらに、これら私企業の業務運営ならびに使用機器を統制し、必要があれば警察権行使の援助を受けることができる。

(2) National Economic Council

私営電気通信産業開発のための長期政策を決定する。政策の実施は Program Implementation Agency が担当する。

(3) Department of public Works and Communications （公共事業通信省）

この省の下に電気通信行政を担当する機関として、Bureau of Telecommunications（電気通信局）およびわが国の電波監理局に該当する Radio Control Office がある。公共事業通信省は、またＩＴＵ関係事務（ＩＴＵ会議への代表派遣、技術の標準化、規則の

制定など）も担当している。

電気通信局の職責および権限は次のとおりである。

a．電信施設の維持、拡張および運用

b．電話による全国通信を可能ならしめるための現存施設の維持運用および政府以外の通信事業者との協定

c．政府系施設によるサービス料金の設定

d．船舶および飛行機に対する海岸局の設立、維持ならびに公共の利益のため、必要とされる場合は国際通信を行なうこと

e．国際電気通信条約にもとづく諸種の規則の遵守

電気通信局の長（従前はDirectorがその職名であったが、１９６３年、その権限が拡大され、現在はCommissioner）は公共事業通信大臣の直接的監督のもとに、電気通信局に属せられた権限を抱括的に行なうものとされている。

以上のとおり、電気通信局は電気通信についての行政上の監督権限は殆ど持たず、主として電気通信事業を行なう事業官庁といえる。

(4) Congressおよび地方行政委員会

フィリピンにおける電気通信事業は独占ではなく、多くの企業体によって行なわれているが、政府が実施する場合を除き、すべてCongressまたはProvincial Board, Municial Board によるフランチャイズを必要とし、その際、上記の国会または行政委員会に提出されたフランチャイズ申請書は、すべて電気通信局に諮問され、Commissioner はその申請につき意見書を提出し、許可機関はこれを参酌して決定することとされている。

なお、無線による場合はRadio Control Office の免許、海底ケーブルの場合は領海通過につき外務省など、事案の性質に応じて関係各省の許可などを必要とすることはいうまでもない。

私企業の認可手続を示せば、次のとおりである。

(1) Local Networkのみの私企業

a．Public Convenience の認定書（Public Service Commission により認定される）

b．地方政府のフランチャイズ許可

この場合はCongress のフランチャイズは必要でなく、Munincipal Board または

Provincial Boardのフランチャイズ許可でもよい。

(2) National Networkを持つ私企業

二つ以上のProvinceにまたがる営業区域を持つ場合は、次の書類が必要である。

a. Public Conveniencenの認定書

b. Congressのフランチャイズ許可

(3) International Networkを持つ私企業

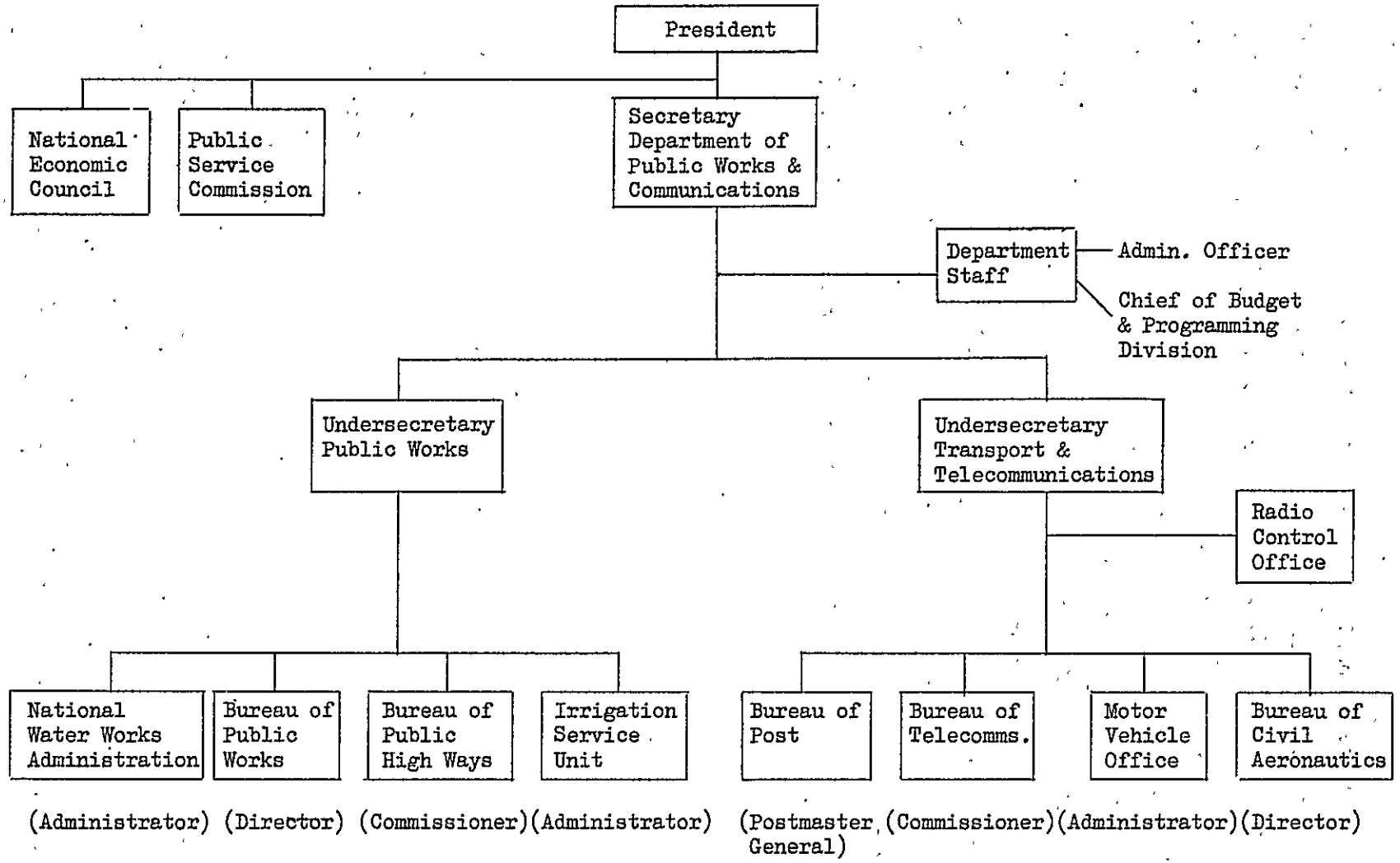
a. Congressのフランチャイズ許可

b. Public Conveniencenの認定書

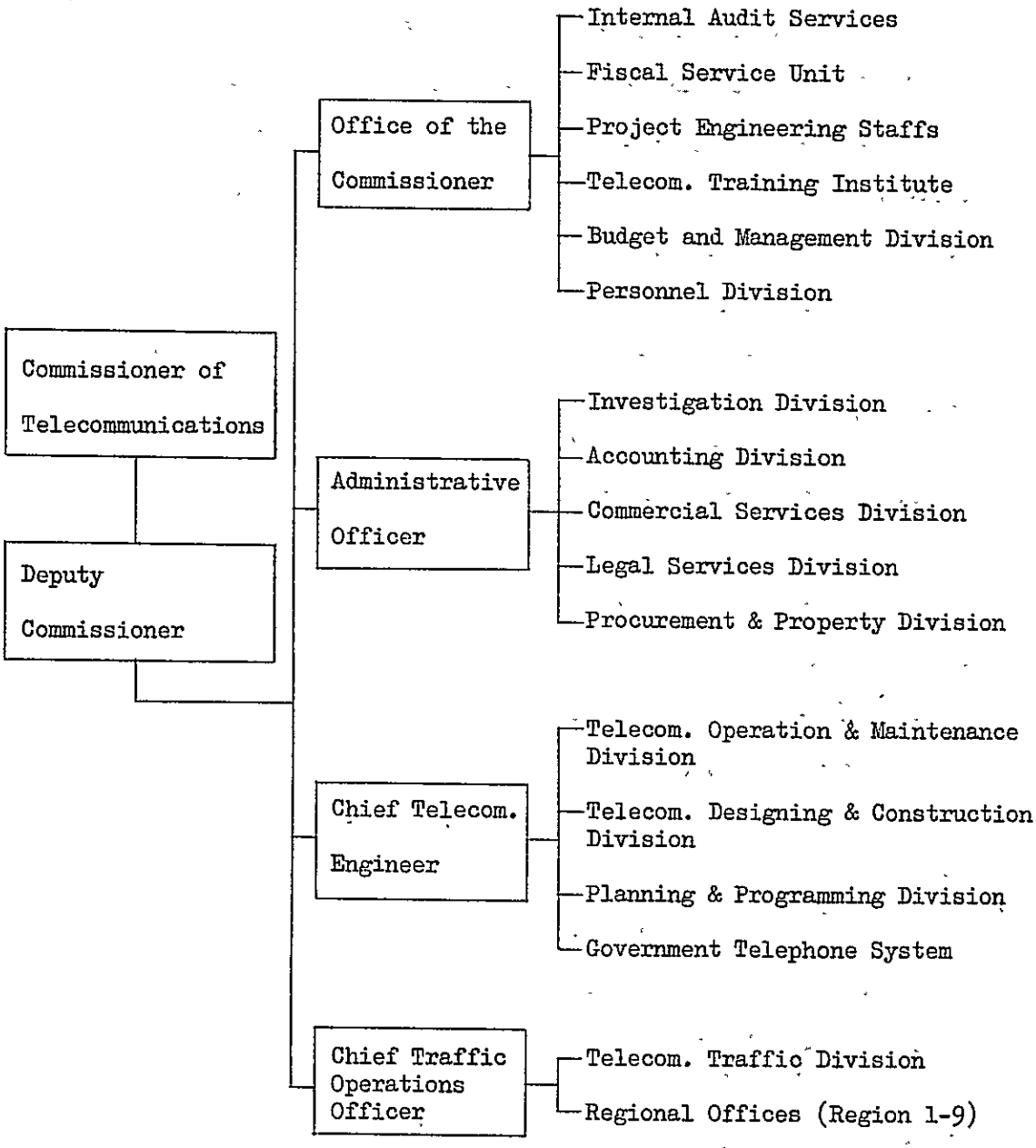
(注)フランチャイズ許可機関は原則的には上記のとおりであるが、申請者の都合により、上位の機関に対しても申請をすることができる。

＝参考＝

電気通信関係行政機関組織およびBureau of Telecommunication の組織は、次表のようになっている。


President
National Economic Council
Public Service Commission
Secretary Department of Public Works & Communications
Department Staff
Admin. Officer
Chief of Budget & Programming Division
Undersecretary Public Works
Undersecretary Transport & Telecommunications
Radio Control Office
National Water Works Administration
Bureau of Public Works
Bureau of Public High Ways
Irrigation Service Unit
Bureau of Post
Bureau of Telecomms.
Motor Vehicle Office
Bureau of Civil Aeronautics
(Administrator)
(Director)
(Commissioner)
(Administrator)
(Postmaster General)
(Commissioner)
(Administrator)
(Director)

Bureau of Telecommunications の組織図



各Division の下にある Section は下記のとおりである。

Internal Audit Service

1. Central Office Audit Branch
2. Field Office Audit Branch
3. Special Assignment Branch

Fiscal Service Unit

Project Engineering Staffs

1. ITT Expansion
2. Reparation Expansion

Telecommunication Training Institute
(Research and Training Division)

1. Research and Academic Section
2. Training and Research Laboratories
3. General Services and Technical Library

Budget and Management Division

1. Budget Operation Section
2. Statistics Section
3. Methods and Procedures Section

Personnel Division

1. Personnel Transaction and Appointment Section
2. Leave and Insurance Section
3. General Services Section
4. Records Section
5. Medical and Dental Section
6. Position Audit and Evaluation Section
7. Bonding and Miscellaneous Section
8. Non-technical Training and Employee Welfare Section

Investigation Division

1. Inspection and General Services Section
2. Complaint and Investigation Section
3. Prosecution and Special Services Section
4. Hearing and Evaluation Section

Accounting Division

1. Manila Disbursement and Obligation Section
2. Payroll and Salary Warrants Section
3. Bookkeeping Section
4. Special Service Section
5. Field Station Disbursement and Revenue Section
6. General Services Section

Commercial Services Division

1. Accounts Receivable Section
2. Bank Checking and Disbursing Section
3. Collecting Section
4. Commercial Section
5. Billing Credit and Adjustment Section
6. Cash Section
7. Inter-provincial and Overseas Section
8. General Services Section

Legal Services Division

1. Trial and Hearing Section
2. Claims and Legal Assistance Section
3. Research and Miscellaneous Services Section
4. General Services Section

Procurement and Property Division

1. Equipment Section
2. Technical Supplies Section

3. Stationeries and Office Supplies Section
4. Buying Section
5. Accounts Control Section
6. General Services Section

Telecommunications Operation and Maintenance Division

1. Motor Vehicles Section
2. Radio-Telegraph and Telephone Section
3. VHF Section
4. Power Plant Section
5. Office Equipment and Miscellaneous Section
6. General Services Section

Telecommunications Designing and Construction Division

1. Radio Section
2. Telegraph Section
3. Electrical and Mechanical Section
4. Civil Engineering Section
5. Telephone Designing and Construction Section
6. General Services Section

Planning and Programming Division

1. Planning Section
2. Programming Section
3. Project Evaluation Section
4. Technical Assistance Section
5. General Services Section

Government Telephone System

1. Inside Plant Section
2. Outside Plant Section

3. Engineering Section

4. Toll Traffic and Telephone Operation Section

5. General Service Section

Telecommunications Traffic Division

1. Traffic Engineering Section

2. Traffic Standards and Examination Section

3. General Services Section

Regional Offices (Regions 1 - 9)

1. Administrative Section

2. Traffic Section

3. Operation and Maintenance Section

2 国内通信の現状と拡張計画

(1) 国内電話の現状

国内電話は、その主要部分が私企業である Philippine Long Distance Telephone Co. , Republic Telephone Co. および中央政府の Bureau of Telecommunications によつて運営されているが、そのほかにも小規模な事業体が多数ある。ちなみに事業体の数を示すと下記のとおりである。

事業体の数

中央政府	1	
地方官庁	15	
市当局	3	
私企業	31	計50

現用電話機数は1963年6月末現在、約142,600個であるが、これを事業者別に示すと下表のようになる。

事業者	電話機数	備考
PLDT	110,439	マニラ市内 約80,000
Bureau of Telecom.	7,232	全部マニラ市内
Republic Telephone Co.	約 5,000	マニラ市郊外のみ
そのほか、小規模の私企業および地方官庁	約 20,000	全国各地に散在
計	約142,600	

この表から明らかなように、現用電話の大部分はマニラ市およびその郊外に集中している。電話自動化率は79.8%、普及率は人口100人に対し0.46となっている。未充足需要については正確な数字はつかみにくいが、6万ないし10万と推定されている。

市内通話の料金は、現在のところ定額制を採用している。マニラ市内など主要都市については、将来は度数制を採用することを検討しているが、実施にあたっては多くの障害がある模様である。参考までにマニラ市の電話料金を示せば次表のとおりである。

種　　類	Bureau of Telecom.	PLDT
Residential two-party line	月額　１２.００ペソ	月額１２.００ペソ
Business two-party line	〃　１５.００〃	〃　１５.００〃
Business single party line	〃　２０.００〃	〃　２４.００〃

（注）住宅用の単独電話サービスはしていない。

この表からも分かるように、事務用単独電話の料金はＰＬＤＴのほうが４ペソ高くなっている。

なお、ＰＬＤＴは１９６４年から始まる電話網拡充１０カ年計画所要資金の一部を確保するため、Public Service Commisson に対し、市内電話料金の値上げを申請し、すでに認可を得ている。それによると１９６５年度から、住宅用電話は４０％、事務用電話は４７％の値上げが行なわれることになっている。

マニラ市内には、Bureau of Telecommunication のＧＴＳ（Government Telephone System）とＰＬＤＴの二つの電話網が併存し、はなはだしいものは両系の電話局が同一地域に併立するなど、重復投資の弊を如実に示しているが、両系相互の接続はまるで市外電話の接続のように、両系の交換局間のトランクラインにより手動または自動により接続され、利用者に大きな不便を与えている。

この両者間の接続回数をＧＴＳの側からみると……

TRUNK CONNECTIONS FROM GTS TO PLDT

Distribution:

TELECOM. C.O.	O/G To PLDT		I/C from PLDT
Exchange "A"	55		33
Exchange "B"	34		17
Exchange "C"	35		17
Malacañang PABX	5	(Three 2-way)	-
East Exchange	5		3
Barranca Exchange	2		
Toll Board	6		1
Overseas Board	7		2
Message Delivery	1		-
	150		73
BIR PBX		5 (2-way)	
Weather Bureau PBX		5 (2-way)	

Grand Total - - - - - - - - - - - - - - - 233

○ 市外電話

長距離電話網もＧＴＳとＰＬＤＴの両システムが並存しているが、いずれも未発達の状態である。

ＧＴＳの市外電話交換局はマニラ市内の中央郵便局ビルの中にあり、手動交換台数台をもって４０の市外線に接続されている。市外線にはＶＨＦまたは架空線を用い、電信回線と共用のものもある。市外通話の可能な電話局数は合計６２局あるが、いずれも交換台または加入者を持たず、Booth （通話所）へ接続するか、あるいは地方都市の他系電話網に接続されているものもある。通話の品質は悪く、現在のところ、マニラ市以外からの国際電話への接続は不可能に近いと思われる。

ＰＬＤＴの市外電話は、Riverside 交換局（マニラ市内）に中心をおき、市外線１１５回線（陸線５２、無線６３）が１７の交換台に接続されている。ＰＬＤＴが運営する電話局数、所在地などについては、資料入手困難なために明らかでない。

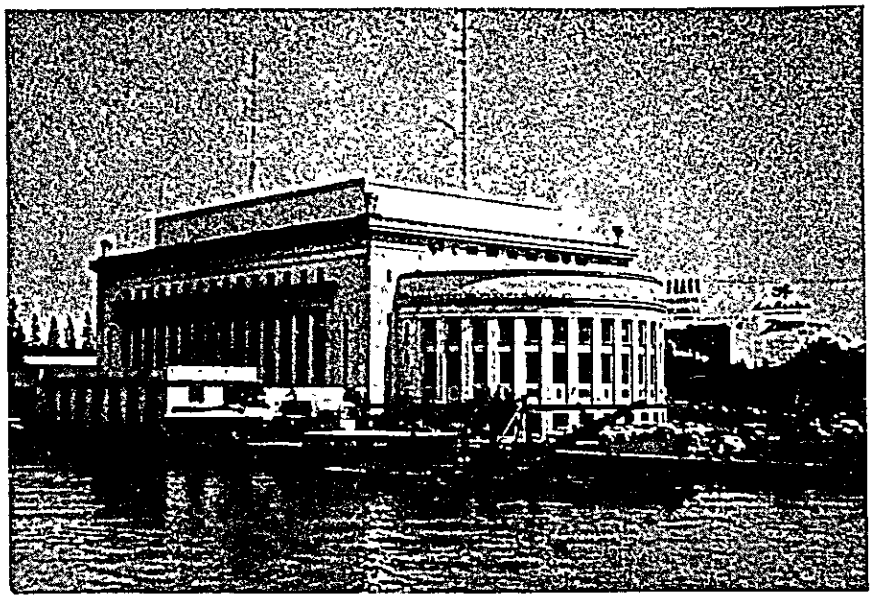
ＧＴＳとＰＬＤＴの営業規模を比較する資料として、電話機数そのほかを次にあげてみた。

種　類	１９６２年度		１９６３年度	
	ＧＴＳ	ＰＬＤＴ	ＧＴＳ	ＰＬＤＴ
現用電話機数	6,574	103,921	7,233	110,439
市内電話呼数	6997万	不　明	9400万	不　明
市外電話呼数	67,000	不　明	89,000	不　明
市内電話収入	99万ペソ	1830万ペソ	105万ペソ	1990万ペソ
市外電話収入	37万ペソ	351万ペソ	59万ペソ	399万ペソ

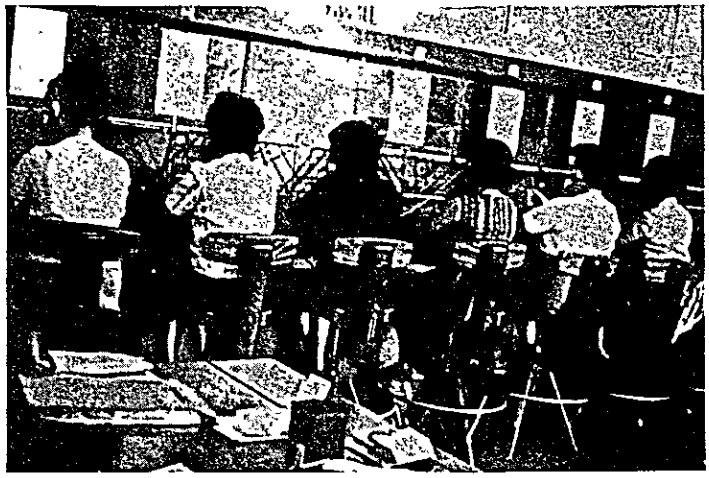
この表からも分かるように、ＰＬＤＴはＧＴＳの約１０倍の規模を持っている。

(2) 国内電信の現状

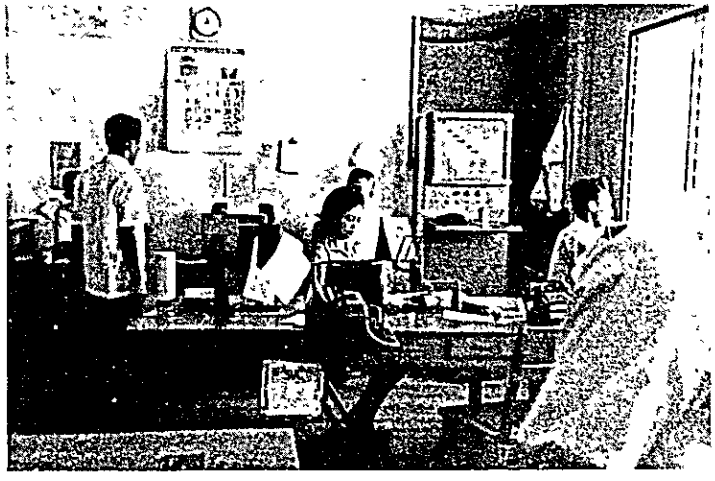
国内電信を取り扱う事業者は、政府のBurean of Telecommunication のほか、Clavecilla Radio System, Radio Communications of Philippines, Inc. など８社以上の私企業があるが、このうち最も規模の大きいのはBurean of Telecommunication のシステムであり、国内電報の大半を取り扱っている。電話網が未発達なフィリピンにおいては、電信が最も重要な通信手段であり、地方の僻地に至るまで網の目のように電信網が張りめぐらされている。



—Central Post Office Building— (Manila)
Bureau of Telecommunications をはじめ，電気通信関係の各局所がこの中にある



—Government Telephone Systemの PLDTとの交換台—



—San Fernando電報局— 音響通信が主役

１９６３年度のBureau of Telecommunication の電報局数、取扱量などを示せば下表のとおりである。

電報局数		1,157局
Radio Station	273	
Telegraph Office	654	
Radio & Telegraph Office	76	
Telegraph/Telephone Office	154	
取扱電報総数		461万通
有料電報	290万通	
無料電報	171万通	
電報収入		674万ペソ

国内電信網の中心はマニラであり、マニラ中央電報局だけで年間約５１万通の電報を取り扱い、そのほかマニラ市内にある七つの分局で約２０万通を取り扱っている。

マニラと地方主要都市間の連絡には、有線または無線（ＨＦ、ＶＨＦ）によるページ式テレタイプを使用し、直通テレタイプ回線２２回線を持っているほか、バック・キィを使用したモールス無線や有線音響通信も広く使われている。小都市間の連絡は、殆どモールス通信が使用されている。

国内電信を扱う私企業各社は、それぞれマニラ市内に中央局を持ち、主として無線（ＨＦ）によるテレタイプまたはモールス通信で、マニラ市と国内主要都市間および主要都市相互間の連絡を行なっている。

私企業各社の営業所数を示せば、下表のようになっている。

会社名	営業所数
Radio Communications of Philippines, Inc. (RCPI)	55局
Oceanic Wireless System	38局
Clavencilla Radio System	23局
Telefast	20局
Capitol Wireless System	12局
Central Radio Communications	12局
計	160局

私企業の取扱通数そのほかについては、資料入手が困難なため明らかでないが、各社営業所の所在地および私企業相互間の競争状態については、次表を参照ねがいたい。

CAPITAL WIRELESS SYSTEM

1. Manila
2. Baguio City
3. Laoag, Ilocos Norte
4. Cebu City
5. Iloilo City
6. Bacolod City
7. Iligan City
8. Davao City
9. Cotabato City
10. Marbel, Cotabato
11. Zamboanga City
12. Cagayan de Oro City

CENTRAL RADIO COMMUNICATIONS

1. Manila
2. Cebu City
3. Dumaguete City
4. Tagbilaran, Bohol
5. Maasin, Leyte
6. Cebu Marine Station
7. Bacolod City
8. Butuan City
9. Iligan City
10. Cagayan de Oro City
11. Davao City
12. Surigao, Surigao

OCEANIC WIRELESS SYSTEM

1. Manila
2. Laoag, Ilocos Norte
3. Aparri, Cagayan
4. Tuguegarao, Cagayan
5. San Fernando, La Union
6. Baguio, Mt. Province
7. Dagupan, Pangasinan
8. Lucena City
9. San Pablo City
10. Daet, Cam. Norte
11. Naga, Cam. Sur
12. Virac, Catanduanes
13. Legaspi City
14. Sorsogon, Sorsogon
15. Tacloban City
16. Ormoc City
17. Iloilo City
18. Bacolod City
19. Cebu City
20. San Carlos City
21. Tagbilaran, Bohol
22. Dumaguete City
23. P. Princesa, Palawan
24. Surigao, Surigao del Sur
25. Butuan City
26. Gingoog, Mis. Oriental
27. Ozamis City
28. Iligan City
29. Cagayan de Oro City
30. Marawi City
31. Pagadian, Zambo del Sur
32. Cotabato City
33. Davao City
34. Zamboanga City
35. Basilan City
36. Mati, Davao
37. Gen. Santos, Cotabato
38. Jolo, Sulu

RADIO COMMUNICATIONS OF THE PHILIPPINES, INC. (RCPI)

1. Manila
2. Laoag, Ilocos Norte
3. Aparri, Cagayan
4. Vigan, Ilocos Sur
5. Bangued, Abra
6. San Fernando, La Union
7. Santiago, Isabela
8. Baguio City
9. Dagupan, Pangasinan
10. San Fernando, Pampanga
11. Olongapo, Zambales
12. Lucena, Quezon
13. Batangas, Batangas
14. Siain, Quezon
15. Naga, Cam. Sur
16. Virac, Catanduanes
17. Tabaco, Albay
18. Boac, Marinduque
19. Legaspi City
20. Romblon, Romblon
21. Calapan, Mdo Oriental
22. San Jose, Mdo Occ.
23. Masbate, Masbate
24. Kalibo, Aklan
25. Roxas City
26. Borongan, Samar
27. Victorias, Neg. Occ.
28. Iloilo City
29. Bacolod City
30. Cebu City
31. San Carlos City
32. OYZP Marine Stn., Bohol
33. Binalbagan, Neg. Occ.
34. Dumaguete City
35. Pto. Princesa, Palawan
36. Butuan City
37. Lianga, Surigao del Sur
38. Gingoog, Mis. Or.
39. Dipolog, Zambo del Norte
40. Ozamis City
41. Cagayan de Oro City
42. Malaybalay, Bukidnon
43. Pagadian, Zambo del Sur
44. Cotabato City
45. Tagum, Davao
46. Davao City
47. Zamboanga City
48. Basilan City
49. Lebak, Cotabato
50. Marbel, Cotabato
51. Kidapawan, Cotabato
52. Mati, Davao
53. Digos, Davao
54. Gen. Santos, Cotabato
55. Jolo, Sulu

CLAVECILLA RADIO SYSTEM

1. Manila
2. Ilagan, Isabela
3. Olongapo, Zambales
4. Pasay City
5. Batangas, Batangas
6. Naga, Cam. Sur
7. Legaspi City
8. Roxas City
9. Iloilo City
10. Bacolod City
11. Cebu City
12. Butuan City
13. Ozamis City
14. Jimenez, Occ. Misamis
15. Iligan City
16. Cagayan de Oro City
17. Marawi City
18. Pagadian, Zambo del Sur
19. Cotabato City
20. Davao City
21. Zamboanga City
22. Gen. Santos, Cotabato
23. Jolo, Sulu

TELEFAST

1. Manila
2. Laoag, Ilocos Norte
3. Vigan, Ilocos Sur
4. San Fernando, La Union
5. Baguio City
6. Dagupan, Pangasinan
7. Lucena City
8. Tagaytay City
9. Naga, Cam. Sur
10. Legaspi City
11. Catarman, Samar
12. Roxas City
13. Iloilo City
14. Bacolod City
15. Cebu City
16. Butuan City
17. Cagayan de Oro City
18. Cotabato City
19. Davao City
20. Zamboanga City

(3) 国内通信網拡充計画

a. フィリピン政府の電気通信拡充計画

○ マニラ市内

フィリピン政府は、さきに日本からの賠償引当の借款で、マニラ市およびその近郊に自動交換方式（ＳＸＳ）により、新たに９交換局（現在は５局）、１２,０００回線、経費総計６５２万ドルの計画を策定し、最近工事に着手した。

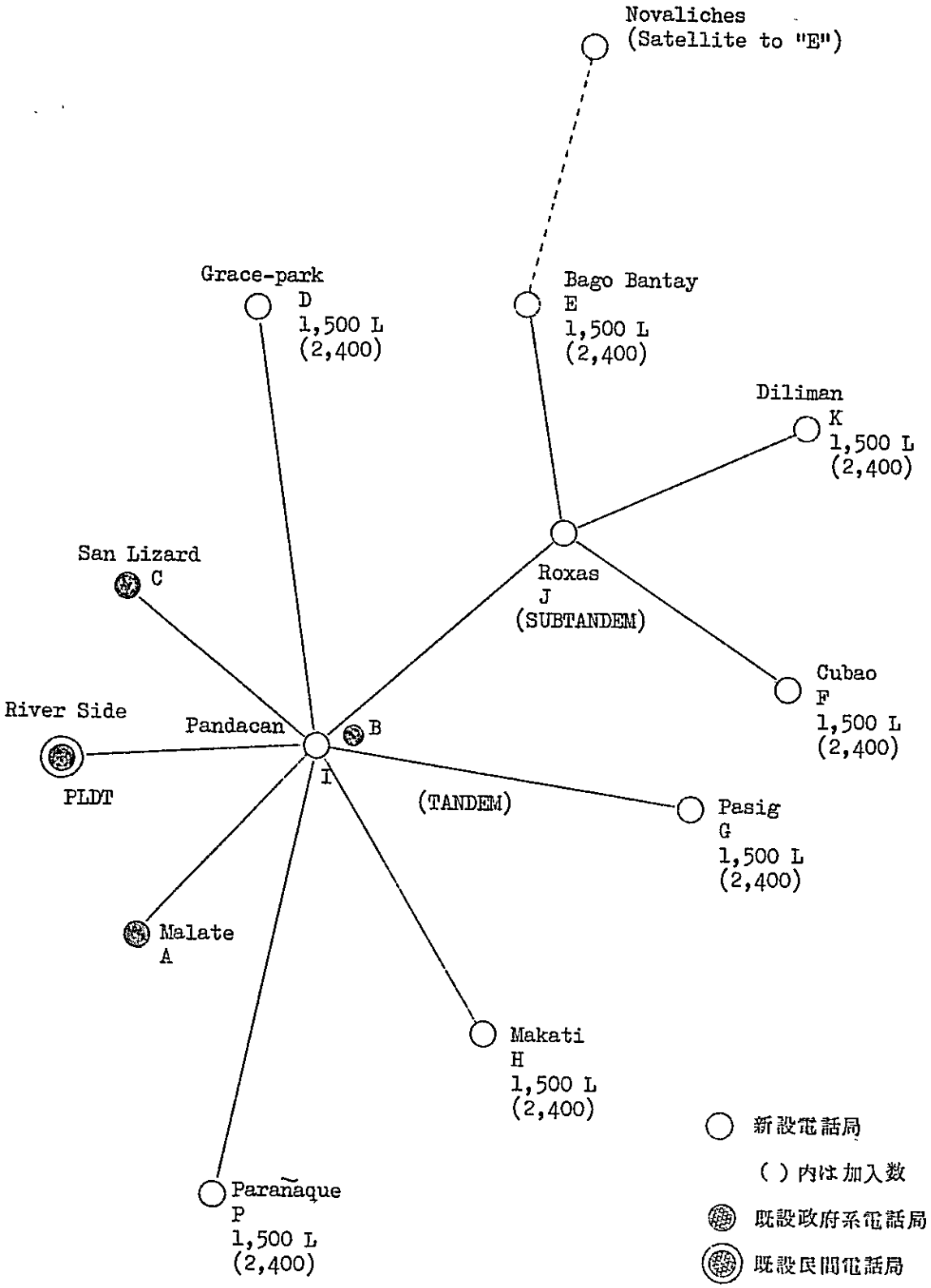
計画は次頁の図の通りであるが、参考までに市内の政府系電話の現用および計画完了（６５年末予定）後の規模を示すと、次のようになる。

Telephone Exchanges:

In Operation	Capacity
1. Ex. A - (Automatic Bar)	2,000 lines
2. Ex. B - (" ")	1,500 "
3. Ex. C - (" ")	1,500 "
4. East Ex. (Manual)	700 "
5. Baranca (Manual)	300 "

Proposed Exchanges	
1. Ex. D - (Automatic S/S)	1,500 lines
2. Ex. E - (" ")	1,500 "
3. Ex. F - (" ")	1,500 "
4. Ex. G - (" ")	1,500 "
5. Ex. H - (" ")	1,500 "
6. Ex. J - (" ")	1,500 "
7. Ex. K - (" ")	1,500 "
8. Ex. P - (" ")	1,500 "
9. Tandem Ex. I	- -

フィリピン政府のマニラ市内電話拡充計画図



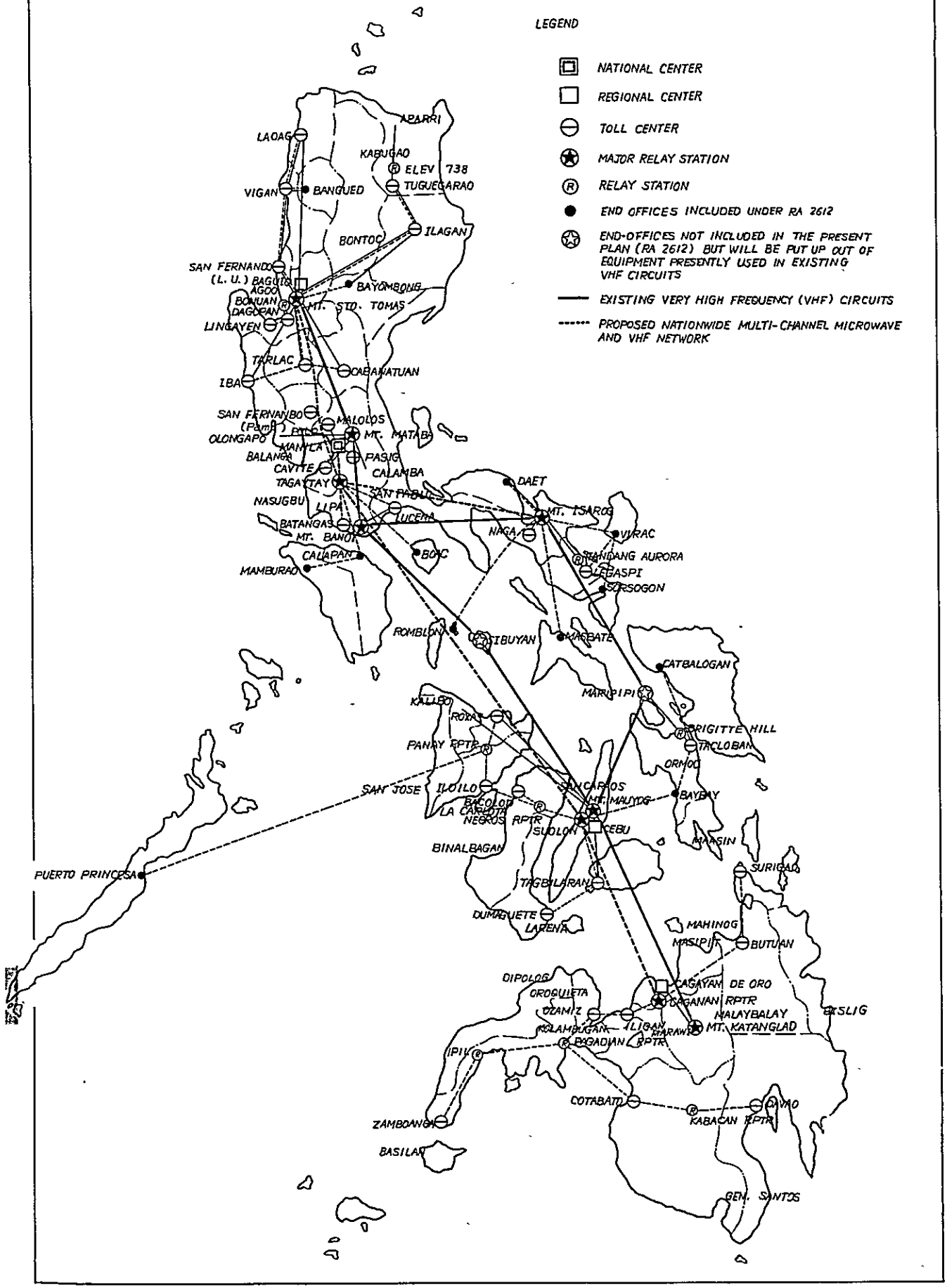
○　国内全般

フィリピン政府には、米国ＡＴＴ社と総額１９００万ドルにのぼる契約により、全国（ミンダナオ島を除く）ネットワークの拡張計画および電話局２６局、加入者線11,500回線の新設計画、マニラ、バギオ、セブおよびカガヤンデオロ各地における自動テレックス交換網（当初６００、目標1,６００加入）の新設計画がある。

また、契約者は定まっていないが、ミンダナオ島内において、主としてスキャッターそのほかによる、総額８００万ドルにのぼる幹線設置計画および9局の電話局と約5,０００回線の加入者線新設計画がある。

これらを含む、電気通信拡充改良５カ年計画のスケールおよび進行予定は、それぞれ次にあげた図表のとおりで、すでに１９６３年を初年度として進行中である。

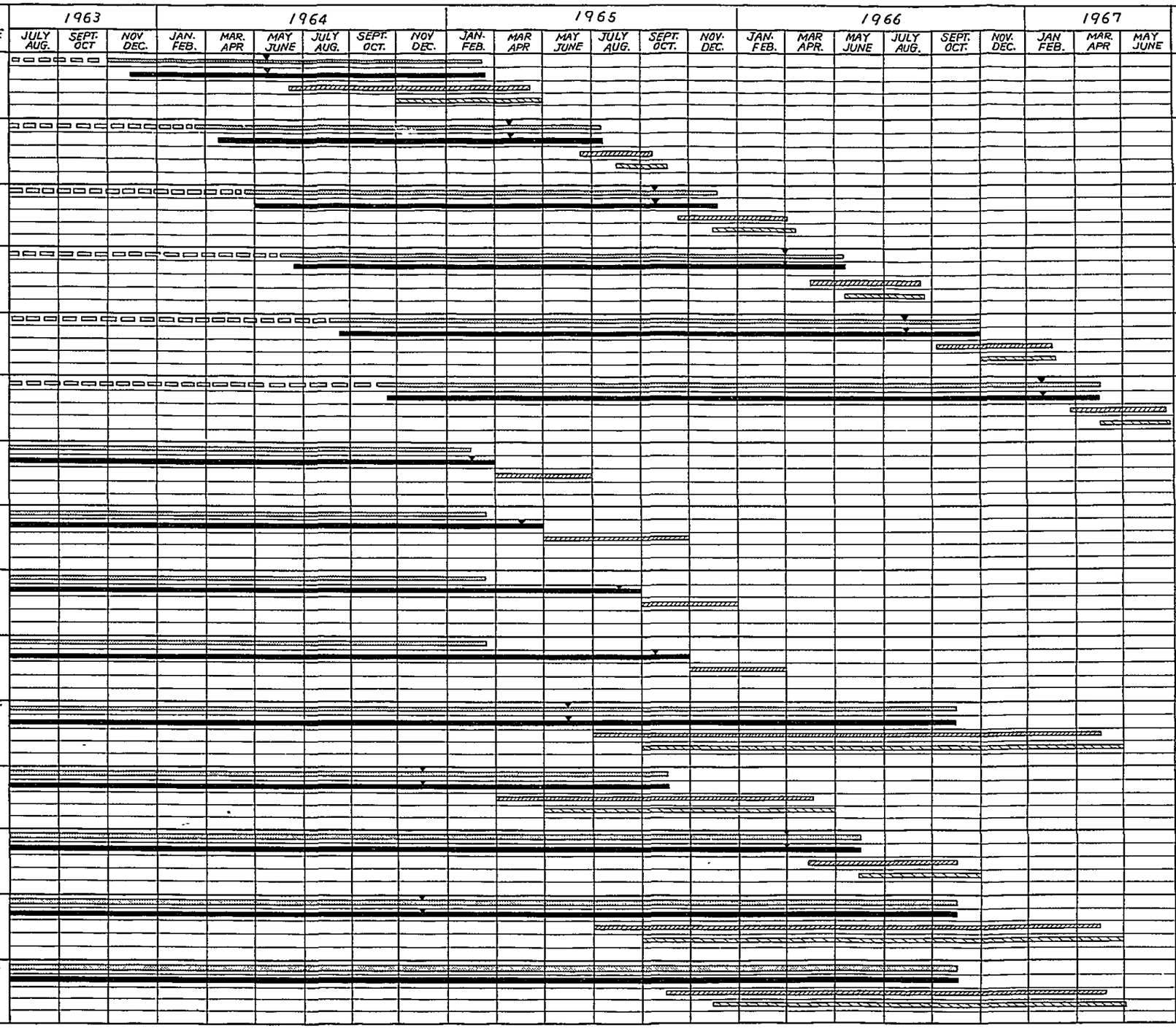
この計画の進展に伴い、フィリピン政府はマニラ市以外に初めて「電話交換局と加入者を持つことになり、また、フィリピン国内に初めて「国内テレックス業務」が生れることになる。

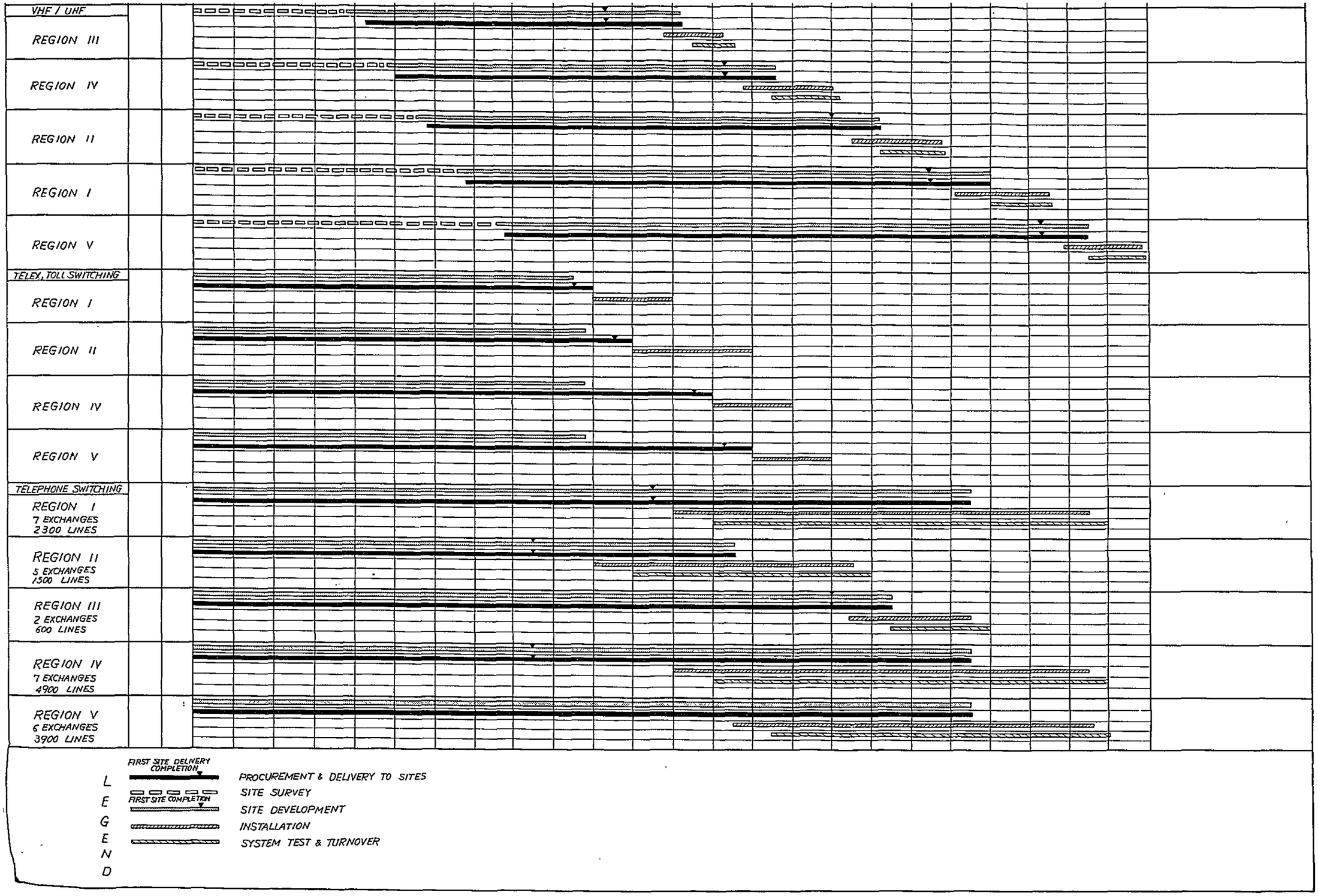

LEGEND
NATIONAL CENTER
REGIONAL CENTER
TOLL CENTER
MAJOR RELAY STATION
RELAY STATION
END OFFICES INCLUDED UNDER RA 2612
END-OFFICES NOT INCLUDED IN THE PRESENT PLAN (RA 2612) BUT WILL BE PUT UP OUT OF EQUIPMENT PRESENTLY USED IN EXISTING VHF CIRCUITS
EXISTING VERY HIGH FREQUENCY (VHF) CIRCUITS
PROPOSED NATIONWIDE MULTI-CHANNEL MICROWAVE AND VHF NETWORK
APARRI
LAOAG
KABUGAO
ELEV 738
TUGUEGARAO
VIGAN
BANGUED
ILAGAN
BONTOC
SAN FERNANDO (L.U.)
BAGUIO
BAYOMBONG
AGOO
BONUAN
DAGUPAN
MT. STO. TOMAS
LINGAYEN
TARLAC
CABANATUAN
IBA
SAN FERNANDO (PAMP.)
MALOLOS
OLONGAPO
MT. MATABA
MANILA
BALANGA
PASIG
CAVITE
CALAMBA
TAGAYTAY
DAET
SAN PABLO
NASUGBU
LIPA
LUCENA
MT. ISAROG
BATANGAS
MT. BANOI
NAGA
VIRAC
CALAPAN
BOAC
MAMBURAO
TANDANG AURORA
LEGASPI
SORSOGON
ROMBLON
IBUYAN
MACBATE
CATBALOGAN
MARIPIPI
KALIBO
ROXAS
BRIGITTE HILL
PANAY RPTR
TACLOBAN
ORMOC
SAN JOSE
ILOILO
SAN CARLOS
MT. MAUYOG
BAYBAY
BACOLOD
LA CARLOTA
NEGROS RPTR
SUBLON
CEBU
MAASIN
BINALBAGAN
PUERTO PRINCESA
SURIGAO
TAGBILARAN
DUMAGUETE
LARENA
MAHINOG
MASIPIT
BUTUAN
DIPOLOG
OROQUIETA
CAGAYAN DE ORO
CAGANAN RPTR
OZAMIZ
MALAYBALAY
MT. KATANGLAD
ILIGAN
MARAWI
SLIG
PAGADIAN RPTR
IPIL
COTABATO
DAVAO
KABACAN RPTR
ZAMBOANGA
BASILAN
GEN. SANTOS

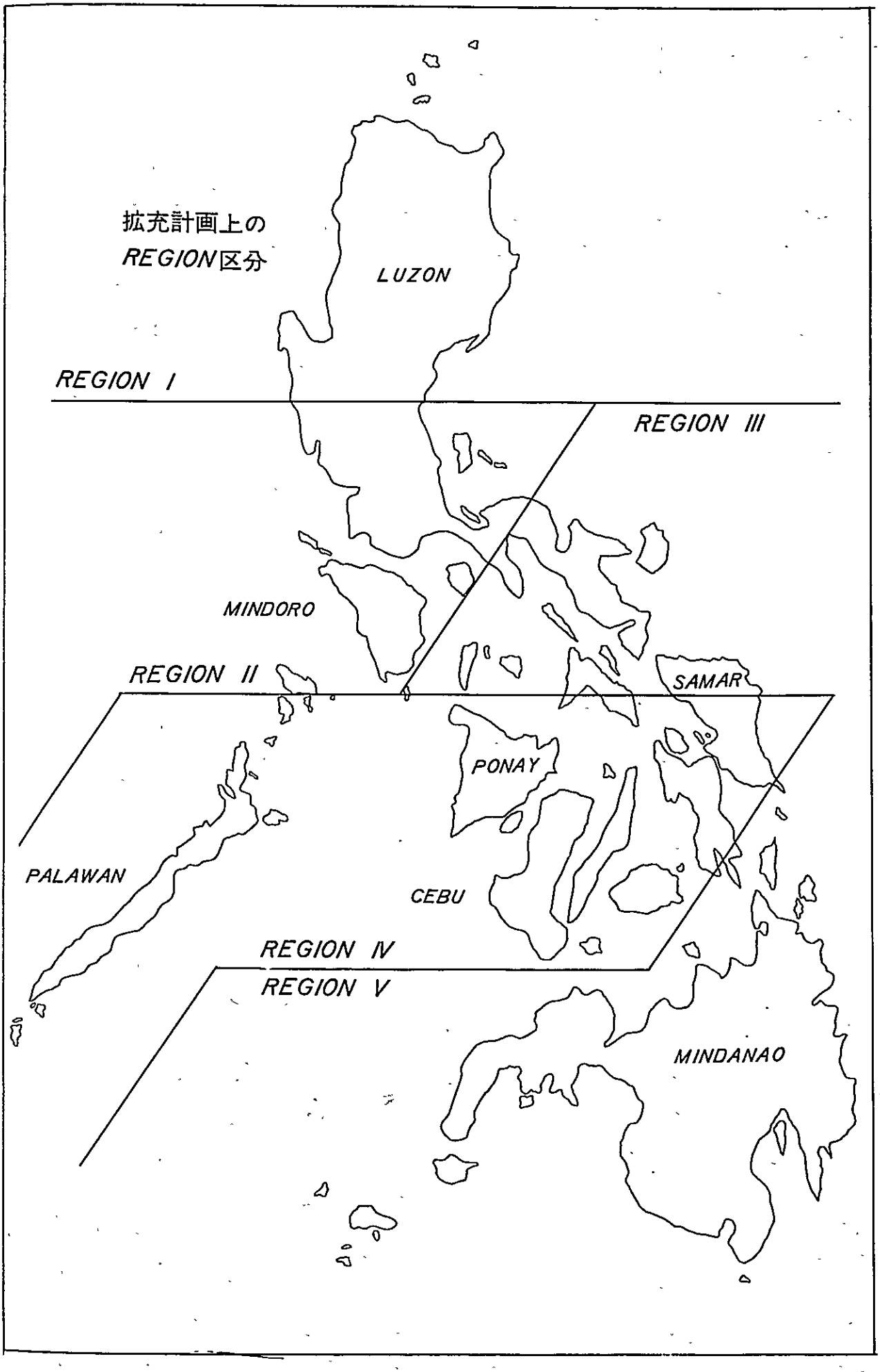
PROJECT SCHEDULE NATIONWIDE NETWORK

FOR THE BUREAU OF TELECOMMUNICATIONS

REGION	STN NO.	TYPE	REMARKS
BACKBONE SYSTEM			
VHF / UHF			
REGION III			
REGION IV			
REGION II			
REGION I			
REGION V			
TELEX, TOLL SWITCHING			
REGION I			
REGION II			
REGION IV			
REGION V			
TELEPHONE SWITCHING			
REGION I 7 EXCHANGES 2300 LINES			
REGION II 5 EXCHANGES 1500 LINES			
REGION III 2 EXCHANGES 600 LINES			
REGION IV 7 EXCHANGES 4900 LINES			
REGION V 6 EXCHANGES 3900 LINES			




VHF / UHF
REGION III
REGION IV
REGION II
REGION I
REGION V
TELEX, TOLL SWITCHING
REGION I
REGION II
REGION IV
REGION V
TELEPHONE SWITCHING
REGION I
7 EXCHANGES
2300 LINES
REGION II
5 EXCHANGES
1500 LINES
REGION III
2 EXCHANGES
600 LINES
REGION IV
7 EXCHANGES
4900 LINES
REGION V
6 EXCHANGES
3900 LINES
LEGEND
FIRST SITE DELIVERY COMPLETION
PROCUREMENT & DELIVERY TO SITES
FIRST SITE COMPLETION
SITE SURVEY
SITE DEVELOPMENT
INSTALLATION
SYSTEM TEST & TURNOVER


拡充計画上の
REGION区分
LUZON
REGION I
REGION III
MINDORO
REGION II
SAMAR
PONAY
PALAWAN
CEBU
REGION IV
REGION V
MINDANAO

b．私企業の拡充計画

○ ＰＬＤＴ

ＰＬＤＴは１９６１年ごろから国内電話網拡充１０カ年計画を作成し、Public Service Commission に対し認可申請を行なっていたが、１９６４年P.S.C.の認可がおり、いよいよ計画実施に乗りだすことになった。この計画は拡張資金5億８６００万ペソ（１ペソ＝９０円）をもって、１９６４年から１９７３年までの１０カ年間に国内電話網の整備拡充を行なおうとするものだが、その大要は次のとおりである。

1）電話機を現用の１１万個から３０万個に増設する

2）１９６３年１２月末現在の電話積滞数５３,０００を消化する

この１０カ年計画は、第一次（１９６０年～６７年）、第二次（1.９６６年～70年）、第三次（１９６８年～７３年）の三つに分かれていて、第一次は資金約1億ペソをもって、次の拡充を実施することになっている。

1）マニラ市および郊外地区に、電話機３２,９００個の増設を行なう。所要資金　約８０００万ペソ

2）ダバオ市の電話を手動から自動に切換えるとともに、電話機3,０００個を増設する。資金約５６０万ペソ

3）Bacolod および Silay ～ Talisay 地区の電話を手動から自動に切換えるとともに、電話機4,３００個を増設する。資金約６４０万ペソ

4）セブ市の自動電話交換機を増設するとともに、電話機約4,２００個を増設する。

5）ルソン島の San Pablo , San Fernando , Lucena などに、資金約５６０万ペソをもって施設の拡充を行なう。

6）ケソン市に１０,０００回線を収容できる自動局を資金５０万ペソで建設する。

7）マニラ市内の Sat. Mesa に１０,０００回線を収容できる自動局を資金５０万ペソで建設する。

8）マニラ～セブ間（４８ch）およびマニラ～バギオ間（２４ch）にマイクロならびにＶＨＦ搬送システムを建設する。

現在、ＰＬＤＴはマニラ市内に電話局9局、電話機８７,０００個を持っているが、上記の１０カ年計画が遂行されると、大体次表のような施設拡充が行なわれることになる。

		1963	1968	1970	1973	Total
1.	Caloocan Ex. (near Sangandaan)	3,715	5,900	6,500	1,500	15,615
2.	Quezon City	3,826				
3.	New (University)	-	6,900	9,600	8,600	22,900
4.	New (Binondo)	-	-	11,700	16,500	28,200
5.	Sta. Mesa	9,380	-	-	-	9,380
6.	San Juan	6,207	2,820	6,300	1,700	15,027
7.	Binondo	7,950	-	-	-	7,950
8.	New (Sta. Mesa)	-	3,600	7,000	1,600	11,800
9.	Riverside	29,107	5,600	9,200	11,800	55,507
10.	Malate	16,866	6,000	7,200	8,100	35,366
11.	Pasay	6,886	5,020	3,500	1,600	17,000
12.	Makati	5,658	3,160	5,000	2,200	16,018
13.	New (Parañaque)	-	-	-	600	600
		87,491				

このほかＰＬＤＴとＡＴＴの間にフィリピン～グァム間海底ケーブル建設協定が締結され、１９６４年１２月までに完成が予定されている。これに要するＰＬＤＴの資金は１１５０万米ドルとなっている。

○ Republic Telephone Company

この会社はマニラ郊外に電話網を持っているが、その現状および将来の拡充計画は次のとおりである。

Year	Telephone Service	Telephone Office	Tradition of Capital
1962	3,866	17	₱ 693,350
1963	5,666	22	1,556,700
1964	7,106	27	1,307,800
1965	10,056	32	3,264,700
1966	13,306	35	2,693,500
1967	14,766	35	647,000

3　国際通信の現状

フィリピンの国際通信はすべて私企業によって運営され、政府は対外回線を持っていない。国際通信を運営する私企業のうち、電話を扱うものは2社、電信を扱うものは5社で、大半が米系資本の会社である。

(1)　国際電話

国際電話業務を運営する私企業は、ＲＣＡ（米系）およびPhilippine Long Distance Telephone Co.（米系）の2社で、ＲＣＡは主としてアジア地域、ＰＬＤＴは米国およびヨーロッパ向（米国経由）の通話を取り扱っている。

a．ＲＣＡ

ＲＣＡは送・受信所のみを所有、運営し、ボーダスは政府（Burean of Telecommunication）が所有、運営している。しかしボーダスも近くＲＣＡに移管されることになっている。ボーダス端局はジーメンス製、秘話装置はＲＣＡ・ＡＺ－4型が使用されることになっている。

国内電話網との接続は、すべて政府（ＧＴＳ）の交換台を通じて行なわれる。したがってＰＬＤＴの加入者への接続もＧＴＳの交換台をとおることになる。ＧＴＳの交換台は2台あって、時間通信を行なっている。

ＲＣＡの国際電話回線は次のとおりである。

1. Australia (Sidney)
2. China (Mainland)
3. Europe via Berne
4. Formosa (Taipeh)
5. Guam
6. Hongkong
7. Indonesia (Djakarta)
8. Japan (Tokyo)
9. Korea (Seoul)
10. Macao via Hongkong
11. New Zealand via Sidney
12. Pakistan (Dacca)
13. Okinawa
14. Singapore
15. Teheran (Iran) via Tokyo
16. Thailand (Bangkok)
17. Vietnam (Saigon)
18. India via Tokyo
19. Burma via Tokyo
20. Cambodia via Tokyo

通話実績についてはⅣの国際通信需要予測の項を参照ねがいたい。

b. ＰＬＤＴ

ＰＬＤＴは送・受信所、ボーダス、交換局を所有、運営している。国際通話用の交換台は3台あって、米国オークランド（ＡＴＴ）との間に直通無線回線6回線をもって主として対米通話を取り扱っている。

ＰＬＤＴの業務運営状況は、資料の入手困難のため明らかでない。

(2) 国際電信

国際電信業務（電報、テレックス、専用線を含む）は次の4社によって運営されている。

ＲＣＡ（米）、MACKAY（米）、Clavecilla Radio System（フィリピン）、Eastern Extension Australasia and China Telegraph Co.（英）

a. ＲＣＡ

ＲＣＡは送・受信所および中央局を所有、運営し、この連絡にはマイクロ（2,000 Mc/s）を使用している。ＡＲＱ端局はジーメンス製のmechanical ARQ で、中央局の電報中継にはテープ・リレー・システムを採用している。Tie−line は現在手動交換だが、１９６４年9月を目途にＳ／Ｓ交換機を入れて自動化する計画になっている。テレックスの加入者は現在約３５０社で、このほかにも利用希望者が多数あるが、マニラ市内の電話線が不足している現状では、新規加入は困難なようである。

ＲＣＡの電信、テレックスなどの直通回線は次表のとおりである。

・ＲＣＡ 直 通 回 線

電　信	テレックス	写真電信	ＰＴＳ
San Francisco	San Francisco	San Francisco	San Francisco
New York	New York	New York	New York
Guam	Tokyo	Tokyo	Tokyo
Tokyo	Taipei		
Okinawa	Sydney		
Seoul	Hongkong		
Taipei	Hamburg		
Shanghai			
Karachi			
Dacca			
Rangoon			
Bangkok			
Hongkong			
Macao			
Saigon			
Djakarta			
Sydney			
Hamburg			
Rome			
Madrid			
計 20	計　7	計　3	計　3

専用線を利用しているものにはＣＩＴＡ（ホンコン、バンコック、サイゴン、ボンベイ、タナナリブ）、ＳＡＳ（東京）、ＡＦ（東京）、ＮＷ（東京）、ＰＡＮＡＭ（ホノルル、サンフランシスコ、ホンコン）の５社がある。

b．MACKAY

MACKAYは送・受信所および中央局を所有、運営し、この連絡にはＶＨＦを使っているが、これをマイクロに切換える工事を行なっている。

ＡＲＱはジーメンス製のmechanical ARQ で、電報の送・受信にはページ式テレタイプを使用している。Tie-line は自動、テレックス加入者は約２００社になっている。

MACKAYの電信、テレックスなどの直通回線は次表のようになっている。

MACKAY

電　信	テレックス	写真電信	ＰＴＳ
San Francisco New York Tokyo Taipei Hongkong Calcutta	San Francisco New York Tokyo Calcutta	-	-
計　6	4	-	-

（注）1. 専用線はない

2. アジア地区あて電報は、上記をのぞきEastern Extension経由

3. ヨーロッパ、中南米あて電報はNew York経由

c．Clavecilla Radio System

１９６１年ごろ、東京～マニラ間の直通回線開設の申請を行なったが、フィリピン議会で審議未了となったままになっている。

上記の３社のほかにEastern Extension が国際電信業務を取り扱っているが、資料入手困難のため、業務内容そのほか明らかでない。

Ⅲ　海底ケーブル陸揚地の選定

1　調査の概要

本陸揚地の調査は、フィリピン共和国に揚陸される海底ケーブルの陸揚地を選定するための資料収集、ならびに陸揚地選定の際考慮すべき諸条件について行なった。したがって本調査は、事前調査、図上での実地調査地の選定、実地踏査、そしてその結果に対しての中間報告の順序で実施し、かつ調査期間中に陸揚地の具備すべき諸条件や、本陸揚地調査が海底ケーブル建設の中で占める位置などについて助言、勧告を行なった。

また、フィリピン側関係者との本調査の打ち合わせに先立って、二宮～グァム間を日本側で調査した資料"Refrence Data of the Ocean Survey for Decision of a Trans-pacific Submarine Cable Route —太平洋横断海底ケーブル・ルート決定のための海洋調査関係資料"（資料　4参照）および太平洋に敷設された旧海底ケーブルについて調査した"Report on Troubles of the Existing Submarine Cables in the Western Pacific Area — 西太平洋に現存する海底ケーブルの障害状況報告"（資料　5参照）などを提出し、海底ケーブルの一般的な受障の状況および海洋調査（陸揚地選定を含む）に必要な条件への認識を高め、爾後の調査への協力を依頼した。

2　陸揚地調査のための事前調査

事前調査で知り得た事項は次のとおりである。

(1)　台湾、ルソン島北部に連らなるバブヤン諸島、バタン諸島およびルソン島東部は、いずれも火山帯に属し、海底ケーブルがこれらの火山帯を横断することを避けるため、また、台湾の恒春附近より海底ケーブルをルソン島に揚陸し、さらにヴィエトナムのサイゴン附近へ延長するためにも、陸揚地はルソン島西海岸を選ぶことが望ましい。

(2)　ルソン島東海岸は山岳が海に迫り人口ははなはだ希薄であるが、これに反し西海岸は、割り合いに平地に富み、マニラ周辺に次いで人口が密である。

(3)　ルソン島の東西海岸には、至るところに珊瑚礁が分布する。

(4)　地震については、本島が環太平洋火山帯上にあることから、多震地帯に属する。フィリピンの史上最大の地震は、１８６３年６月、マニラ附近に発生し、マニラ教会そのほか多くの建物が破壊されたが、日本のような大地震の経験はなく、構築物の設計には特別な場合を除

いて耐震計算はなされていない。

(5) 津波の記録も割りに多く、世界の津波記録中、約5％を占めているが、特記するほどの記録はない。

(6) フィリピンは日本と同様、しばしば台風に見舞われている。ここでは33m/sec以上の風を台風と呼び、それ以下を熱帯性低気圧と呼んでおり、1962年中のこれらの発生回数は下表のとおりである。激しい台風は51m/secに達するものがある。最盛期は7～10月であり、その経路は迷走径路で不定である。

月	1	2	3	4	5	6	7	8	9	10	11	12	年間
フィリピン	0	1	0	0	2	0	4	6	4	2	3	0	22
マニラから75マイル以内	0	0	0	0	0	0	0	1	1	0	0	0	2
マニラから150マイル以内	0	0	0	0	1	0	0	1	1	0	1	0	4

(7) ルソン島西海岸の海流については、南支那海よりルソン島へ向い弱い(1kt以下)海流があり、ルソン島にぶつかり南流する。海岸に極めて近いところでは北流する歪潮がある。

(8) 西海岸の波浪については、Nasugbu, San Juanなどの住民に聞いても3mをこすものはないと思われた。

(9) 海底ケーブルの浅海部の安全については現在ならびに将来の漁獲法、特にOtter trawlの普及に関心がもたれる。

約1億の人口を有するわが国の漁獲量6,710,000トンに対し、人口約3,000万人のフィリピン共和国は、わずか455,000トン(いずれも1961年)である。しかしこの数字は10年前の約2倍になっていることと、フィリピン政府(Fishery Commission)が近年漁業に力を入れていることを思えば、将来その漁獲量は急速に増大するものと考えられる。

総漁獲量455,000トン中、総トン数3トン以上の漁船(政府に登録し漁業許可を必要とするもの)によるものは約3割の125,600トンであり、そのほかは零細漁業およびFihs pondの漁獲量である。

敷設海底ケーブルに影響をもつのは、3トン以上の漁船を使用する漁法のみであると思われるので、以下、これらCommercial·Fishing Vesselsによるものを対象とする。

この国で現在行なわれている漁法には、次の8種類がある。

使用漁具	漁獲量
Beach seine	372,920 ton
Bag net	53,586,970 "
Gill net	13,650 "
Hook and line	3,338,370 "
Muro-ami	9,362,490 "
Parse seine	873,210 "
Otter trawl	49,707,100 "
Round haul seine	8,371,720 "
Total	125,626,430 ton

この１９６１年の使用漁具別漁獲量中、Otter trawl によるものはbag net に次いで第2位であり、全量の4割を占めている。Otter trawl に使用される漁船は3トンから２００トン、使用動力も5馬力から５００馬力に及んでいる。

過去5ヵ年における漁船数をさらに漁法別にみると次表のとおりであり、Otter trawl の漁船数は次第に増加する傾向がうかがわれる。

	漁法別漁船数				
	1957	1958	1959	1960	1961
Bag net	540	733	717	673	680
Otter trawl	283	349	423	445	462
Round haul seine	62	92	76	91	127
Purse seine	65	57	77	79	75
Hook and line	43	57	50	45	56
Muro-ami	22	31	33	47	48
Beach seine	50	56	57	68	38
Gill net	1	4	5	3	1
Beam trawl	11	-	-	-	-
Long line	9	-	-	-	-
Otoshi-ami	1	4	2	-	-
Others	25	43	37	48	73
Total	1,112	1,426	1,477	1,499	1,560

3　詳細地図による陸揚候補地の選定

詳細海図の提供方を申し入れたところ、U.S.Army が空中写真で作成した５０万分の１の地図集を提示してくれた。しかしこれらはおもに陸地図であり、海洋の陸棚崖（Continental slope）までを含んでいないが、十分海岸線近傍の地形を知ることができた。

ルソン島における海底ケーブル陸揚地には、前述のように台湾の恒春附近ならびにヴィエトナムのサイゴン附近とをそれぞれ結ぶ、東南アジア海底ケーブル系の２区間の始終両端が同時に揚陸される。これら全ケーブル長を短くするためと、ルソン島北方に連らなる火山列島間の複雑な地形を避けるため、その陸揚地はルソン島西海岸が望ましく、Bureau の関係者も同意見であった。

Bureau 側より、海底ケーブル陸揚地は国内連絡線との関係から、その関門局であるマニラに近いほうがよいとの申し出もあって、調査団が日本出発前に承知していた Bureau 側の意向としての Lingayen Bay , San Fernando , Laoag のほかに、マニラ近傍をもさらに追加検討することにした。

マニラ湾内は水深５０m以浅の極めて遠浅な錨泊地で、一部に軍港もあり、そのうえ Otter trawl も盛んに行なわれているので、ケーブル陸揚地としては不適当である。マニラ湾外の北方 Sabic Bay にかけてのリアス式の西海岸には、珊瑚礁が至るところにみられ、かつ軍関係の複雑な問題もあるとのことで、これら北部西海岸を避けることにした。

マニラ湾外の南方西海岸もしばらく珊瑚礁がつづくが、湾外約１０海里南方で、わずかに湾入する砂浜の Nasugbu Bay は、この附近唯一の陸揚地と思われた。

来年夏に完成される Tagaytay のマイクロ端局は、マニラより南方１ホップの地点にあり、将来７,０００Mc ６００ch の容量を持つことのできる主要幹線中の要点になる。Nasugbu はこの Tagaytay へ２ホップで接続可能と思われるので、Gamboa 氏（公共事業通信省電気通信局長）も本陸揚地に対して極めて意欲的であった。実際の陸揚地となるものは、将来行なわれる広範囲な海洋調査の結果や、全海底ケーブル・ルートに対する安全性、経済性などから求められると思われるので、陸揚予定地はできるだけ多く選定しておくのが得策と考えられる。

この意味において、有力な候補地 Nasugbu のほかに、さらに Lingayen 湾北方の西海岸 San Juan , Luna なども実地踏査をすることにした。

4　陸揚地選定にあたり考慮すべき条件

国内連絡線の難易の点のみから陸揚地が将来決められることを恐れて、大要次のような勧告をGamboa氏に改めて提出した。

"海底ケーブル陸揚地の選定について"

海底ケーブルの陸揚地を選定するにあたっては、次のような事項を考慮すべきである。

(1)　建設費

海底ケーブルならびに陸揚局～関門局間連絡線の全建設費を最小ならしめることが必要であるが、海底同軸ケーブルは極めて高価で、中継器、敷設経費を含めて、海里当り約１０,０００ドルである。したがって、２陸揚区間の距離を最短ならしめるのが、建設費を少なくするのに有効である。もとより陸揚局と関門局間の連絡線の建設費も考慮すべきである。

(2)　中断しないサービスの提供と保守費

通信サービスを中断させないためと、海底ケーブル系の保守費を最小にするために、将来、海底ケーブル障害発生の懸念されるようなケーブル・ルートや陸揚地を避けるべきである。

(3)　海洋調査と陸揚地調査

敷設海底ケーブルにとって、安全かつ最短ルートを選定するため、海洋調査と陸揚地調査を実施することが必要である。

a．深海調査

深海部分の海洋調査を行なうにあたり、将来おこり得るケーブル障害を避けるために、次のような事項を慎重に調査すべきであろう。

1）海底地形と海底底質

2）海底の変動

3）海流

万一、深海部において海底ケーブルに障害が発生すれば、約３週間にわたって通信サービスが中断されるばかりでなく、修理に必要な４０海里の海底

ケーブルと一つの中継器合計４００,０００ドルと、そのほかの修理工事費１００,０００ドル、全部で約５００,０００ドルの修理費を必要とする。

1）海底地形と海底底質

海底ケーブル・ルートとしては、平坦な海底が望ましい。底質が岩であるような場所で海底の傾斜がある限度をこせば、敷設ケーブルに内在する残留張力が大きくなり、そのためケーブルが受障することもあり得るので、このようなルートは避けるべきであろう。また、海底峡谷横断は、将来、混濁流（沈積物を含有する海水が、比較的急なスロープで下層との結びつきがゆるんでそのスロープを下降しはじめ、次第に濃縮され、極めて大きなエネルギーを持つ流れをいう）がここを流れ落ちる可能性もあるので避けるのが安全である。

2）海底の変動

統計的にみて海底火山・地震震央・海底地辷り・混濁流が発生しやすく、これらによる海底変動の懸念がある場所は避けるべきであろう。

3）海　　流

数百mより以浅の海底では、強い海流が海底ケーブルに障害を与える場合もあるので、そのような場合にはより深い海底を選ぶのがよい。

b．浅海調査

大洋横断の海底ケーブルは、その浅海部分が深海部分に比べて極めて短いのにもかかわらず、統計的にみて浅海部分に発生する障害が圧倒的に多い。そしてその原因は、津波、台風、漁撈によるものが大部分である。したがって深海調査で言及した諸要因のほかに、次の諸項目を調査すべきである。

1）波　　浪

浅海ケーブルが珊瑚礁・岩・石などの海底に敷設されている場合は、台風、津波による波浪でしばしば受障する。したがって、海底ケーブル・ルートとしては、顕著な台風や津波の来襲が少なく、海底底質が砂、泥のところを選ぶべきである。

2）漁撈と投錨

Otter trawl のような魚具を用いる魚撈のあるところは、敷設ケーブ

ルが障害を受けやすいので避けるべきである。また、投錨によるケーブル障害もよく発生しているので、一般船舶はもとより、漁船の投錨の少ないところをケーブル・ルートとして選ばねばならない。

大西洋横断同軸海底ケーブルの場合は、これまで殆ど全障害がOtter trawl によって発生していて、この漁法の行なわれていない海域を選ぶことが、いかに重要であるかを示している。

将来、長期にわたってケーブル障害発生の可能性を最小にするため、ケーブルが通過するルート中での浅海部分の長さが、できるだけ短いところを選んでおくことが極めて重要である。

3) 混濁流

大きな河の河口附近には多量の砂・泥が沈積するので、その沖合での混濁流が心配される。したがってケーブル・ルートとしては、河口附近を避けるのが安全である。

c. 陸揚地調査

海底ケーブルの陸揚地としては、次の条件を満足する場所を選定すべきである。

1) 海岸線附近での大地の隆起・沈下などがなく、将来にわたって海岸線が前進後退する恐れのないところ。

2) 陸揚局の敷地は、海岸線に近いところに求められることが必要である。これは海底ケーブルの陸上部分を可及的に短かくして、自然力あるいは人為により、海底ケーブルが受障する機会を少なくするためである。

3) 陸揚局の敷地は、少なくとも海抜10m以上の高地であることが望ましい。局設備を高潮から護り、かつその設備を耐震構造の地下局舎に収容するためである。

4) 陸揚局の敷地は、ある程度将来の拡張を考慮して、約3,000平方mはあることが望ましい。

5) 安定した商用電源が容易に得られること。

6) 陸揚局保守者の居住性を考え、都邑に近いところが望ましい。

5 Nasugbu陸揚候補地の実地踏査

マニラからNasugbu へ実地調査に向う途中、前述したTagaytay Microwave Repeating Station の建設予定地であるTaal 湖畔の北に、海抜７２０ｍのMt．Sungayを間近に見上げる位置に道路も完成していて、ここに２００フィートのアンテナを有する7 GC、最終480 ch ～６００ch、初期実装６０chのマニラへの幹線になる中継所が、本年７月着工、１年後に完成を予定されていた。

Nasugbu 陸揚候補地は、ここから西へ約４０Kmに位置するNasugbu の町を抜け、さらに数百ｍ、Fortune という名の小島が望見される南北約４Kmの長さの孤を描いた遠浅の砂浜である。（写真参照）

その調査は、Continental Slope などの海底地形のデータがなかったので、Continental Shelf で行なわれる漁業と陸揚地に限られたが、結果は次のとおりである。

(1) 海岸の状況

南北４KmのNasugbu 海岸には、波打際に約５０ｍ幅の細砂からなる砂浜があり、南のLian 河附近と北部のWawa 沖にある漁船の投錨地を除けば、良好な陸揚地点であると思われる。

(2) 大陸棚における漁業

当地の漁業について、Nasugbu Fishery School のChief Instructorより、次のような情報を聞くことができた。

すなわち、"当海域で行なわれている漁撈の現状は、主としてBagnet , Beach seine, Trawl line によるものであるが、これらは敷設海底ケーブルに危害を与えるとは考えられない。しかしこの沖合の海底にはFlat fish も棲息し、Otter trawl も皆無ではない。"

以上の情報および海図によれば、大陸棚は当海岸より約１２海里までつづいており、今後Otter trawl が行なわれる条件を備えていると思われるので、もしNasugbu にケーブルを揚陸するのであれば、将来にわたってOtter trawl 禁止措置も必要で、かつ敷設工事に際し、ケーブル埋設も実施しなければならないと考えられる。

(3) 海岸よりNasugbu 町までのプロフィル

海岸よりNasugbu 町に向って約５０ｍのなだらかな細砂の slope があり、幅約１０ｍ、海抜4 ～5 ｍの堤となる。これをこえるとちよっと低地になり、さらにゆるやかな上り傾斜

で牧場のある草原が５～６００m、Nasugbu 市街地の西端まで広がっている。

(4) 陸揚局敷地

もしマニラより半径１００Km範囲に陸揚局を求めるならば、浅海部分が長く１２海里にも及び、将来の漁業活動、特にOtter trawl の心配があるが、Nasugbu 附近は最も望ましいと思われる。

a．陸揚地

上述したように、Nasugbu 海岸に沿って約２Kmの範囲は、いずれも陸揚地として良好であると思われる。

b．陸揚局敷地

当地方では、台風や津波などによる高潮の人畜に対する被害が記録されていないので、局舎構造に対し若干の耐震性を考慮することができれば、あえて海抜１０mの高所を敷地として選ぶ要はないと思われる。

また、市街地に海底ケーブルを引き込むことは、この部分に対する人為、自然障害発生の機会を多くするのでなるべく避けるべきで、陸揚局はできるだけ海岸に近いほうがよいと考えられる。

c．陸揚局とＵＨＦ端局

ＵＨＦ端局を陸揚局敷地内に置くことは、経済的見地から望ましい。

調査の一応の結果は以上のごときものであったが、Fishery School の Chief Inspectorの言葉によれば、当地方の沖合は割合に波が高いので、漁師はあまりここで漁撈を行ないたがらないとのことである。

なお、その後、Bureau of Coast & Geodetic Survey より入手した詳細な海図によれば、当海面沖合のContinental Slope も大したものではない。

6. San Juan 陸揚候補地の実地踏査

San Fernando 北方約８Kmに位置するSan Juan の西方海岸の実地調査を行なった。（写真参照）調査の結果は次のごときものである。

(1) 海岸および附近のプロフィル

San Juan 市西方の海岸は、４Kmほど離れた北部・南部の両岬の間にゆるやかに弧を描く細砂の海岸で、その中央附近に荒廃した昔の監視塔がある。

砂浜の幅は大体一様で約３０m、そしてゆるやかな傾斜をもって海岸線に平行して走る高さ７～８m、幅３０mほどの発達した砂丘へとつづいている。砂丘をこえると、その東側には幅約２００mの凹地があり、さらにその東側は次第に上昇し２～３００mでSan Juan町の西端に達する。

(2) 波打際附近の海岸地形

本海岸の南部および北部両岬附近の海底は岩で、ところどころに珊瑚礁がみられるが、中央部古塔附近の海底は砂質で、比較的良好と思われる。また詳細海図によれば、この附近は海岸から北西方向へは約３海里、西方へは約２海里で大陸棚が終っている。大陸棚崖も最大１５°程度で、ケーブル陸揚地としての条件を備えていると考えられる。

(3) 大陸棚における漁業

San Juan 市長の話によれば、Hook and lineやBeach seine など、小規模の漁業がわずかに行なわれる程度で、敷設ケーブルに有害な漁法はないと思われる。

また、将来のOtter trawlについても、大陸棚が２～３海里で割合いに短かいことと、近い将来Otter trawlに対する計画はないとの市長の言葉からも好条件下にあると考えられる。

(4) 陸揚局敷地

a．陸揚地

古塔を中心として南北それぞれ１Km範囲の海岸は、ケーブル揚陸点として適当であると思われる。しかし最終的に、ルートを決定する前に岩場を避けるため、一度は海底底質や海底地形を採泥、音響測深によって確認しておく必要があろう。

b．陸揚局敷地

市長の話によれば、San Juan市から堤の上に立っている古塔附近まで、近く道路をつくる計画があるとのことである。したがって、もし、しっかりした基礎が得られるならば、古塔附近に堤の高さで陸揚局敷地を求めるのがよいと思われる。しかし基礎が悪ければ、市街地に近づけるのも止むを得ない。

c．連絡線

近い将来、マニラ～Santa Tomas間に多重Micro 回線も完成する予定であるから、陸揚局とこれらMicro 幹線との接続は大して困難ではないと思われる。

7 Luna陸揚候補地の実地踏査

San Juan 北方約３０KmにあるLuna の現地調査結果は次のとおりである。

(1) 海岸および附近のプロフィル

San Fernando 北方約４０Kmに位置するLuna 町前面の約８Kmの海岸は、その北東にAmbrayan 河、南西にDarigayos 岬に狭まれ、大小雑多の小石、ジャリからなっている。

海岸から内陸に向ってのプロフィルは、波打際より約２０mで約１０mの高さの台地となり、約２００mの草原のあとは小灌木の林がつづく。（写真参照）

(2) 波打際附近の海底地形

この海岸はAmbrayan河より供給される小石、ジャリにみちているが、水深１５～２０mではすでに砂であることから、小石などは海岸線にのみ分布しているものと思われる。

海岸線から１～２海里で大陸棚を終り陸棚崖となる。この場所での最大傾斜は約２０°で、これは敷設ケーブルにとって許容し得る傾斜であろう。

(3) 大陸棚における漁業

現在の操業状況はSan Juan 沖と同様に極めて小規模であって、敷設ケーブルに対しては無害であろう。また、極めて大陸棚の短い当海岸は、将来においても漁業活動は小さいと思われるので、この点に関しては敷設ケーブルは安泰であろう。

(4) 陸揚局敷地

a. 陸揚地

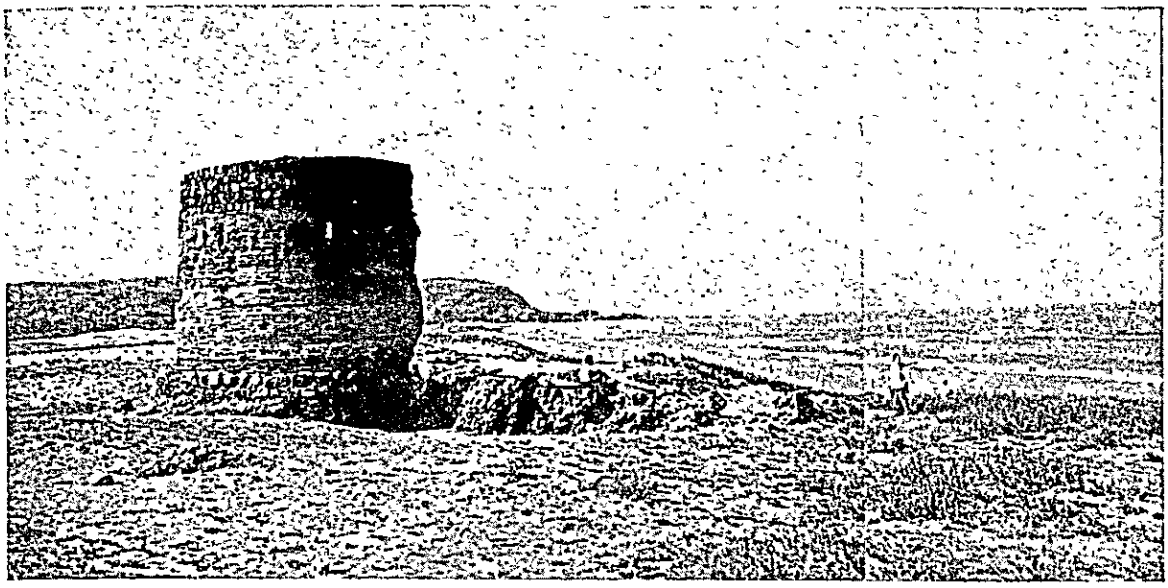
当海岸線は８Kmにわたって大体一様で、大きな差異はないが、南部に行くほど大陸棚が短いので、陸揚点としては南半分がよいと思われる。また、小石、ジャリがAmbrayan河から排出されるのであれば、この河から南へ遠ざかるほどよいと考えられる。

b. 陸揚局敷地

海岸線から１００m附近の高台は、高潮がこの高台を洗った例がないとのことだから、もし、よい基礎が得られるならば高台上が陸揚局敷地に適していると思われる。

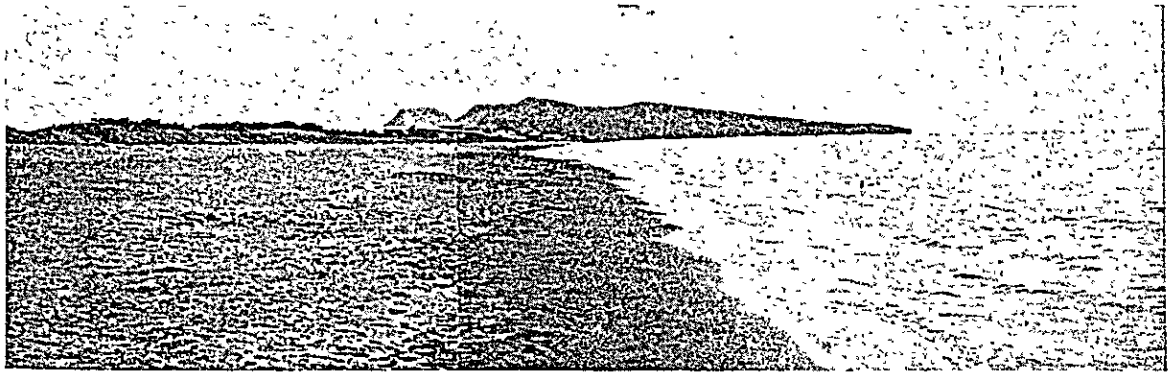
c. 連絡線

もし陸揚局と主要幹線間をMicro で接続するのであれば、周囲の山頂に、たとえば中間無人中継所を建設する必要があろう。



—San Juan 海岸—

—Luna 海岸—



—Nasugbu 海岸—

8　陸揚地調査と海底ケーブル工事設計との関連

陸揚地調査以後、ケーブル敷設までの経緯について、大要次のごとき助言をGamboa氏に対して行なった。

ケーブル敷設工事の設計は普通、資料の収集、海洋調査など、次の順序で行なわれる。

(1)　適切な情報の収集

詳細な海図そのほか有用なdataから、深海、浅海、陸揚地点に関する必要情報を収集する。陸揚地の必要情報は、容易に実施調査から得ることができる。したがって海洋調査を実行する前に、陸揚地の調査を行なっておくことが望ましい。

(2)　局部的海洋調査

前項の諸情報をもとにして、海図上に予想されるケーブル・ルート（複数）を記入する。各ルートに沿う海岸附近、陸棚崖、海中山脈の横断個所などで、調査の必要があると思われる部分については、観測船を用いて局部的な海洋調査を実施する。

前項の諸情報が十分であるならば、この調査を必要としないことはもちろんである。

(3)　予想ケーブル・ルート（複数）

前項の局部的海洋調査結果を織り込み、少なくとも二つの予想ケーブル・ルートを選定する。

(4)　全ルートの海洋調査

観測船を用いて、全予想ルートに沿って海洋調査を実施する。この場合、二つの予想ルートの調査は、観測船の一往復で実施できる。

ルートに沿い海洋調査を行なっている際、未知の海山や海谷、海底峰などが発見された場合は、その附近を詳細に本船を回航しつつ調べたうえ、ルートに沿って爾後の調査を継続する。

本調査にあたり、海底地形はルートに沿う連続音響測深機により、海底水温は海底寒暖計により、また海底底質は普通の採泥器もしくは円柱採泥器によって、それぞれ必要なデータが得られる。

(5)　ケーブル・ルートの決定

次の各要素を勘案して、最適なケーブル・ルートを最終的に決定する。

a．前(4)項で得られた諸データ

b．Ⅲの4.の項で述べた陸揚地選定に必要な種々の条件

(6) ケーブル敷設工事の設計

a．場所場所に挿入すべきケーブル余長（Slack）を、海洋調査時に得られている音響測深の記録から計算して定める。

b．水深、海底の情況を考慮しつつ、下記の使用ケーブルの種類別に各線長を決定する。

1）深海ケーブル（無外装ケーブル）

2）浅海ケーブル（外装ケーブル）

3）陸揚ケーブル（外装ケーブル）

こうしてケーブル・ルートならびに全区間長が決定される。

9. 各陸揚候補地より関門局マニラとの連絡線

上述した各陸揚候補地と関門局マニラとの直線距離は下記のとおりである。

Nasugbu ～ Manila	70 Km
San Juan ～ Manila	230 Km
Luna ～ Manila	260 Km

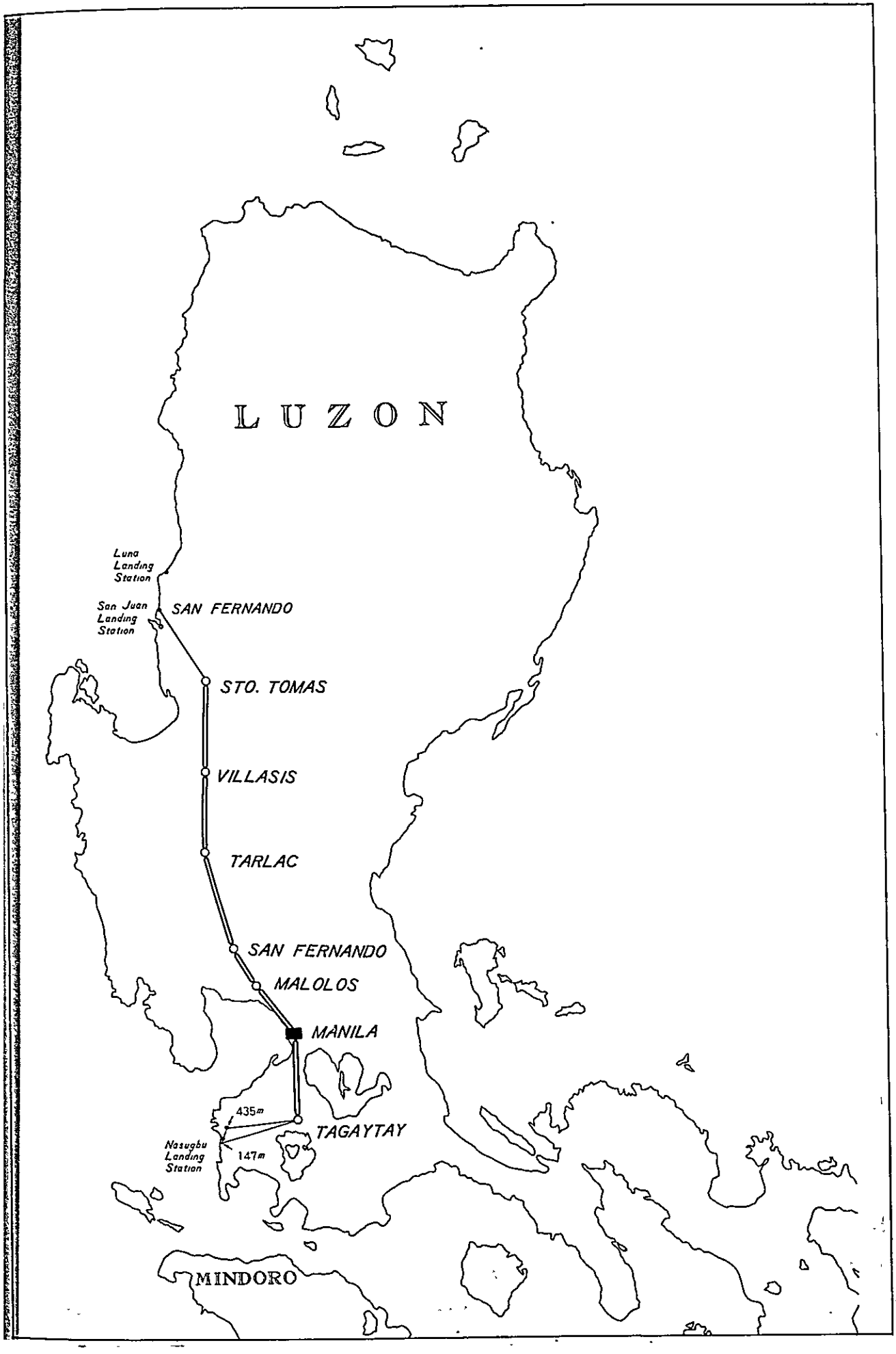
しかしながらBureau of Telecommunication は、1963年に初まる5カ年計画で、豊富なMicro 市外国内縦断回線を南から北に向って……

Tagaytay ～ Manila ～ Malolos ～ San Fernando ～ Tarlac ～ Villasis ～ Santa Tomas

のように建設する意図を有しており、これらはMicro 7,000 Mcによる初期実装60ch、最終600ch という、フィリピンにとって画期的なものである。

Nasugbu および San Juan は、いずれも計画中の Micro Main Route 中のTagaytay およびSanta Tomas中継所より50Km以内に位置し、陸揚所から、または1ホップで至近の山頂から接続し得ると思われる。

Nasugbu 海岸に陸揚局を設けた場合、その南方にある San Diego 附近の147mの山頂の中間中継所を介して、2ホップでTagaytay と Mt. Sungay （720m）とを必要なクリアランスをもって接続し得るためには、それぞれ480フィート程度のアンテナを必要とし、極めて不経済と考えられる。したがって中間中継所を陸揚局北方に求めるほうが有利で、その北方約7.7Km435mの山頂、あるいはそれとMt. Sungayを結ぶ線上以北の適当な高地を選


LUZON
Luna Landing Station
San Juan Landing Station
SAN FERNANDO
STO. TOMAS
VILLASIS
TARLAC
SAN FERNANDO
MALOLOS
MANILA
435m
147m
TAGAYTAY
Nasugbu Landing Station
MINDORO

ぶべきものと思われる。

San Juan に陸揚局を設置した場合は、古塔の北１００m～２００mの位置に陸揚局を選べば、この局舎上に設けた数m程度のアンテナで、中間中継所なしに直接Santa Tomasと接続することも可能となり、極めて有利であろう。

10. 海洋調査の能力

日本における保安庁水路部に相当する政府機関のBureau of Coast and Geodetic Surveyを訪問し、陸地図で不明瞭な珊瑚礁やルソン島西海岸の大陸棚崖の様相、また海流関係のデータを入手の際、あわせて海洋調査の能力について打診した。

Bureau of Coast and Geodetic Survey は1,３００トンの観測船を含めて３隻を所有し、フィリピン近海の海洋観測を行ない、海図を発行している。1,３００トンの観測船には１０人のOfficerと６０人のSailorが乗船し、必要なデータを集めて海図を作成しており、海底ケーブル・ルート調査に必要な局部海洋調査はもとより、全ルートの海洋調査も一応可能と思われた。

ただ、沿岸の燈台によって船位を決めており、ローランデッカなどの電波航法は現在利用していないとのことであったから、外洋における航海技術については、若干の問題が存在するかもしれない。

Ⅳ. 国際通信需要予測

1. 予測の方法

予測の方法としては次の三つの方法を用意した。

(1) 貿易量と通信量との相関関係を見定め、この両者の関係を回帰直線式で表わし、将来の見込み貿易額にこれをあてはめて通信量を予測する方法。

(2) 年度に応じた通信量の増加傾向を求め、時系列でとらえた関係を回帰直線式で表わし、これを将来の希望予測年度に延長して通信量を予測する方法。

(3) 一定の通信量年間延び率を最新のデータに付加してゆく方法。

これらの方法のうち、前二者は日本（国際電信電話株式会社）において一応のよりどころとして採用し、効果をあげているものなので、でき得ればこれらの方法を適用すべく、関係資料の収集を意図した。

しかし前掲のように……

○ フィリピン政府は国際通信を扱っていないこと。

○ フィリピン政府は国際通信事業者に対し、その営業活動の細部（たとえば通信実績）にわたって報告を求めるようなことを行なっていないこと。

などの理由で、トラフィック資料としては次項で述べるものが辛うじて入手できただけで、国際通信全般の実績を集めることはできなかった。また貿易実績については、フィリピン・セントラルバンク発行の年報に、年度別、品目別の統計が見られたが、国別のものは作成されておらず、もちろん貿易見込などのデータは皆無であった。

2. 通信実績

(1) 国際電話

フィリピンの国際電話はＲＣＡおよびＰＬＤＴによって行なわれている。これら私企業からの資料入手は不可能であったが、フィリピン電気通信局がＲＣＡとの協定により、ＲＣＡの行なう国際通話のＶＯＤＡＳをコントロールしている関係上、次表のような、ここを経由する東南アジア・ケーブル関係各国向け通話実績（１９５８～１９６３年）が入手できた。これはあくまでＲＣＡ送・受信所を介して行なわれた分の実績であって、このほかＰＬＤＴ～米国オークランド（ＡＴＴ）を経由して、東南アジア諸国へ流れる分が若干考えられると

ころである。

Telephone Traffic From the Philippines (Via RCA)

Note: The INDEX figures in the parenthesis referred with the traffic on 1961.

To \ Year	1958	1959	1960	1961	1962	1963
	min.	min.	min.	min.	min.	min.
Japan	39,256 (66)	67,221 (114)	59,416 (101)	59,154 (100)	57,987 (98)	62,833 (106)
Hongkong	32,253 (70)	44,807 (97)	44,823 (97)	46,343 (100)	51,692 (110)	52,646 (112)
China (Taiwan)	1,874 (41)	4,611 (104)	3,566 (78)	4,486 (100)	3,573 (78)	3,988 (88)
Thailand	341 (120)	197 (67)	204 (71)	288 (100)	53 (18)	224 (78)
Viet-Nam	562 (175)	403 (125)	430 (135)	324 (100)	170 (52)	143 (44)
Malaysia	2,367 (630)	1,439 (380)	640 (170)	375 (100)	621 (165)	696 (185)
Indonesia	344 (110)	458 (145)	731 (230)	314 (100)	150 (48)	150 (48)
(Korea)	5,467 (1050)	1,671 (350)	1,334 (260)	517 (100)	913 (175)	526 (102)

(2) 国際電信（電報、テレックス、その他）

国際電信業務の大手とみられるＲＣＡ、MACKAY、そのほかに接触したが、いずれの社も〝実績は営業上の秘密に属する〟という理由で資料提供を拒否した。ただしＲＣＡのみは、次のような過去６カ月間の関係国に対する通信量の割合を示す表を提供してくれた。これは需要予測に直接役立つものではないが、これでフィリピンの国際電信業務の一端はうかがえるものと思う。

ＲＣＡ（マニラ）の相年国別・通信種別実績割合（１９６３.９～１９６４.２）

	Traffic		Telephone		TELEX		PTS		PIX		Leased Chnls.	Channels Total WPMS
	Msgs	Words	Calls	Mins	Calls	Mins	PTS	Mins	Pix	Area Sq. cm.		
Japan	20.5	19.5	39.76	53.04	98.79	99.36			93.2	93.	25	25
Taiwan	4.1	3.2	4.78	3.67	1.21	.64						
Hongkong	36.2	31.0	54.03	42.33							50	50
Vietnam	8.4	11.2	.15	.09								
Thailand	15.2	16.2	.37	.21								
Malaya			.72	.48			64.3	56.4	6.8	7.0		
Indonesia	15.6	18.9	.19	.18			35.7	43.6			25	25
Cambodia												
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

3. 予 測 結 果

希望資料が整わず、また入手できた資料も将来を予測できるような傾向を含んでいなかったので、やむを得ず 1.の(3)の方法、つまり、一定の延び率を毎年つけ足してゆく方法によって予測作業を行なった。その結果は次頁の表のとおりである。

なお、これは国際電話に関する分のみであり、ほかのサービスについては作業不能であった。

Estimated Telephone Traffic Volume From the Philippines

To \ Year	1963	1966	1971	1976
	min.	min.	min.	min.
Japan	62,833	206,000	330,000	535,000
Hongkong	52,646	127,420	205,209	330,488
China (Taiwan)	3,988	9,652	15,545	25,037
Thailand	224	542	873	1,406
Viet-Nam	143	346	558	899
Malaysia	696	1,686	2,717	4,377
Indonesia	150	364	585	943

Notes: Annual increase from 1963 to 1976 are 10% every year, and at 1966, 100% increase of the cable effect is added.

<付　記>

フィリピン電気通信局にとって、今回のような通信需要予測は初めて経験とのことであった。また、これにもとづいて所要回線数を算出することについても同様である。

本調査団は、日本（国際電信電話株式会社）の採用している予測方法ならびに所要回線数算出方法に関して、詳細な解説を作成し手交しておいた。

Ⅴ　ケーブル敷設に関する法律問題

東南アジア海底ケーブルの建設当事者として、フィリピン政府が参加する場合に予想される諸種の法律問題について、日本の国際電信電話株式会社が、太平洋横断海底ケーブルの建設協定を行なうにあたって当面した問題を参考として、フィリピンの諸法令について検討した結果は下記のとおりであり、調査した範囲では特に困難な問題は認められなかった。

なお、フィリピン政府または私企業が当事者となる場合の国内法上の特許、土地使用上の手続は、Ⅱの1.に記したとおりであるが、特に政府機関である電気通信局については、フィリピンと国際通信業務を設定することを希望する諸国と協定を行ない、同業務を行なう権限を与えられている。

EXECUTIVE ORDER NO. 94, Series of 1947

"SEC. 79. The Bureau of Telecommunications shall exercise the following powers and duties:

(d) To establish and maintain coastal stations to serve ships at sea or aircrafts and, when public interest so requires, to engage in the international telecommunication service in agreement with other countries desiring to establish such service with the Republic of the Philippines; and ...

1. ケーブルの共有について

フィリピン政府が、他国との協定にもとづいてケーブルを共有することができることは問題はない。問題となるのは、ケーブルの耐用年数が２５年の長期にわたるため、太平洋横断ケーブル建設保守協定においても、２５年間にわたる共有分不分割の特約が設けられており、東南アジア・ケーブルについての建設保守協定においても、当然同種の規定を設ける必要性が生ずるものと思われる。

ところでフィリピンの民法（Civil Code , Republic Act No.386）によれば、共有関係について１０年以上にわたる共有物不分割の特約を禁じている。ただし、特約期間の更新はこれを認めている（※Art. 494）

もっともフィリピン政府法律担当官の説明によれば、この原則は私人間の共有関係にのみ適用されるものであり、フィリピン政府を当事者とする共有関係には適用されないものであると

のことである。

この場合、海底ケーブルが関係国政府間の協定にもとづいて建設される場合には、上記のとおりと考えられるとしても、わが国の場合は国際電信電話会社が、建設当事者としてこれに参加することが当然予測される。この場合、当然建設保守協定にもとづく共有関係について、フィリピン政府に対してCivil Code が適用されないものであるかどうか疑問が残るが、Civil Code が適用されるとしても、わが国の民法上、同様な制限を受けた国際電信電話株式会社が、太平洋横断ケーブル建設保守協定においてとった前例にならって解決し得るものと考えられる。

"No co-owner shall be obliged to remain in the co-ownership. Each co-owner may demand the partition of the thing owned in common insofar as his share is concerned."

"Nevertheless, an agreement to keep the thing undivided for a certain period of time not exceeding 10 years shall be valid. This term may be extended by a new agreement." (Art. 494, Rep. Act 386)

2. 漁業権の制限について

わが国の公衆電気通信法第6章100条～103条のような、海底ケーブル保護のための漁法および漁業権の制限立法はなされていないが、漁業に関する一般法であるFisheries Act (Act No. 4003) により農業自然資源大臣が漁業の制限を行ない、または漁業権の制限を行なうことが可能とされている(下記の同法Sec. 7 , Sec. 8.参照)

ACT No. 4003,

Sec. 7. Authority to declare and establish closed season - The Secretary of Agriculture and Natural Resources shall have authority, subject to the approval of the Governor-General, to declare and establish a closed season for fish, shellfish, or any other aquatic animal specified by him.

Sec. 8. Duration of closed season. - A closed season established by the Secretary of Agriculture and Natural Resources may be so defined as to

cover a particular portion or portions of each successive year, or if deemed necessary for the public interest, it may be made to extend over any single period of time of not more than five years' duration.

3. ケーブル陸揚地などの強制買収について

陸揚局建設用地そのほか、ケーブル通路などの敷地の獲得に関連して私権に影響を及ぼす場合には、政府はまず賃借買収の話し合いを行なうが、これで解決が得られないときは、Ex－propriation Proceedings なる法律により、適正価格を支払って公用収用することができる。

実地調査したケーブル陸揚候補地は政府当局者そのほかの関係者の説明によれば、いずれも買収についての困難はないものと思われた。

4. ケーブルの領海内通過について

ケーブルが関係国と共有されることについても問題はなく、また、このようなケーブルが領海を通過して陸揚げされることについても、単に政府内部の問題として解決し得るものであって、困難な問題はない。（公共事業通信省で計画を策定し、大統領の承認を受ける。場合によっては閣議承認を経て、大統領の承認を受ける）

＝参　考＝

○　電気通信訓練センターについて

(1)　現　　状

１９６１年６月、国連・フィリピン間の協定により設立され、ＩＴＵの援助によって運営されている。通信技術指導者を養成することを目的とし、期間は５カ年、場所はマニラ市北方２０KmのValenzuela　の町にある。

課目は無線、搬送、交換、電信、線路、ＶＨＦ、マイクロ波、設備設計となっているが、まだ準備段階にすぎない。当座は電気通信局の職員に理論的知識を与える施設とすべく取り運び中であるが、具体的には何も行なわれていない。

外国人専門家（教官）としては、Project Manager（英）、局外施設（日）、自動交換（ノールウェイ）が着任しており、近く電信専門家（オーストラリア）が着任の予定である。

(2)　問　題　点

ａ．機材購入の遅延

フィリピン政府の要請、ＩＴＵの一般国際入札、契約、機材発送、据付といったステップを踏むため、この間１年程度の日時がかかるとのことで、非常に能率が悪い。

ｂ．訓練所の位置不適

現位置はマニラ市からの交通が不便で、比較的距離があるのにもかかわらず、寄宿舎の設備がない。

参考資料 1

電気通信局組織規程

Republic of the Philippines
Department of Public Works and Communications
BUREAU OF TELECOMMUNICATIONS
Manila

November 15, 1963

ADMINISTRATIVE ORDER NO. 8

SUBJECT: Bureau of Telecommunications, reorganization of

In line with the expanded activities of the Bureau of Telecommunications and in order to effect a proper distribution of functions, duties and responsibilities that would be best responsive to the demands of the service, the said Bureau is hereby re-organized and duties of the efficials, divisions and offices re-defined as follows:

I. Organizational Structure:

As reorganized, the Bureau shall be headed by a Commissioner (Director) of Telecommunications who shall be assisted in his work by a Deputy (Assistant Director) Commissioner of Telecommunications and a staff composed of a Head Executive Assistant, an Administrative Officer, a Chief Telecommunications Engineer, and a Chief Traffic Operations Officer. Its work shall be distributed to its various staff and operating divisions, independent units and regional offices headed by chiefs of divisions, unit heads and regional superintendents, respectively.

For coordination and administrative supervision, the different divisions and offices of the Bureau are grouped as follows:

A. Office of the Commissioner

a. Internal Audit Services
b. Fiscal Service Unit
c. Project Engineering Staff (interim)
d. Personnel Division
e. Budget and Management Division
f. Telecommunication Training Institute

B. Administrative Services Group

a. Legal Services Division
b. Procurement and Property Division
c. Accounting Division
d. Commercial Services Division
e. Investigation Division

C. Technical and Engineering Services Group

a. Telecom. Operation and Maintenance Division
b. Telecom. Designing and Construction Division
c. Planning and Programming Division
d. Government Telephone System

D. Traffic Operations and Field Services Group

a. Telecom. Traffic Division
b. Regional Offices (Regions 1-9)

II. Duties and Responsibilities of Officials, Divisions and Offices

1. Commissioner (Director) of Telecommunications - The Bureau shall be headed by the Commissioner of Telecommunications, heretofore known as Director of Telecommunications, who shall exercise the functions of Chief Executive and Administrative Officer of the Bureau. It shall be the duty of the Commissioner, under the immediate executive control, direction, and supervision of the Secretary of Public Works and Communications, to exercise general authority in all matters embraced within the jurisdiction of the Bureau or relating to the operation thereof and to see the enforcement of all laws and regulations pertaining to it. (Sec. 550, Revised Administrative Code). Generally, to exercise the authority and powers vested upon a Bureau Chief under the Revised Administrative Code and other existing laws.

2. Deputy Commissioner (Asst. Director) of Telecommunications - The Deputy Commissioner of Telecommunications, heretofore known as Assistant Director, shall be the Assistant Commissioner of Telecommunications. He shall perform such duties as may be required of him by law or regulation or as may be specified by the Commissioner of Telecommunications. (Sec. 554, Revised Administrative Code).

3. Head Executive Assistant - The Head Executive Assistant shall assist the Commissioner and Staff in decision-making. As such, he shall conduct work so as to contribute as effectively as possible to decision making; conduct research and study necessary to determination of action or policy; advise on policy based on precedents and experiences; and consult with other government offices on mutual problems. He may represent the Commissioner in top level conferences and conduct liaison work with the Executive Office and Congress. Upon direction of the Commissioner, he shall review actions taken by other officials of the Bureau independently of the review made by other staff officers for the purpose of finding out the effectiveness of policies laid down and/or whether the same conform therewith. During the absence of any coordinating officer or division head, he may upon direction of the Commissioner, assume the duties of the absent official. In general, he shall act as special assistant to the Commissioner.

4. Administrative Officer - The Administrative Officer shall be in change of the administrative services of the Bureau. As such, he shall coordinate the functions of the Legal Services Division, the Procurement and Property Division, the Accounting Division, the Commercial Services Division and the Investigation Division. All correspondeness and Communications prepared for the signature of the Commissioner or Deputy Commissioner by said divisions shall be coursed thru the Administrative Officer for review and clearance.

The Administrative Officer shall initiate studies on administrative procedures and techniques and shall be responsible for system studies with the end in view of improving office procedures in the Bureau. He shall initiate the issuance of and/or review circulars, administrative orders and memoranda issued by the Bureau from time to time. He shall be respon-

sible for the preparation of annual reports for the Bureau and, generally, act as chief adviser of the Commissioner on administrative matters.

5. Chief Telecommunications Engineer - For administrative purposes, the Chief Telecommunications Engineer shall be in charge of the technical and engineering services of the Bureau. As such, he shall coordinate the functions of and exercise administrative supervision over the Telecommunications Designing and Construction Division, the Telecommunications Operations and Maintenance Division, the Planning and Programming Division, and the Government Telephone System. All correspondences and communications prepared by said divisions for the signature of the Commissioner or Deputy Commissioner shall be coursed thru the Chief Telecommunications Engineer for review and clearance. He shall initiate and direct studies and research on ways and means to improve the technical services of the Bureau; direct the planning and programming of projects; coordinate the interim engineering staffs in charge of projects and, generally, act as the chief technical, adviser of the Commissioner.

6. Chief Traffic Operations Officer - For administrative purposes, the Chief Traffic Operations Officer shall be in charge of the traffic operations services of the Bureau. He shall coordinate the functions of and exercise administrative supervision over the Telecommunications Traffic Division and the nine (9) Regional Offices with other headquarters, divisions and offices in the Central Office. As coordinator for Regional Offices, all problems and communications from the Regional Offices to the Central Office shall be coursed thru the Chief Traffic Operations Officer for review and clearance and/or for taking up the matters treated therein with the proper divisions or offices of the Bureau. He shall initiate and direct research and studies in traffic handling and, generally, act as the chief adviser of the Commissioner on traffic matters.

Offices directly under the Office of the Commissioner

7. Internal Audit Services - The Internal Audit Services shall be headed by a Chief Internal Auditor who shall be responsible for the proper execution of the duties and responsibilities of the Office. The Internal Audit Services shall, among others, be responsible for the institution and conduct of a program of internal audit, an independent review and appraisal of the accounting, financial and other operations of the Bureau's organizational units designed to review and evaluate the adequacy, accuracy and efficiency of these functions and to insure that (a) all income are brought into account, (b) disbursements are proper, (c) payrolls are correct, (d) station finances are effectively managed and controlled, (e) properties are under control, (f) books of accounts are properly and correctly kept and (g) management is kept adequately and correctly informed. It shall ascertain the extent of compliance with the established policy, regulations, plans and procedures in line with related data, changing circumstances and other evidences having bearing from their effectiveness. It shall review and appraise policies, regulations, plans and procedures in line with related data, changing circumstances and other evidences having bearing from their effectiveness; review and appraise performance within the framework of policy, regulations, plans and procedures and statutes affecting the Bureau.

The work of the Internal Audit Services shall be distributed as follows:

Central Office Audit Branch

(a) Conduct a more through and rigid audit of all transactions of the Manila Central Office by assigning teams to handle such audit areas as Income, Disbursements, Books of Accounts;

(b) See that management policies, procedures, rules and regulations on fiscal matters are strictly followed by the Manila employees concerned;

(c) Review and appraise the internal records of component organizational units in terms of their adequacy, efficiency and effectiveness;

(d) Submit quarterly reports about its work accomplishments, its findings and its recommendations for constructive and protective measures to the Chief Internal Auditor thru the Supervising Internal Auditor for final review and appraisal; and

(e) Perform such other assignments as may be directed by his superior officials.

Field Office Audit Branch

(a) Conduct intensive post audit examinations of all Reports and supporting documents periodically submitted by the provincial offices with assigned teams on such audit areas as Income, Disburesements, Books of Accounts and Property;

(b) See that management policies, procedures, rules and regulations are strictly adhered to by provincial officials and employees;

(c) Send out field auditors at planned intervals and if the information deduced from the provincial stations report so warrant, to conduct audit examinations of the cash and accounts of those stations and/or to hold lectures on subjects which are generally misinterpreted;

(d) Submit quarterly reports about its work accomplishments, its findings and its recommendations for constructive and protective measures to the Chief Internal Auditor thru the Supervising Internal Auditor for final review and appraisal; and

(e) Perform such other assignments as may be directed by superior officials.

Special Assignment Branch

(a) To conduct surprise audit examinations of the cash and accounts of the accountable officers of the different divisions and offices of the Central Office and those stationed at the branch telegraph offices of Manila and as well as in suburban offices, and to recommend the proper remedies to significant findings thereof;

(b) To conduct an intensified survey of the system and procedures adopted by each division and office as well as of the management; to study and evaluate the data and other relative information gathered as a result of such survey; and to draft constructive recommendations for their improvements;

(c) To make a thorough and comprehensive study of the management procedures laid down in its circulars and memorandum issued from time to time; to ascertain whether there is adequate management control and to introduce systems to provide and/or strengthen such control. To initiate revision of rules and regulations which may be found to be impracticable;

(d) To conduct special inspection and investigation assignments in connection with certain urgent reports of losses in funds, equipment and supplies in the possession of accountable officers in Manila and suburbs or in stock of the different bodegas and toolrooms, as well as those already installed in various places within Manila and its suburbs; and to submit reports thereof containing its findings, preventive measures already taken and/or recommendations for the adoptation of concrete measures designed to protect the bureau from such losses. These special investigation assignments shall be performed in coordination with the representatives of the Investigation Division;

(e) Perform such other assignments as may be directed by his superior officials.

8. Fiscal Service Unit - The unit shall be the special reviewing body under the Office of the Commissioner which will undertake a careful and thorough check and review of all forms of disbursements before the same go to the approving authority where the amount involved is over three hundred pesos (P300.00) except in cases of traveling expense vouchers which will be subject to this review irrespective of the amount involved. It shall see to it that in all cases of disbursements, there exist a lawful and sufficient appropriation obligated for the purpose. It shall satisfy itself that the transaction for which payment is claimed is legal in all aspects and that the same conforms with existing policise as well as auditing and accounting rules and procedures and that all claims for payment are valid and properly supported with sufficient evidence to establish the claim.

9. Project Engineering Staffs - There shall be two special project engineering staffs under the Office of the Commissioner, one for the Japanese Reparations Project and the other for the Nationwide Telecommunications Expansion and Improvement Project (ITT). These staffs are interim in nature and shall cease to exist as soon as said projects have been completed.

The two staffs shall be responsible, respectively, for the programming and proper execution of the two projects. It shall attend to all the requirements of the project such as necessary work assistance from the Bureau of Public Works, Bureau of Public Highways, Bureau of Lands, Bureau of Customs, the Reparations Commission and other agencies of the government.

The said staffs shall attend to the execution of these two projects in consultation with the Chief Telecommunications Engineer and heads of the different technical divisions. They shall, however, be directly responsible to the Commissioner for the successful execution of the two projects.

Upon completion of the projects, personnel of the two staffs shall be reverted to the offices from where they were detached and to assume their former assignments unless specifically reassigned by the Commissioner.

10. Telecommunication Training Institute - The Telecommunication Training Institute shall have under it a Reseach and Training Division and shall specifically attend to the Five-Year Training Program of the Bureau. It shall conduct research work and studies on telecommunications operations to attain a more efficient, reliable and economical operation of existing telecommunication facilities; research on training methods and techniques; prepare a comprehensive and long range technical training program for the whole Bureau. It shall standardize tests and measurement equipment for field use and establish empirical information and performance standards; study and verify the applicability and adaptability of newly discovered principle for dissemination to all technical personnel and shall conduct acceptance tests and prescribe standards and quality of performance required of communications equipment and supplies procured.

The work of the division shall be distributed as follows:

Research and Academic Section

(a) Conduct studies and researches on latest trends in telecommunications for the purpose of adopting the same in our Bureau;

(b) Compile, gather, process and assess telecommunications technical and operational data from field studies and tests conducted by division and other offices of the Bureau;

(c) Study and analyze the performance efficiencies of technical personnel with the end in view of ascertaining the kind of specialized training needed by the employee;

(d) Standardize tests and measuring equipment for field use of other divisions and establish empirical information and performance standard;

(e) Coordinate activities of the division with the functions of the foreign staff in connection with the Telecommunications Training Program under the NEC and UN Special Fund.

Training and Research Laboratories

(a) Prepare experiment and instructional materials for the laboratory work of the trainee;

(b) Conduct acceptance tests and specify standard quality of performance of communications equipment and supplies procured by the Bureau;

(c) Conduct training programs for engineers, technicians, and other technical personnel of the Bureau on new procedures, techniques and methods in the field of communications and allied subjects;

(d) Up-date laboratories with the latest test instruments and apparatus for training and testing purposes to see to it that it is adequately stocked with materials for use in experimental and research purposes, and be responsible for the maintenance, repair and keeping these instruments and test instruments in good working condition at all times;

(e) Develop plan of instructional procedures and training materials and devise standard forms for increasing the effectiveness of training;

(f) Coordinate its functions with those of the Research and Academic Section along research on latest trends in communications.

General Services and Technical Library

(a) Perform the clerical work of the Research and Training Division including preparation of payrolls and checking of time cards of all employees of the Telecommunications Training Institute and the Division;

(b) Type all reports, memoranda, correspondence and requisitions of the Research and Training Division;

(c) Keep and file records, requisitions and personal data of all trainees and personnel of the Research and Training Division;

(d) Typing, mimeographing of all instructional materials, study guide and other paper work of the Telecommunications Training Institute and the Research and Training Division.

(e) Keep and maintain the technical library and facilities of the Telecommunications Training Institute and the Research and Training Division;

(f) Coordinate and integrate the budget request and disbursements of the Telecommunications Training Institute and the Research and Training Division;

(g) Attend to the janitorial and messengerial work of the Telecommunications Training Institute and the Research and Training Division.

11. Budget and Management Division - The functions of the Budget and Management Division shall include but not limited to the following: Provide the Commissioner with all the means for effective internal control through systems and procedures, statistics, management reporting and budget controls; advise the Commissioner on budget matters and implement the latter's decision in a variety of matters related to the application of

adopted budgetary policies, the issuance of instructions and procedures and the collection and analysis of data needed in budget preparation and execution; represent the Commissioner in routine budget contacts with the Department, Budget Commission and Congressional Committee Staff; attend to the Bureau's system of budgetary control including the preparation of annual budget estimates and budget reports; keep the Commissioner and other top executives of the Bureau informed on significant budgetary developments and information contained in the reports and initiates or suggests remedial action when necessary.

The work of the division shall be distributed to its different sections as follows:

Budget Operation Section

(a) Coordinate and integrate divisional budget requirements into the annual budget requests for presentation to the Budget Officer for review and to the Commissioner for approval;

(b) Make comprehensive review of all requests of allotments by the different divisions and independent units of the Bureau as conditions of the Bureau's funds may require;

(c) Maintain analytical working records and graphs on allotment reserves, work programs and other data, and provide the Commissioner with management reports which reflect performance measurements.

Statistics Section

(a) Compile, analyze and coordinate the presentation of statistical data for management purposes; serve as center to facilitate orderly rendition of reports needed for the conduct of the affairs of the Bureau;

(b) Provide performance statistics required by the Commissioner, including work measurements; and

(c) Perform other assignments as may be required by the division chief from time to time.

Methods and Procedures Section

(a) Undertake surveys and studies concerning the Bureau's methods and procedures; make recommendations to simplify operations, eliminate wastage and increase the efficiency of the operating units;

(b) Develop and recommend clerical office system improvement program;

(c) Promote an awareness among all Bureau personnel of the importance of continuing method and procedures improvement; and

(d) Perform other assignments as may be directed by superior officials from time to time.

12. Personnel Division - The Personnel Division shall be headed by a Personnel Officer who shall assist and advise the Commissioner of Telecommuications in the execution of such duties as the Commissioner of Civil Service may require in connection with examinations, investigations, appointments, promotions and other personnel matters. The Personnel Office shall be responsible for the development, formulation and execution of policies, regulations and orders in all areas of personnel management, undertake a comprehensive and balanced personnel program designed to raise the level of efficiency, effectiveness and morale of personnel; keep the Commissioner of Telecommunications informed of activities and development in all areas of personnel management and, generally, in the enforcement of Civil Service law, rules and regulations.

The work of the Personnel Division shall be distributed to its different sections as follows:

Personnel Transaction and Appointment Section

(a) Prepare appointments, acceptance of resignation and separation papers of Manila and Provincial employees;

(b) Take charge of recruitment, placement, selection and/or assignment of personnel of the Bureau;

(c) Prepare and evaluate employees qualifications for promotions and/or appointments in accordance with Bureau's policy on promotion, in line with Civil Service law, rules and regulations and WAPCO requirement;

(d) Handle correspondences pertaining to application for employment, transfer, physical and modical examination and submission of forms;

(e) Prepare Bureau's Plantilla of Personnel, and roster of all daily wage employees and keep an up-to-date record of same; and

(f) Perform such other duties as may be assigned by the Chief and Asst. Chief of Division from time to time.

Leave and Insurance Section

(a) Prepare indorsement for leave of all employees of the Bureau after computing leave and enter same on its leave cards;

(b) Prepare reports of absences and undertime to paymasters and chief accountant and reports on Civil Service Form No. 3;

(c) Provide information to employees as to their accumulated leave, leave laws and rules;

(d) Attend to accomplishment of "Information for Membership Insurance" and record of Physical and Medical Examinations and furnish statements of service records to the GSIS;

(e) Keep custody of all personnel time records.

General Services Section

(a) Handle paper pertaining to retirement, (Special permits to possess firearms, office quarters, request for permission to teach outside after office hours or acquire public lands, claims for benefits of employees injured in line of duty and complaints about debts of employees);

(b) Prepare service record, certification of employment and clearance papers;

(c) Compute length of service and efficiency ratings of employees papers semi-annual reports to the Bureau of Civil Service; and adopt a systematic filing of service records, service cards of employees and records thereon other personnel action;

(d) Compilation of Qualification Index of all personnel of the Bureau for ready reference;

(e) Keep up-to-date roster of provincial employees for ready reference and record movements of same from one station to another.

Records Section

(a) Take charge of systematic and accurate safe-keeping of all documents and records of the Bureau;

(b) Receipting for opening and recording mails addressed to the Commissioner and the distribution to the divisions concerned;

(c) Receive and record all correspondence and file coming from other divisions and those delivered by special messenger and take appropriate actions as to their dispositions;

(d) Print, mail and distribute circulars, administrative orders, all office messages, etc.;

(e) Make brief of correspondence on index cards to facilitate tracing of same.

Medical and Dental Section

(a) Render free medical and dental examinations to all employees of the Bureau and prescribe the necessary medicines and suggests treatment of same;

(b) Performs simple surgical intervention like open boils, draining abscess, oral surgery, major and minor dental operations including extractions, dental treatment, filling cavities of teeth and oral prophylaxis to all employees;

(c) Conduct medical consultations, treatment of minor skin diseases, common respiratory infections and other ailments, diagnosis of diseases of the mouth and teeth of patients and give the necessary instruction for their prevention;

(d) Inspect health facilities in work areas, buildings, premises, shops and bodegas to determine their adequacy for prevention of diseases and evaluate observance of safety measures;

(e) Attend to the annual dental check-up and case history of all employees of the bureau;

(f) Requisition medical and dental equipment and supplies; render reports of accomplishments.

Position Audit and Evaluation Section

(a) Conduct audit of position in the Bureau to see whether incumbents are actually performing duties of the position and to submit remedial measures whenever necessary;

(b) Evaluate information and personnel records for purposes of promotion;

(c) Attend to requests for WAPCO reclassifications;

(d) Handle complaints and/or grievances pertaining to personnel matters;

(e) Handle and evaluate employees suggestions for incentive award;

(f) Perform such other duties as may be assigned by the Chief or the Asst. Chief of the Division from time to time.

Bonding and Miscellaneous Section

(a) Bonding and cancellation of bond of Manila and Provineial employees;

(b) Computes and prepares daily wage payrolls of the daily wage employees of the division;

(c) Preparation of appointments and resignation of special messengers and attend to such other duties higher officials of the division may require from time to time;

(d) Safe-keeping of safe combinations of all accountable officials of the Bureau.

Non-Technical Training and Employee Welfare Section

(a) Formulate, maintain and continually expand a systematic plan of action for the development and training of non-

technical personnel at all levels, including periodic inventory of training needs and of progress in meeting them;

(b) Provide for specific development and training opportunities to help non-technical employees at all levels perform their work in the best known ways and draft;

(c) Stimulate and encourage employee development and training not only through officially organized in-service training activities conducted during working hours but also through individual self-improvement;

(d) Make full use of training facilities of the Bureau and the assistance of the Commissioner, Deputy Commissioner, the Administrative Officer, Chiefs of Divisions and other officials of the Bureau to carry out its objectives;

(e) Encourage volutary employee activities, whether athletics, social, recreational that are conducive to employee well-being and consistent with the interest of public service;

Administrative Services Group

12. Investigation Division - The Investigation Division shall be responsible for the handling of administrative cases against employees of the Bureau. As such, it is empowered to conduct investigation, formal or otherwise, to get into the facts of cases and thereafter to submit report and recommendations on cases investigated. It shall prepare all the necessary supporting papers of administrative cases that are to be forwarded to the Civil Service Commission. In general, it shall see to it that Bureau rules and regulations are properly enforced.

The work of the Division shall be distributed to its different sections as follows:

Inspection and General Services Section

(a) Perform detection work in the Central Office and Branch Offices concerning office irregularities; and whenever necessary conduct surprise cash examination of Cash Disbursement Officers and other station accountable officers;

(b) Inspect office premises and see to it that they are always cleanly maintained;

(c) Report the attendance and pass upon the applications for leave of the personnel of the Division;

(d) Requisition office supplies and equipment for the Division;

(e) Submit monthly or quarterly reports of Administrative Cases handled;

(f) Record division vouchers and prepare payrolls;

(g) Keep record of all outgoing and incoming correspondence of the division and in the case of the latter, to distribute (route) them to proper section.

Complaint and Investigation Section

(a) Investigate complaints and irregularities against the service and personnel except those referred to the Integrity Committee;

(b) See to the enforcement of Civil Service Rules and Regulations on discipline.

Prosecution and Special Services Section

(a) Generally, to handle the prosecution of administrative cases against respondent electing formal hearing;

(b) Prepare formal charges against respondent out of preliminary investigation of cases either initiated motu propio or by private complaint;

(c) Gather further facts and additional evidneces that may be needed in the prosecution of administrative cases.

Hearing and Evaluation Section

(a) Generally, to hear administrative cases where formal investigation is elected;

(b) Evaluate evidences adduced in formal investigations and prepare recommendations thereon;

(c) Prepare case papers for indorsement to the Civil Service Commission;

(d) Prepare communications invariably advising respondents in administrative cases of result of/or decisions therein.

13. Accounting Division - The functions of the Accounting Division shall include the keeping of books of accounts with their corresponding vouchers and supporting documents of the Bureau; prepare and submit accounting reports to the Commissioner, Budget Commission and GAO, as per regulations; review all supporting papers of disbursements; look into the legality and proper approval of such documents; see that funds are obligated under budgetary limitations and laws; keep classified records of Income and Collections, accountability of Cash, Accounts Receivables, Supplies, Materials and Equipment; and, generally, supply the Commissioner with all necessary accounting information.

The work of the Division shall be distributed as follows:

Manila Disbursement and Obligation Section

(a) Process and examine general vouchers for payment by TW, PNB checks or cash, covering calims for sundry expenses;

(b) Record report of disbursements, vouchers covering claims for sundry expenses, TEV paid by paymaster and prepare corresponding Credit Advice;

(c) Replenishment by TW cash advances for accountable officers in Manila and Field Stations;

(d) Control of Journal and Analysis of Obligations and Ledger Accounts; and

(e) Prepare monthly reports of expenditures, quarterly reports of summary unliquidated obligations, etc.

Payroll and Salary Warrants Section

(a) Prepare payroll for salaries of employees, wages of temporary helpers and laborers, field personnel IBM warrants, claims for overtime services, night and WAPCO differentials, commutation of leave, retirement gratuities, claim authorized under Workmen's Compensation Act, Disability claims and refund of overdeductions;

(b) Control of all salary deductions for GSIS Life and Retirement premiums, GSIS real estate loans, PHHC rentals, PW & ED bonds, and indexing of all payments and remittances made.

Bookkeeping Section

(a) Maintain books of original entry, General Ledger, Subsidiary Ledger of all funds for Assets and Liabilities;

(b) Prepare reports of Income and Expenditures, Capital Account balances, Quarterly trial balances of all funds, General Journal, Special Journals, Journal Vouchers and Statement of Semestral Subsidiary Ledger balances;

(c) Reconciliation of Accounts 70-7 and 70-9;

(d) Control of monthly reports of collections and disbursements and remittances to the National Treasury;

(e) Preparation of all other financial reports and statements.

Special Service Section

(a) Liquidation of Field Disbursements paid out of cach reserves covering outstanding cash items and of disbursements paid out of cash advances;

(b) Recording of expenditures in the Report of Disbursement to ascertain if properly accounted for and record all disbursements;

(c) Issuance of credit advices to field stations accountable officers to clear them of cash items in their possession

covering the above expenditures.

Field Station Disbursement and Revenus Section

(a) Accounting of all station disbursements covering claime for personal services, maintenance and other operating expenses as reflected in monthly B.T. Form No. 30 reports from the eight (8) Regional Offices;

(b) Posting field expenditures to the Journal of Station Disbursements, Subsidiary Ledger Station Disbursements;

(c) Examine, procese, consolidate and account records of collections and payments (BT Form 51 and 52) covering all collecting officers in Field Stations.

General Services Section

(a) Receive, record and deliver to payees, IW drawn by the Accounting Division in payment of all claims against the Bureau;

(b) Sort, record, file and distribute incoming and outgoing official correspondences and documents for the divison file;

(c) Keep an inventory of supplies and equipment used by the division personnel;

(d) Check correctness of item numbers in proposed original and promotional appointments;

(e) Prepare monthly reports of absences, tardiness and under-time of division personnel.

Commercial Services Division - The Commercial Services Division shall be responsible for the smooth and efficient handling of the allied operations of billing, collection, disbursement and miscellaneous services relative to the handling of the Bureau's cash; maintain up-to-date records of receivables; abstract of bills rendered as well as collections and receivables; handle all cash transactions in Manila and suburbs; take custody of official receipts; handle bank checking accounts; attend to complaints from subscribers pertaining to telephone bills and, generally, be responsible for the safe-keeping of the cash collections in Manila.

The functions of the Division shall be distributed to its different sections as follows:

Accounts Receivable Section

Maintain up-to-date records of receivables; abstract of bills rendered, collections and statements of accounts receivables; journalize entries pertaining to assignment of accounts and account transfer, collections, statement of bills rendered to subscribers, and adjustment of customer's accounts, refunds and cancelled checks. Reconcile subsidiary ledger with General Ledger accounts receivable balances.

Bank Checking and Disbursing Section

(a) Examination of all General Vouchers for issuance of Republic Bank Checks covering all expenses of the Agency chargeable against the Bureau's appropriations including verification of charges and control of funds from which payments are drawn;

(b) Prepare statements and reports of checking account disbursement.

Collecting Section

Collect telephone bills and other outstanding accounts with the Bureau and prepare summary collection and progress chart of collections.

Commercial Section

(a) Handle complaints from customers regarding rebates, and other complaints regarding paid service;

(b) Attend to customer's new connection, re-connection, transfer and disconnection.

Billing Credit and Adjustment Section

Prepare monthly telegraph and telephone bills; maintains Ledger Card (BT Form No. 54-A) so as to record bills prepared, payments received and balances; keep Control Cards so as to record computed miscellaneous charges and rebates for interruptions as well as for "charge" telegrams filed, and prepare summary of billings and recapitulation both for telephone and telegraph accounts.

Cash Section

Handle all cash transactions in Manila and suburbs. Remits and deposits undisbursed funds collected; control and take custody of all official receipts; prepare and submits reports of cash movements, disbursements and abstracts of collections of all bellers.

Inter-Provincial and Overseas Section

Attend to all inter-provincial and overseas transactions including booking, billing and bookeeping.

General Services Section

Attend to the general clerical work such as typing of correspondence, requisition, check on attendance of division personnel; records of personnel data, making the payrolls of daily wage employees; attend to the janitorial and messengerial work of the division.

15. Legal Services Division - This Division shall handle all legal matters of the Bureau. As such, it shall conduct legal researches and studies; render legal opinion on certain legal questions; draft contracts which the Bureau may be called upon to enter with private parties or other government agencies; review contracts sent by other parties to Bureau;

attend hearings in courts or before the Public Service Commission or Workmen's Compensation Commission; handle complicated administrative cases; attend to the legal requirements of the Bureau's projects; study international communication treaties insofar as they affect the Bureau; draft bills for submission to Congress and, generally, advise the Commissioner on all legal and other complicated problems encountered by the Bureau.

The functions of the Division shall be distributed to its different Offices and Sections as follows:

Trial and Hearing Section

(a) Responsible for the attendance, representation, prosecution, defense and litigation, by itself or in collaboration with the Department and the Solicitor General's Office, of all cases affecting the telecommunications service of the Philippines before any court, tribunal, body, agency or commission;

(b) Handle in collaboration with the Office of the Solicitor General, the City Fiscals or Attorneys, the prosecution, defense or litigation of special civil actions or other cases where the Commissioner of Telecommunications and officials or employees of the Bureau are sued in their official capacities; and

(c) Consult with the Department of Justice and Office of the Solicitor General on all difficult matters, legal and factual, involved in the cases handled by the Bureau.

Claims and Legal Assistance Section

(a) Compile ratification papers, documents and reports on international telecommunications conferences, conventions and meetings participated by the Philippine Government or where the Philippine Government is a member or signatory and initiate steps toward the implementation and enforcement of the rules and regulations adopted by said bodies which are binding or applicable to the Philippine Government.

(b) Draft bills, proclamations and executive orders pertaining to telecommunications for submission to Congress or the President; and

(c) Attend to claims for compensation and other benefits allowable under existing laws.

Research and Miscellaneous Services Section

(a) Attend to the commitments and other contractual rights and obligations, domestic and international, of the Government in connection with the 5-year telecommunications Expansion and Improvement Project of the Bureau and render legal assistance in the implementation of the above and other projects;

(b) Assist or initiate negotiations for the purchase or lease of buildings, sites and other facilities needed for the projects; and

(c) Conduct research on legal matters and problems affecting the Bureau and render legal opinions thereon.

General Services Section

(a) Handle the stenographic and clerical requirements of the Division such as taking of stendgraphic notes, transcription, typing, recording and personnel records; and

(b) Generally, to attend to all other miscellaneous matters,

16. Procurement and Property Division - The Procurement and Property Division shall be charged with the procurement of all supplies, matterials, equipment and all other properties needed in the operation and maintenance of existing facilities and in all other undertakings of the Bureau of Telecommunications. Likewise, it shall be charged with the administration all Bureau properties such as warehousing, storing, issuing and recording as well as disposing condemnable and unusable properties of the Bureau. It shall keep and maintain liaison with other government agencies concerned with government procurement and property administration in relation to the needs of the Bureau.

The work of the Division shall be distributed to its different sections as follows:

Equipment Section

(a) Receive all equipment being purchased from time to time;

(b) Store and keep custody of all equipment in stock;

(c) Issue and receivable equipment as they are distributed to different offices; stations and branches of the Bureau;

(d) Initiate the disposal of all condemnable equipment; the transfer to other government agencies as the need arises of all equipment declared not needed anymore;

(e) Attend to request for relief of lost or damaged equipment and other properties which are part of this Bureau's fixed assets;

(f) Keep and up-date all pertinent records and prepare and render all reports required by existing regulations.

Technical Supplies Section

(a) Receive all technical supplies, spare parts and materials being purchased from time to time;

(b) Store and keep custody of those stocks and issuing them as they are being requisitioned by different offices and stations of the Bureau;

(c) Keep custody and control issues of available technical SPC stocks;

(d) Initiate the disposal of all condemnable, obsolete and unusable supplies;

(e) Keep and up-date all pertinent records and prepare and render all reports required by existing regulations.

Stationeries and Office Supplies Section

(a) Receive all stationeries, office supplies, standard government accountable and non-accountable forms and other similar items being purchased from time to time;

(b) Store and keep custody of these stocks; issuing and at the same time controlling these items as they are being requisitioned by different offices of the Bureau; and, receipting such issues covering accountable forms;

(c) Initiate the procurement of these items, preparing requisitions covering sufficient quantities needed to maintain an adequate stock level consonant with the needs of the Bureau and with available fund allocations;

(d) Keep and maintain liaison work with the Bureau of Printing;

(e) Take charge of the bundling, wrapping or packaging and the mailing of those to be issued to provincial stations;

(f) Keep and up-date all pertinent records and prepare and render all reports required by existing regulations.

Buying Section

(a) The Buying Section shall be charged mainly with the function of procurement. It shall receive, review and process all requisitions for purchase coming from different divisions and branch offices of the Bureau and subsequently take steps to effect procurement, either through the Bureau of Supply Coordination or by direct means such as the Direct Order and Payment System or Emergency Direct Purchase as the case warrants.

(b) Undertake the necessary canvassing of prices and prepare the corresponding Letter Orders;

(c) Take charge of importation and the preparation of all necessary papers including the opening of corresponding Letters of Credit and other requirements;

(d) Keep record of prices of various supplies, materials and equipment for reference guide;

(e) Keep and maintain liaison with all other government offices and agencies concerned with procurement;

(f) Keep, maintain and up-date all records pertinent to procurement and prepare and render all reports required by existing regulations.

Accounts Control Section

(a) Provide effective coordination with the Budget and Accounting Division on all accounts pertinent to procuring, stocking and issuing properties of the Bureau;

(b) Process all papers concerning deliveries, freight services, pre-payment accounts, etc. and initiate the preparation of vouchers for payment of all these accounts;

(c) Procure and distribute gasoline and oil products and the control of all relative accounts such as pre-payments for empty drum containers and corresponding individual accountability records of various officials and employees concerned;

(d) Keep, maintain and up-date all pertinent records of accounts segregating them into categories of supplies accounts, equipment accounts and gasoline, oil and miscellaneous accounts. It shall prepare and render all accounting reports required by existing regulations;

(e) Control and keep record of all matters pertinent to fund allocation and expenditures of the whole division. It shall also have a Special Disbursing Officer who will handle the cash advance alloted for emergency purchase for the whole Bureau.

General Services Section

(a) Provide all miscellaneous services related to the functions and responsibilities of all other sections of the division;

(b) It shall have a Packing Unit composed of carpenters and laborers which shall receive all issues intended for provincial offices for the necessary packing, bundling or crating as the case may be preparatory to shipment or mailing;

(c) It shall also have a Shipping Unit which shall undertake the shipment of all outgoing properties except small package of office supplies intended for distant places and the receiving and hauling of incoming properties coming from various provincial offices of the Bureau. It shall likewise arrange for the release of incoming shipment with the Bureau of Customs and other government agencies and haul all such cargoes coming from abroad;

(d) It shall have a Repair Unit to undertake minor repairs of office equipment such as typewriters, clocks, tables, etc.

(e) Generally, act as personnel section of the division.

Technical and Engineering Services Group

17. Telecommunications Operation and Maintenance Division - Study and promulgate operating rules, regulations and instructions for guidance of telecommunications personnel in all stations and offices; investigate and take appropriate measures to insure safety and efficient technical operation of all telecommunication facilities; promulgate standards as guide for the selection, qualifications, training or placement of telecommunications operating and maintenance personnel; attend to the requisitioning of all necessary supplies, materials, equipment and accessories needed in the operation and maintenance of all telecommunications services; attend to the systematic technical operation, repair and maintenance of all telecommunications equipment or facilities, and take charge of the repairs of all radio, telegraph and telephone equipment, power units, motor vehicles, office equipment, and appliances of the Bureau.

The functions of the Division shall be distributed to its different sections as follows:

Motor Vehicles Section

(a) Promulgate instructions on the proper care, operation, maintenance and related processes on all motor vehicles and allied facilities for observance and compliance of staffs and operating officials, and maintenance personnel concerned;

(b) Initiate the requisitioning and stocking of spare parts, supplies and materials necessary in the repairs, improvements and related maintenance works on all Bureau's motor vehicles;

(c) Attend to the expeditious handling of all repairs, reconditioning and all improvement works of motor vehicles, including all mechanical equipment and devices;

Radio-Telegraph and Telephone Section

(a) Prepare instructions on the proper use, operation and maintenance of all radio, telegraph and telephone facilities for guidance and strict compliance of all telecommunications personnel; particularly the oporating people and technicians involved;

(b) Initiate the requisitioning of all equipment, supplies and materials needed from time to time in the maintenance of the orderly operation and repairs of all telegraph, telephone and radio facilities;

(c) Handle the expeditious repairs, modification and improvements required on all radio receivers and transmitters, telephone instruments, teleprinters, telegraph keys, sounders and accessories.

VHF Section

(a) Promulgate instructions and operating rules as guide in the proper care, operation and maintenance of all VHF Stations in the different regions;

(b) Promulgate standards on the selection, qualification, training or placements of VHF personnel;

(c) Attend to the requisitioning of all necessary supplies, materials, equipment and accessories needed in the operation and maintenance of all VHF equipment and facilities;

(d) Shall be responsible for the technical supervision of VHF personnel under the different region.

Power Plant Section

(a) Promulgate instructions on the proper care, operation, maintenance and related processes on all power plant equipment, electrical equipment, appliances and allied facilities for observance and compliance of staff and operating officials and maintenance personnel concerned;

(b) Initiate the requisitioning and stocking of spare parts, supplies and materials necessary in the repairs, improvements and related maintenance works on all Bureau's power plants, electrical equipment and appliances;

(c) Attend to the expeditious handling of all repairs, reconditioning and all improvement work on power plants and allied equipment, electrical equipment and appliances.

Office Equipment and Miscellaneous Section

This Section shall attend to the requirements of newly established stations such as office equipment and supplies; prepare and follow up requisitions therefor and generally, to see to it that established stations are provided with the much needed facilities to operate the station. It shall also attend to other miscellaneous matters needing special attention.

General Services Section

(a) Attend to the general clerical work of the Division including the preparation of payrolls, reports on attendance, activities and performance of personnel movements of motor vehicles and related office and personnel matters;

(b) Take charge of the requisitioning, stocking, issuance and recording of fuel, oil, gasoline, spare parts, supplies and materials of general nature necessary in the proper discharge of the duties and responsibilities of the Division;

(c) Attend to the general housekeeping work of the division including the janitorial, messengerial and other miscellaneous jobs necessary in the up-keeping of the office and divisions plant facilities.

18. Telecommunications Designing and Construction Division - This Division shall be responsible for the preparation of designs of all radio, telegraph, telephone, electrical and power plant installation; VHF buildings and all phases of design, modification of existing facilities to effect efficient Telecom services; undertake project studies complete with technical specifications and working plans including estimate for budgetary purposes; prepare the necessary requisitions for materials, equipment, and other construction tools needed in the prosecution of radio, telegraph and telephone projects; coordinate with the different divisions in the proper execution of yearly construction program of the Bureau; compile statistics in building construction work undertaken and other data needed for future references; gather technical rules and regulations in building materials for use as reference for making estimates of construction and to organize and direct a staff of engineers that shall provide technical assistance to different Regional Offices in construction procedures and policies.

The functions of the Division shall be distributed to its different sections as follows:

Radio Section

(a) Undertake engineering surveys of radio, telegraph, telephone, VHF Station sites and prepare designs of all radio communications circuits, facilities and VHF installations;

(b) Prepare project studies, complete with technical specifications and working plans including estimates for budgetary purposes;

(c) Construct or reconstruct new radio communications circuits stations needed for expansion and improvement of the radio-telegraph and radio-telephone service employing the most modern and up-to-date equipment and techniques;

(d) Prepare specifications for construction work and initiate requisitions for materials, equipment and other construction tools needed in the construction projects;

(e) Keep record of radio frequencies in use in the different radio circuits and study the most suitable frequencies for a given radio circuit including those for newly established stations;

(f) Compile statistics on design and construction work undertaken and such other data needed for future projects.

Telegraph Section

(a) Study and design standard telegraph circuits and system network including modifications on the existing wire telegraph facilities and submit estimates thereon for budgetary purposes;

(b) Coordinate with the different Regional Offices in the proper execution of yearly construction program including issuance of equipment, materials and supplies in stock;

(c) Undertake major outside plant installation, repair and improvement work on wire telegraph and telephone lines;

(d) Provide technical assistance to different Regional Offices in construction work including the assignment of staff engineers to supervise the work;

(e) Prepare work specifications and corresponding requisitions for equipment, supplies, and line materials needed in a given telegraph project;

(f) Gather and compile data regarding telegraph projects and prepare reports pertaining thereon.

Electrical and Mechanical Section

(a) The design and installation of all electrical equipment, appliances and facilities in all offices and telecommunication stations of the Bureau throughout the Philippines, seeing to it that they satisfy the requirements of the National Fire and Underwriters Code and are in accordance with good engineering practices taking into account safety rules and ordinances of cities and municipalities where they may be installed;

(b) Study modern electrical engineering practices, keep abreast with developments along this line and incorporate them in the design and installation; and prepare work plans and estimates;

(c) Coordinate its work and plans with the Planning and Programming Division and Government Telephone System whenever necessary and work on the electrical needs of those divisions;

(d) Attend to electrical installations on antenna towers, etc.;

(e) Compile statistics on its work for guidance and reference of all other technical divisions and for its own needs; and

(f) Requisition all electrical equipment, supplies and accessories, needed by the Bureau or approve requisitions for major electrical and mechanical equipment and supplies needed in all telecommunication stations or regional offices.

Civil Engineering Section

(a) Gather and compile statistical records of buildings owned by the Bureau and those to be constructed; gather technical rules and regulations in building construction in cities and towns of the Philippines; gather and compile up-to-date costs of building materials, such as, cement, re-enforcing bars, lumber, hardwares, etc., for use as reference in making estimates of construction, and keep

abreast with new building materials and equipment for ready references;

(b) Selection of sites for radio, telegraph and telephone stations or system based on technical requirements, prepare surveys and plans for these sites and attend to its acquisition using the services of the Legal Officer for the preparation of necessary contract of lease, rent or purchase;

(c) Design telecommunication buildings, prepare working plans of same; and such specifications as will be needed for submission to the Bureau of Public Works or for construction or advertisement of bids by the Bureau of Telecommunications. Prepare estimates of these buildings for budgetary purposes;

(d) Undertake or supervise construction, reconstruction or repairs of Bureau buildings.

Telephone Designing and Construction Section

(a) Study and design proposed telephone system in the provinces including the Inside Plant and Outside Plant facilities;

(b) Prepare all engineering design, layouts, and specifications of such telephone systems for guidance in the construction, reconstruction and repair works;

(c) Prepare work orders for construction, installation and repair of provincial telephone systems and keep and up-to-date record of cables and wires and other outside plant facilities for future references;

(d) Generally, attend to the technical requirements of the Bureau's provincial telephone systems.

General Services Section

(a) Attend to the general clerical work of the division including the preparation of payrolls, typing of correspondence, requisitions, and the checking of time cards of the empolyees;

(b) Keeping and filing of records, requisition and personal data of all personnel in the division;

(c) Attend to the janitorial and messengerial work of the division.

19. Planning and Programming Division - The Division shall be the central unit in the Bureau to take care of planning, designing and programming of the Bureau's expansion and improvement projects. It is designed to translate the technical and organizational ideas of the Commissioner and Staff into a final blue print through good planning and design and to program the implementation thereof to a successful

realization of the projects. It is expected, through careful planning and programming, to make profitable use of every centavo invested by the government in the improvement of the nation's telecommunications network. In general, it shall conduct a continuing study, planning and programming of projects looking forward to an efficient government communication network.

The work of the Division shall be distributed to its different sections as follows:

Planning Section

(a) Study and plan the different activities of the Bureau in coordination with the Research and Training Division;

(b) Conduct a continuing study and planning of the Bureau's communication network to keep it at par with the modern communication systems of the more advanced countries;

(c) Submit budget estimates needed for any proposed project and prepare justifications of same before the Budget Commission and Appropriation Committee of Congress.

Programming Section

(a) Program the execution of projects and other activities of the Bureau in such a way that they may be completed at the earliest time consistent with the availability of funds for labor and materials;

(b) Follow up progress of work to insure completion of work according to the program laid down.

Project Evaluation Section

The Section shall be responsible for evaluating work accomplishments in any project undertaking and shall see to it that factors affecting smooth implementation are brought to the attention of the Commissioner for necessary remedial action.

Technical Assistance Section

(a) This Section shall keep track of technical assistance extended by foreign administrations such as the ICA, ITU and AID in order that the Bureau may be able to take full advantage of such offers;

(b) Be responsible for the procurement of any of the assistance offered either in kind or services and shall see to it that any assistance given is utilized to the full advantage of the Bureau;

(c) Extend technical assistance in the execution of the projects undertaken in accordance with the study and plans of the Division.

General Services Section

This Section shall attend to the personnel, and clerical work of the Division keeping records of all of the Division activities.

20. Government Telephone System - The Government Telephone System shall include but not be limited to the improvement of the telephone central office and exchange cable network of the Bureau in Manila and suburbs; repair, maintenance, construction and modification of outside plant layouts whenever necessary; conduct researches on the latest technique in the establishment and operation of modern automatic central office equipment, aerial and underground cables, telephone instruments and accessories; execute policy standards, rules and regulations pertaining to the operation of all telephone services and, generally, attend to the administration and operation of the Government Telephone Network.

The functions of the Division shall be distributed to its different sections as follows:

Inside Plant Section

(a) Attend to and be responsible for the efficient operation, repair and maintenance of all automatic and manual exchanges and manual Private Exchanges (PABX & PBX);

(b) The installation of new automatic and manual exchanges and the PBX's and the requisitioning through the General Service Section of all inside plant equipment, supplies and materials;

(c) Keeping of up-to-date records and wiring diagrams, etc. of all telephone exchanges installed and operated;

(d) Direct the supervision of all inside plant personnel;

(e) Attend to the construction, reconstruction and repair of all switchboards, telephone instruments and other allied inside plant equipment and accessories.

Outside Plant Section

(a) Attend to and be responsible for the efficient operation and maintenance of all outside plant facilities;

(b) Speedy and effective restoration of cable and wire troubles and installation of new telephone lines and wires;

(c) Keeping of up-to-date records of cables and wires and other outside plant facilities, keeping of up-to-date records and direct supervision of outside plant personnel;

(d) Requisitioning thru the General Service Section of all outside plant equipment, supplies, materials and other allied accessories.

Engineering Section

(a) Attend to and be responsible for the planning and design of telephone systems in Manila and suburbs including outside plant and inside plant facilities;

(b) Preparation of engineering plans and layouts for telephone system, construction and reconstruction work and repair works;

(c) Survey and action on telephone applications and keeping of up-to-date records of plant facilities;

(d) Preparation of work orders and service orders for construction, installation and repairs.

Toll Traffic and Telephone Operation Section

(a) Book all outgoing calls, noting down on the toll tickets all pertinent data required;

(b) Pass and receive calls coursed through the domestic long distance or overseas facilities;

(c) Pass and receive progress report in all outgoing and incoming calls;

(d) Prepare all reports, journal, daily telephone logs, statistics and other correspondences required by RCA Communications, Inc. and by other divisions and independent units;

General Service Section

Attend to the general clerical work of the GTS including the preparation of payrolls, typing of correspondence, requisitions, and the checking of time cards of the employees as well as janitorial and messengerial services.

Traffic Operations and Field Services Group

21. Telecommunications Traffic Division - The Telecommunications Traffic Division shall be responsible for the proper coordination of traffic in the different radio and telegraph offices throughout the Philippines. Promulgate rules and regulations to be observed by all telecommunications stations in the handling, and routing of traffic as well as for the efficient delivery of messages; coordinate work with the technical engineering divisions by furnishing the latter with the necessary traffic data to be used as a basis for design of new telecommunication traffic circuits; promulgate standard of qualifications for telecommunication traffic personnel and determine traffic personnel requirements of each circuit and stations; pass upon technical qualifications of telecommunication traffic personnel and submit recommendations on their employment and, generally, conduct research on traffic handling with the end in view of improving the present methods looking forward to an efficient telegraph service.

The functions of the Division shall be distributed to its different sections as follows:

Traffic Engineering Section

(a) Study problems on circuit and equipment improvement with the end in view of handling traffic in the most orderly, expeditious and economical manner;

(b) Keep posted on new and modern trends and techniques of traffic handling as well as latest equipment introduced along this line;

(c) Gather, compile and evaluate data necessary for traffic engineering studies to modernize the operation of the telecommunications services;

(d) Check and coordinate the requisitioning of equipment and supplies by regional and local offices and submit said requisition for approval;

(e) Initiate studies on personnel requirements of circuit and stations for proper recommendations.

Traffic Standards and Examinations Section

(a) Promulgate rules and regulations on traffic standards to be observed by telecommunications stations in traffic handling, routing and delivery of messages and coordination of traffic loads in all stations.

(b) Check and coordinate the implementation of such rules and regulations in traffic standards to find out the most effective ways and means of an expeditious handling of traffic loads;

(c) Pass upon technical qualifications of and conduct examination for traffic personnel and make recommendations on their employment.

General Services Section

(a) Shall be responsible for the general clerical work of the division, such as keeping of records, typing of correspondence, checking up of time cards and file records of personnel data;

(b) Attend to the messengerial and janitorial work of the division.

Regional Offices (Regions 1 - 9) - Subject to policy instructions, standards, rules and regulations of the Commissioner, through the Chief Traffic Operations Officer, the Regional Superintendent shall administer the Regional Office and the different telegraph and radio stations within the territorial limit of his region as defined in Administrative Order No. 15, dated January 12, 1957. As such, he shall exercise administrative supervision over all heads of stations within his region while station heads shall be administratively responsible for all personnel in his station including permanently assigned technicians, wire supervisors,

linemen and enginemen. For a more detailed function of the Regional Superintendent, refer to Administrative Order No. 15 dated January 12, 1957.

Each of the Regional Offices shall have an Administrative Section, a Traffic Section and an Operation and Maintenance Section the duties and responsibilities of which are as follows:

Administrative Section

(a) Prepare budget proposals for review and consolidation into the Bureau and department budgets and keep control over budgeted expenditures and account for same;

(b) Process requisitions for equipment and supplies and make emergency purchases authorized by the central office;

(c) Handle personnel matters, temporary and emergency helpers and investigate complaints against personnel and service in the Region and when necessary conduct examination of accounts of accountable officers in their respective region;

Traffic Section

(a) Supervise, control and coordinate the transmission, reception and delivery of telecommunications messages in all of the stations in the regions;

(b) Conduct traffic studies within the Region;

(c) Compile data and prepare reports thereon to the corresponding office in the Central Office.

Operation and Maintenance Section

(a) Coordinate the operation and maintenance of VHF Stations turned over to the Region. Repair and improve station equipment, lines and other facilities in the regions;

(b) Prepare requisition for technical supplies.

The present Manila Central Telegraph Offices which is composed of the Manila Traffic Section, the Message Delivery Section, the Message Receiving Section and the different telegraph offices within the greater Manila Area including Quezon City, Pasay City and Caloocan City is hereby converted into a new Regional Office to be known as Region 9. This Region shall also have jurisdiction over the Valenzuela Transmitting Station, the Taguig Receiving Station, the Manila Central Terminal and the Manila and Quezon City VHF Terminals. These Offices shall hereafter be considered outside the jurisdiction of the present Region 2.

Nothing in this Order shall preclude the Commissioner from revising, amending or modifying the above stated duties of sections and offices through the issuance of corresponding office orders as exigencies of the service may require.

All previous orders found in conflict herewith are deemed superseded with the exception of Administrative Order No. 15 dated January 12, 1957 insofar as the territorial limits of the regions are defined as well as the duties and responsibilities of Regional Superintendents not found in conflict herewith.

This Order shall take effect upon approval by the Secretary of Public Works and Communications.

(SGD) A. GAMBOA, JR.
Acting Director

APPROVED: 12/9/63

(SGD) BRIGIDO R. VALENCIA
Secretary
Department of Public Works and Communications

参考資料 2

政府系電話利用約款

Republic of the Philippines
Department of Public Works and Communications
Bureau of Telecommunications
Manila

June 8, 1960

ADMINISTRATIVE ORDER NO. 7

SUBJECT: New Rules and Regulations Governing
GTS Telephone Service -

There is hereby promulgated a set of revised rules and regulations governing the GTS telephone service for the information and guidance of GTS subscribers.

Rule No. 1

Classes and Type of Service Rendered

A. General

The Bureau of Telecommunications, Department of Public Works and Communications, operates the Government Telephone System to help supplement telephone service rendered by private telephone companies in Manila and suburbs.

The Government Telephone System, in addition to the local telephone service in Manila and suburbs, renders toll service throughout the Philippines and overseas telephone service, jointly with RCA Communications, Inc., to all leading cities and centers outside the Philippines.

B. Service

The Government Telephone System renders the following classes and types of service:

1. Class of Service

    a. Business Service
    b. Residence Service

2. Type of Service

    a. Metered Rate Service
    b. Flat rate Service
    c. Coin Collect Public Telephone System

The application of business and residence rates to subscribers will be governed by the actual or obvious use made of the service by the subscriber. If residence service is found to be used largely or principally for business purposes, the GTS will provide business service, except in cases where the subscriber will thereafter use the service for domestic or social requirements.

C. Extension

Telephone extensions may be connected in accordance with existing rates and with the wiring plans in effect.

Extension stations for business service will be installed within the building in which the primary station is located, provided they are for the use by the subscriber only and are located on the subscriber's premises and within the standard transmission limits.

Extension stations for residence service will be installed only in connection with the subscriber's residence service for use by the subscriber, and must be located on the same continous property.

Rule No. 2

Application for Service

As a condition precedent to the initial establishment of telephone service, the Government Telephone System requires each applicant to sign an application for the service desired on the form provided for the purpose.

The GTS may require written application from subscriber for additions to or changes in the existing service of such subscriber.

An application is merely a request for service and does not in itself bind the GTS to serve, nor does it bind the applicant to take the service.

An application for service called by the applicant or the GTS prior to the establishment of the service applied for is subject to the following conditions:

I. Cancelled by applicant

1. If cancellation is requested by applicant before the instrumentalities are installed on applicant's premises, the application will be cancelled by the GTS and no charge will be made against the applicant.

2. If cancellation is requested by applicant after the instrumentalities have been installed on applicant's premises but not yet connected for service, the application will be cancelled by the GTS, and the GTS will collect the service connection charge, applicable to the instrumentalities actually installed at the time of request.

II. Cancelled by the GTS

If applicant refuses to comply with the Rules and Regulations of the GTS prior to the establishment of service, the GTS may cancel the application, and any amounts collected from the applicant will be refunded.

Rule No. 3

Service Rates

The rates to be charged by and paid to the GTS for telephone service are of two types, the metered rate service and the flat rate service.

The metered rate service involves measuring the amount of service rendered in terms of number of originating calls and making the payment bear some definite relation to such quantities. For this purpose, individual meters are installed for every subscriber in the Central Exchange which record all calls coming from the subscriber's telephone set. Only originating and completed calls are recorded by the meters. These registered calls will be read and billed monthly. Metered rate service applies only to the automatic or dial telephone system except those served by the Malacañang exchange. The flat rate service is based on a monthly fixed rate irrespective of the class of service and number of calls originating from the subscriber's set.

Monthly rentals for telephone services rendered by the GTS are contained in monthly rate schedules promulgated by the Director of Telecommunications from time to time upon approval by the Secretary of Public Works and Communications. Copies of such schedules shall be furnished the subscriber before any new rate takes effect.

Rule No. 4

Requirements and Charges for New Installations

Applicant shall be advised in writing of the availability or non-availability of facilities for new telephone installations. Upon advise of availability of facilities for new connection and before actual installation is made, applicant shall be required to sign an application-agreement and to pay in advance the connection and installation charges contained in the rate schedule plus the required deposit to guarantee payment of rentals.

Rule No. 5

Line Extensions

Line extension necessary to render telephone service will be made by the GTS upon payment of the charges specified in the rate schedule when the telephone extension is to be installed within the same building. Extension will not be allowed if the extension telephone will be installed outside the building where the primary station is located.

Rule No. 6

Moves and Changes

Moves and changes of telephone apparatus and wiring at the request of the subscriber will be made by the GTS and the charge for such work shall be those specified in the rate schedules.

In case moves and changes are initiated by the GTS for the proper maintenance of the equipment or service, no charge shall be made.

Rule No. 7

Additional Telephone and Accessories

Additional telephone accessories such as portable telephone instrument with plug, special telephone extension with jack, switching key for each telephone, extra ringer, and extra long line cords may be provided by the GTS upon request of subscriber upon payment of monthly rentals specified in rate schedules in addition to a service connection charge specified in the rate schedules.

Rule No. 8

Private Branch Exchange, Trunk Lines and Special Private Line

The G.T.S. may provide, upon request of subscriber, Private Branch Exchange (P.B.X.) Service, trunk lines and special private lines according to rate schedules promulgated from time to time.

Connection and installation charges specified in the rate schedule are payable upon approval of application for these services.

Rule No. 9

Priority of Service Application and Supersedures

A. Priority of Service Application

Applications for telephone connection will be accepted and service rendered in the chronological order of their receipt in so far as practicable and in accordance with the facilities available to serve the applicant, except in the following cases in which deviations shall be made in the order enumerated.

1. Application for service involving emergencies

2. Application where the instrumentalities have not been removed from the premises to which the application applies and where service to these instrumentalities has not been permanently discontinued and assigned to another subscriber.

3. Application of government offices, officials and employees will be given priority over private parties.

B. Supersedures

An applicant may supersede the service of a subscriber discontinuing that service, only when the applicant is to take service on the same premises with no change in type or location of equipment and a written notice to that effect from both the subscriber and the applicant is presented to the GTS and an arrangement, acceptable to the GTS, made for the payment of outstanding charges, if any, against the service furnished to the retiring subscriber.

When the instrumentalities are in place but the telephone number of the outgoing subscriber is not to be transferred to the incoming party the installation of service to an applicant's premises will be made in accordance with (A) of this Rule.

Rule No. 10

Ground for Disconnection; Charges for Restoration of Service

Telephone service to a subscriber may be discontinued temporarily or permanently by the GTS on any of the following grounds:

a. Non-payment of bills as required by these rules and Regulations.

b. For failure of subscriber to comply with these Rules and Regulations.

c. For any other reason for which subscriber is responsible.

Temporary disconnection for non-payment of bills becomes permanent if subscriber fails to pay his outstanding bills within ten (10) days from date service has been temporarily discontinued.

A reconnection charge of P2.00 shall be made and collected by the GTS before restoring the service that has been temporarily discontinued without removing the instrument, but a service connection charge of P5.00 shall be made and collected if the telephone has actually been removed from the premises.

Rule No. 11

Rendering and Payment of Bills

A. Rendering of Bills

Bills for service rendered will be sent either by mail or special messenger within the first week of the month following the month covered by the bill. Said bills may include amounts due from toll or phonogram service rendered to the subscriber. Should subscriber fail to receive said bills on or before the 15th of the month following that for which the bill is due, subscriber shall inquire and pay his bill for the month in question at the Finance and Commercial Division of the Bureau of Telecommunications located at the ground floor of the Postoffice Building, Plaza Lawton, Manila. Failure to do so may render subscriber subject to temporary disconnection of telephone service for non-payment of rentals.

B. Billing Period

Bills for exchange service will be rendered and coin boxes opened as nearly as possible at regular intervals. The regular billing period will be once each month.

C. Payment of Bills

Payment of bills for telephone service shall be made at the Finance and Commercial Division of the Bureau of Telecommunications located at the ground floor of the Postoffice Building, Plaza Lawton, Manila, or to a duly authorized collector of the Bureau.

Such bills shall be paid by subscriber within five (5) days from receipt thereof, if received by mail, and upon presentation when presented by authorized collectors of the Bureau.

D. Adjustment of Bills

Opening, closing and monthly bills for telephone service rendered for periods in excess of or less than a calendar month, will be prorated on the basis of the number of days in the period in question to the total number of days of that month or of an average month of thirty (30) days, when the period in question involves a portion of more than one (1) calendar month provided, however, that when the total period for which service taken is less than one month, the total charge for that service will not be less than the monthly flat rate. This provision shall apply only on the flat rate service.

E. Discontinuance of service for non-payment of bills

When a subscriber fails to pay bills for telephone service rendered, service may be temporarily or permanently discontinued, provided that in case a deposit to guarantee bills has been made, the service will not be temporarily or permanently discontinued until the amount of the deposit has been exhausted.

F. Service at a Previous Location

A subscriber's telephone service may temporarily or permanently be discontinued for non-payment of a bill for any class of service (residence or business) rendered to the same subscriber at a previous location served by the GTS, if said bill is not paid within thirty (30) days after the date of presentation at the new location.

G. Subscriber about to Vacate Premises

The GTS will hold a subscriber vacating his premises responsible for all service rendered therein until said subscriber has given notices in writing of his intended removal, specifying the date service is desired to be discontinued.

H. Service not to be Used Immediately

The GTS may refuse the installation of service that is not to be used within a reasonable period after installation, unless the subscriber agrees to pay for service from the time the installation is completed.

I. Extension of Credit, Prohibited

No credit for telephone service will be extended in excess of the period covered by the guarantee deposit. Telephone service may be temporarily or permanently disconnected upon exhaustion of the guarantee deposit.

Rule No. 12

Directory Listing

Every telephone subscriber will be assigned a telephone number which will appear in the GTS Telephone Directory. The assignment of a number to a subscriber's telephone service will be made at the discretion of the GTS. The subscriber has no proprietary right in the number, and the GTS may make such reasonable changes in telephone numbers or central office designations as the requirements of the service may demand.

A subscriber's telephone number may, upon request of subscriber, not be listed in the Directory.

Rule No. 13

Responsibility for Telephone Equipment

The subscriber shall be responsible for loss of or damage to any equipment or apparatus furnished him by the G. T. S.

In case of unauthorized removal, destruction, loss or detention of any equipment or apparatus furnished by the GTS, the subscriber shall pay the cost of the equipment or apparatus removed, destroyed, lost or detained within thirty (30) days from notice. Failure to do so confers upon the GTS the right to take such action or actions as may be necessary to protect the interest of the government.

Rule No. 14

Use of Equipment

All telephone equipment and apparatus furnished by the GTS should be carefully used, and shall neither be removed from location where they are installed, except by an authorized representative of the GTS nor connected in any manner to any equipment or apparatus not furnished or authorized by the G.T.S.

Rule No. 15

Ownership of Instrumentalities on Subscriber's Premises

The Government Telephone System shall own, furnish and maintain all instrumentalities including protective apparatus and other facilities, necessary for an open wiring installations to provide service to a subscriber. The GTS shall have the right to recover such instrumentalities and other facilities from the premises of subscriber upon termination of the service to subscriber.

Rule No. 16

Business and Residence Service

The applicability of business and residence rates is governed by the actual or obvious use made of the service.

The use to be made of the service will be ascertained from the applicant at the time of application for service. Those already installed will be classified accordingly after survey.

A. Business Service

Business rates apply at the following locations:

1. Government-owned and controlled corporations, private offices, stores, factories, and all other places of a strictly business nature.

2. In colleges, clubs, hospitals, offices, lobbies and halls of hotels, apartment buildings, churches, private institutions and boarding and rooming houses.

3. At any location when the listing of office is provided or when any title indicating a trade or profession is listed or when the substantial use of the service is occupational rather than domestic although at any location classified below under (B) regardless of the form of listing, or when extension service is provided to a location where its use is of business or ocupational in character.

4. At residence locations when the subscriber has no regular business telephone service and the use of the service by himself, members of his household, or his guests is more for business than for domestic purpose as indicated by business cards, advertising through newspapers, handbills, bill boards, circulars, etc.

5. In general, at any place where the predominant use of the service is occupational rather than domestic.

B. Residence Service

Residence Rates apply at the following locations:

1. In private residences or residential apartments of hotels and apartment houses without business listings and all stations are located within the subscriber's domestic establishment.

2. In homes of nurses.

If it is found that the subscriber is using residence service for business purposes, the GTS will thereafter require the subscriber to take business service.

Rule No. 17

Compensation to GTS Employees

All employees of the Government Telephone System are strictly forbidden from demanding or accepting from an applicant or subscriber any personal compensation for service rendered to applicant or subscriber in connection with his telephone. Applicants and subscribers are requested to report to the Director of Telecommunications any violation of this Rule by GTS employees or by any employee of the Bureau of Telecommunications.

Connivance between applicant or subscriber and GTS personnel to defeat the purposes of these rules shall be a ground for disapproval of application for telephone service by applicant and a ground for discontinuance of telephone service in the case of subscriber. The GTS employee concerned will be subjected to such disciplinary action as circumstances of the case may warrant.

Rule No. 18

Service Connections to be made by GTS Employees

Only duly authorized employees of the GTS, who are provided with identification cards service orders duly signed by the Director of Telecommunications or by the Chief of the G.T.S., are allowed to connect, disconnect, move, change or alter in any manner and all instrumentalities and facilities furnished by the Government Telephone System.

The GTS authorized employees shall be permitted to enter or leave the subscriber's premises at all reasonable hours and frequency for the purpose of installing, inspecting, maintaining and/or removing its instrumentalities and facilities in connection with the furnishing of telephone service.

The GTS may remove any and all of its property installed on the subscriber's premises.

Credit Allowance for Interruption to Service

The GTS will credit the subscriber for the days that his telephone is not serviceable, except when the cause is due to the fault of the subscriber. A telephone will be considered as not serviceable if outgoing service is not available for a period of twenty-four consecutive hours or more than the time the defect is reported by the subscriber or detected by the GTS. The amount to be credited the subscriber is obtained by multiplying 60% of the total bill for exchange service by the number of days the telephone is not serviceable and dividing the product by the number of days in the billing period. Only a complete day of twenty-four hours and not a fraction thereof will be considered in computing said credit for non-service. Credit allowances will be allowed only on the flat rate service.

Rule No. 20

Service Telephones

Officials of the Department of Public Works and Communications and of the Bureau of Telecommunications and employees of the Government Telegraph and Telephone Systems who are subject to momentary calls in connection with the operation and maintenance of the telegraph and telephone systems may be provided, subject to availability of facilities, with one service telephone at his residence without charge. Upon the retirement or separation from the service of such official or employee, such telephone service shall either be discontinued or the official or employee concerned be given the option to continue the telephone service in which case he shall be required to pay to the GTS the service charge of P2.00 and the monthly rentals prescribed for the class of service installed at his place effective on the date of his retirement or separation from the service of the said Department and the Bureau of Telecommunications. He shall also be required to deposit with the Bureau the required amount to guarantee payment of telephone rentals.

The following are the officials and employees that may be provided with the service telephone aforementioned:

1. Secretary of Public Works and Communications
2. Undersecretaries of Public Works and Communications
3. Director and Assistant Director of Telecommunications
4. Coordinating Officers, chiefs of divisions and independent units of the Bureau of Telecommunications, at the discretion of the Director.
5. Chiefs of section of the G.T.S.
6. Chiefs of the Repair and Maintenance Sections of the G.T.S. and the Telegraph and Radio Divisions of the Bureau of Telecommunications, at the discretion of the Director.
7. Chief Operator of the Central Operating Section.
8. Cable splicer Supervisor, G.T.S.
9. Emergency Driver of the G.T.S.

Rule No. 21

Applications for Telephone Service from Government Offices

Application for telephone service from government offices shall be accompanied with a certification from their respective Accounting Officers of availability of funds to cover charges of installations and monthly rentals for telephone service that may be rendered by the Government Telephone System.

This Administrative Order shall take effect August 1, 1960. All existing orders, rules and regulations in conflict herewith are hereby superseded.

(SGD.) R. TOLENTINO
Acting Director

6-15-60
APPROVED:

(SGD.) M. D. BAUTISTA
Acting Secretary of Public Works
and Communications

Republic of the Philippines
Department of Public Works and Communications
BUREAU OF TELECOMMUNICATIONS
Manila

June 8, 1960

ADMINISTRATIVE ORDER NO. 8

SUBJECT: Revised Rate Schedule for GTS Service

Effective August 1, 1960, the following rate schedule and fees shall be charged for services rendered by the Government Telephone System.

For easy reference, this schedule has been divided into four parts, to wit:

Part I	Rentals
Part II	Connection & installation charges
Part III	Moves and Changes
Part IV	Deposit

PART I

R E N T A L S

A. Regular Telephone Service

I. Flat Rate

1. All manual telephones within the system irrespective of class of services . . . . . ₱12.00 per month

2. All GTS manual telephones installed in Novaliches, Rizal . . . . . ₱24.00 per month

3. Automatic or dial telephone installed in government offices except those installed in government-owned and controlled corporations . . . . . ₱20.00 per month

4. Extension telephone with bell, manual or automatic . . . . . ₱ 5.00 per month

5. Extension telephone without bell, manual or automatic . . . . . ₱ 4.00 per month

II. Metered Rate

1. Residential Telephone Service (Automatic)

Two Party Line . . . . . ₱7.00 flat monthly (demand charge) and ₱0.05 per originating and completed call.

(Note: Single party line service for residential telephone will not be offered in the meantime that the GTS has limited facilities.)

2. Business Telephone Service (Automatic)

a. Single Party line . . . . . ₱10.00 flat monthly (demand charge) and ₱0.05 per originating and completed call.

b. Two Party Line . . . . . ₱8.00 flat monthly (demand charge) and ₱0.05 per originating and completed call.

(Note: Automatic telephone installed in government-owned and controlled corporations are classified as business telephones. Hence, the metered rate service for business telephone shall apply.)

B. Private Branch Exchange Service

I. PBX Switchboard

1. 1 to 20 local stations . . . . . ₱12.00 per month

2. 1 to 40 local stations . . . . . 15.00 " "

3. 1 to 100 " " . . . . . 20.00 " "

II. Stations (PBX)

a. Each primary station . . . . . ₱ 4.00 per month

b. Each extension . . . . . 4.00 " "

III. Ringing Current

Telering (subcycle ringer) . . . . . ₱ 6.00 per month

C. Trunk Lines

1. First two trunks . . . . . ₱20.00 each per month

2. Additional trunks (in excess of two) . . . . . 15.00 each per month

D. Special Private Lines

1. Private lines for the exclusive use of subscribers for special purposes, such as Radio Control Line, Teletype Circuit, etc. excluding terminal apparatus or equipment . . . . . ₱15.00 per pair of line per month.

2. Private telephones connected directly from one point to another under the direct control of the subscriber without passing through the Central Telephone Switchboard within 3 miles from the nearest GTS Central Exchange in Manila . ₱15.00 per telephone per month.

3. For each additional mile of wire in excess of 3 miles . . . . . ₱ 7.50 per pair per month.

E. Broadcast Lines

1. Within the City of Manila and suburbs only, for the first 24 hours or fraction thereof . . . . . ₱12.00

2. For each succeeding 24 hours or fraction thereof 6.00

F. Special Private Line for Music and/or Voice Transmission

1. Trunk lines for the exclusive transmission of music and/or voice . . . . . ₱15.00 per pair of line per month.

2. Drop wire of not more than 500 lineal feet serving less than five (5) speakers or horn shall be charged a flat rate of ₱10.00 per drop wire per month. However, in case such drop wire, also not more than 500 lineal feet, serves five (5) or more speakers or horn, the charge shall be at the rate of ₱2.00 per speaker per month.

G. Additional Telephone Accessories

1. Portable telephone instrument with plug . . ₱ 5.00 per month

2. Special extension per jack for No. 1 above . 2.50 per month

3. Extra long line cords for instruments:

a. 2 to 5 meters . . . . . ₱ 1.50 per month
b. Over 5 to 8 meters . . . . . 3.00 per month
c. Over 8 to 10 meters . . . . . 5.00 per month

4. Switching key for each telephone . . . . . ₱ 1.50 per month

5. Extra ringer each . . . . . ₱ 2.00 per month

PART II

CONNECTION AND INSTALLATION CHARGES

I. New Telephone Installation

A. Connection charge:

a. Primary station . . . . . ₱ 5.00

b. Extension per telephone 2.00

B. Extra labor charge:

a. Five (5) spans or less from the terminal. Free

b. In excess of five (5) spans . . . . . ₱ 7.50 per span

(Note: One span is equal to the distance between two Meralco poles. Number of spans is counted from the nearest available GTS terminal.)

II. Line Extension

Connection charge . . . . . ₱ 2.00 per extension

(Note: No extra labor charge as line extensions are allowed only inside the same building.)

III. Private Branch Exchange

A. Trunk lines

a. Connection charge . . . . . ₱ 5.00 per trunk line

b. Extra labor charge:

1. Five spans or less . . . . . Free

2. In excess of five (5) spans . . . . . ₱ 7.50 per span

B. Local Station

Connection charge . . . . . ₱ 2.00

IV. Special Private Lines

A. Connection charge: . . . . . ₱ 5.00

B. Extra Labor charge:

1. Five (5) spans or less . . . . . Free

2. In excess of five (5) spans . . . . . ₱ 7.50 per span

V. Drop wire to a zone of Distribution

A. Connection charge . . . . . ₱ 5.00

B. Extra labor charge:

1. Five spans or less . . . . . Free

2. In excess of five (5) spans . . . . . ₱ 7.50 per span

VI. Additional Telephone Accessories

Connection charge for every portable telephone instrument with plug, special extension per jack, extra line cords for instruments, switching key, extra ringer . . . . . ₱ 2.00 each

VII. Change of Address, name of subscriber, Directory listings, Billing or Recording at the instance of subscriber . . . . . ₱ 2.00

PART III

MOVES AND CHANGES

A. Telephone Sets:

1. Moving from one location to another in the same building, each set . . . . . ₱ 2.00

2. Moving from one building to another building, and/or from one street address to another street address, each set . . . . . Same as new installation.

B. Change of type of service, either from single party line to two party line or vice-versa . . . ₱ 5.00

C. Transfer of trunk line termination:

1. Within the same building . . . . . ₱ 2.00

2. Outside the building . . . . . Same as new installation.

PART IV

D E P O S I T

Subscriber is required to deposit the sum of thirty pesos (₱30.00) for every new telephone or trunk line installation to guarantee payment of monthly rentals specified above. This deposit will be refunded to subscriber upon termination of the service unless the same has been applied to back accounts of subscriber.

All rates and charges specified in various administrative orders heretofore promulgated are hereby superseded by the above schedule of rates and fees for G.T.S. services.

(SGD) R. TOLENTINO
Acting Director

6-15-60
APPROVED:

(SGD.) M. D. BAUTISTA
Acting Secretary of Public Works
and Communications

参考資料 3

政府電気通信年報（１９６２～１９６３）

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND COMMUNICATIONS
Bureau of Telecommunications
Manila

September 10, 1963

The Honorable
The Secretary of Public Works
and Communications
M a n i l a

S i r :

I have the honor to submit herewith the Report of Operation of the Bureau of Telecommunications for the Fiscal Year 1962-1963.

This report consists of a concise review of Bureau activities during said fiscal year, a statement of accumulated physical accomplishments during the last two fiscal years, a brief narrative report of major projects, and a statement of the problems encountered by the Bureau during the period.

Also embodied in this report is the financial and operational statement of the Bureau as well as a statement of its overall progress and accomplishments during the fiscal year under review.

Very truly yours,

(Signed)

GAMBOA, JR.
Acting Director

THE BUREAU OF TELECOMMUNICATIONS DURING THE FISCAL YEAR 1962-63

Total Number of Telecom Offices 1,157
- (a) radio and telegraph 76
- (b) telegraph 654
- (c) radio-telegraph 273
- (d) telegraph-telephone 154

Length of pole lines repaired and improved ..... 1,354.8 kms.

Wire length installed for new stations ..... 796.60 kms.

Length of pole lines installed ..... 333.50 kms.

Number of personnel 6,535
- (a) regular 3,420
- (b) daily wage 3,115

Total number of telephones in operation (GTS) 7,233
- Number of automatic telephone exchanges 3
- Number of manual telephone exchanges 2

Number of calls handled by the Government Telephone System:
- (a) manual 27,320,275
- (b) automatic 66,893,290

Total GTS rentals collected ..... ₱1,058,039.21

Total number of calls handled by the Government Overseas and Interprovincial Telephone System 111,453
- (a) interprovincial service 89,408
- (b) overseas service 12,045

Total tolls collected (Bureau of Telecom share) ..... ₱589,979.04

Interprovincial telephone stations in operation: Agoo and San Fernando (La Union); Angat, Calumpit, Malolos, Meycauayan, and Norzagaray, (Bulacan); Baguio City; Balanga, Dinalupihan and Orani (Bataan); Bamban and Tarlac (Tarlac); Bangued (Abra); Batangas, Lipa City and Tanauan (Batangas); Bayombong (Nueva Vizcaya); Biñan, Cabuyao, Calamba, College, Sta. Cruz and Sta. Rosa (Laguna); Cabanatuan City; Calapan (Mindoro Oriental); Cavite City and Trece Martires City (Cavite); Cagayan de Oro City; Cebu City; Daet (Camarines Norte); Dagupan City and Lingayen (Pangasinan); Dumaguete City; Hermana Mayor, Iba, Masinloc, Olongapo and Sta. Cruz (Zambales); Ilagan (Isabela); Laoag (Ilocos Norte); Lucena City; Mabalacat, Minalin, San Fernando, San Luis, Sto. Tomas and Sulipan River Control (Pampanga); Manila; Muntinlupa, Pasay City, Caloocan City and Makati (Rizal); Roxas City; Tacloban City; Tagbilaran (Bohol); Tuguegarao (Cagayan); Vigan (Ilocos Sur); and Legaspi City.

An additional overseas telephone channel for Hongkong was opened during the Fiscal Year.

Total number of telegrams handled 4,615,960

Tolls collected thereon ..... ₱6,748,384.64
(a) Free (elections, census, Office of the President, Bureaus of Posts and Telecom, DH, SVC, etc.)..... 1,712,006

(b) Tariff 2,903,954
(1) Full rate 2,657,797
(2) Nominal rate 150,802
(3) Special rate 95,355

I - Manila and suburbs
(a) Full rate 577,326
(b) Nominal rate 22,514
(c) Special rate 49,760
(d) Free 299,675

Total number of offices authorized to handle social telegram services 578

Total number of new stations opened for public service during the FY 57

Total number of offices authorized to handle night lettergram service (NLT) 46

Total number of VHF stations in operation 15

Total number of dental cases and treatments (Manila only) attended to by the Telecom Dental Clinic .. 6,326

Total number of administrative cases handled during the fiscal year 455
(a) cases decided 276
(b) cases pending 179

ACCUMULATED PHYSICAL ACCOMPLISHMENTS DURING THE LAST TWO FISCAL YEARS

The accumulated physical accomplishments of the Bureau of Telecommunications during the last two fiscal years reveal that the total number of telecommunication offices for 1961-62 was 1,099 or an increase of 38 offices over the number of offices existing during the previous year; that for 1962-63 was 1,157 or an increase of 58 offices over that of the previous year. The total accumulated accomplishment in the establishment of offices throughout the country during the last two fiscal years was the installation of 96 additional offices.

Other major accumulated physical accomplishments of the bureau during the last two fiscal years are shown in the tabulation below:

	1960-61	1961-62	1962-63	Accumulated
No. of telegrams handled	3,923,464	4,432,627	4,615,960	682,496
No. of telephones in operation..	5,109	6,574	7,233	2,124
No. of telephone calls (GTS)....	56,034,056	69,973,961	54,640,550	(1,393,506)*
Overseas calls handled.....	21,026	23,721	22,045	1,019
Interprovincial phone calls.....	30,626	67,243	89,408	58,812
No. of stations authorized to handle social telegrams.....	434	526	578	144
Total number of NLT offices.....	41	41	46	5

THE FISCAL YEAR IN BRIEF

Fiscal Year 1962-63 was a significant year for the Bureau of Telecommunications because toward the end of this period two important events, which are calculated to greatly affect and revolutionize the future development of telecommunications in the country occurred. They were the conclusion of an $11.8 million contract between the Philippine Government and the ITT Philippines for the expansion of the government's telecom network, and the initial establishment of the United Nations-sponsored Telecommunications Training Institute worth $1,006,600.

Aside from these two huge projects which disclose the efforts being exerted by the Bureau on telecommunications development as a necessary support to the Administration's Socio-Economic Development program, three initial shipments from Japanese reparations arrived. The major bulk of these items are intended for the improvement and expansion of the Government Telephone System in Manila and its environs, and for other communications services of the Bureau. The shipments consisted of 50 motorcycles, pollute pumps for draining water and accessories, four sets of ground current measuring instrument, GTS symbol flag, pole for flag, pole wire for conduit, and resistance measuring set, outside plant survey equipment, installation materials, radio propagation test equipment and trucks. These pieces of equipment are being used at present in conducting communication surveys in Manila and suburbs preparatory to actual installation.

During the fiscal year under review, the Bureau pioneered a training seminar on field accounting. The purpose of such seminars was to impart to Bureau fieldmen the correct idea on the actual application of accounting rules and regulations on individual station accounts. This training seminar on field accounting has been adopted as a continuing activity of the Bureau.

There was in operation a total of 9,615.84 kilometers of pole lines to which 22,227.90 kilometers of telegraph and telephone lines are attached as of June 30, 1963, compared to 9,282.34 kilometers of pole lines and 23,268.45 kilometers of wire on June 30, 1962.

A total pole length, therefore, of 333.50 kilometers and a wire length of 796.60 kilometers was installed. The decrease in wire length by 990.55 kilometers was due to the recovery of unused wires in Nueva Ecija, Pampanga, Tarlac, Pangasinan, La Union, Cagayan and Surigao for re-use in the Bureau's newly established stations and for line repair and/or improvement projects. This in effect is a savings on the part of the Bureau.

During the fiscal year under review, the Bureau opened to public service 34 additional telegraph stations, 16 combined telegraph/telephone offices and 7 radio stations. Five telegraph/telephone offices were converted into telegraph offices and one telegraph office into a radio telegraph office. This makes a total of 273 radio stations, 654 telegraph offices, 76 radio and telegraph offices and 154 combined telegraph/telephone offices, or a grand total of 1,157 offices in actual operation as of June 30, 1963. Five night lettergram offices (NLT) were established, increasing to 46 the number of NLT offices. An additional 40 telegraph stations in different parts of the country were authorized to handle social telegram service, bring to 566 the number of offices authorized to handle this kind of public service.

Telecommunication authorities submitted to the PCAFE recommendations for the revision of obsolete rules and regulations which are main causes of government red tape and operational roadblocks to the Bureau expansion program. The following are some of the recommendations submitted by the Bureau which are intended to enable the Bureau to participate more actively in the implementation of the socio-economic program of the Administration:

1. Revision of obsolete procedures in the procurement of badly needed supplies, equipment spare parts and accessories to prevent disruption of telecommunication services.

2. Giving direct control to the Director of Telecommunications in the disposition of funds for repair and maintenance of Telecom buildings and facilities to expedite repairs.

3. Exemption of government entities from NASSCO intervention in the repair of equipment and instead to authorize such agencies to conduct public biddings for such repairs.

4. Passage of a law to enable the Bureau and other government agencies to write-off uncollectible debts.

5. Authorize government agencies to have badly needed forms printed by private printers instead of through the Bureau of Printing which is not in a position to take care of all the printing needs of the government.

CONSTRUCTION OF TELEGRAPH LINES:

I. Major line construction, improvement and recovery projects were undertaken in Bauang, La Union-Baguio City. Recovery of wire projects was done due to the establishment of VHF links between different provinces and the confinement of communication lines within the provincial boundaries. Unused wires were recovered in Pampanga and Tarlac, Batangas and Quezon, Tarlac and Nueva Ecija, Tagaytay City and Cavite, Nueva Ecija and Nueva Vizcaya, and Nueva Ecija and Pangasinan.

II. Replacement projects due to rampant pilferage of copper wires in the field. Lines between Moncada, Tarlac and Bautista, Pangasinan were replaced by copperweld wires. It involved 15 kilometers of pole lines, 75 kilometers of wires recovered and 60 kilometers of wires installed.

III. Minor line improvement and repairs were undertaken in 29 provinces in different parts of the country.

TRAFFIC OPERATIONS

Work Accomplished

Traffic Handled in the Manila Central Telegraph Office

From July 1, 1962 to June 30, 1963, there were accepted for transmission 514,814 telegrams in the Central Office (Central Operating Section, Message Receiving Section and Message Delivery Section). These messages contained 9,559,190 chargeable words and the tolls collected thereon amounted to ₱1,236,227.91. During the period under review, Manila Branch Offices consisting of Telegraph Offices located at

Malacañang Compound, Congress Building, Manila Hotel, Paco, Tondo, Quezon Boulevard and San Lazaro, accepted a total of 95,852 telegrams containing 1,236,864 words. These gave the Bureau ₱186,823.37 in telegraph tolls. In addition to paid telegrams, no less than 119,956 election, census and official telegrams of the Bureau of Telecommunications and the Bureau of Posts were handled during the period under review.

Establishment of Additional Teletype Facilities

For the purpose of reducing operational difficulties and to minimize delays in the handling of telegrams, direct teletype circuits were established between Manila and certain offices. In some cases, additional outlets were established to remedy traffic handling during interruptions or breakdown of existing facilities.

Personnel

During the Fiscal Year 1962-63, there were employed 110 temporary operators-in-charge, 107 temporary operators, 48 temporary linemen, 40 temporary enginemen, and 177 temporary messengers and helpers. In addition, a number of casual employees were employed in the Central Office for short periods, many of them on rotation basis.

Special Services

1. During the EVAA (Eastern Visayas Athletic Association) Meet at Dumaguete City, the Bureau established a special telegraph office at the meet site to handle telegrams of athletes, athletic officials and the public. The office was in operation from January 12, 1963 to January 18, 1963.

2. When the PRISAA held its athletic meet at San Fernando, Pampanga, the Bureau also opened a telegraph/telephone office thereat from May 18, 1963 to June 9, 1963.

3. During the Sorsogon Trade Fair Carnival, the Bureau also opened a telegraph office at the Fair grounds to handle telegrams of the public. It was opened on May 13, 1963 and was closed on May 28, 1963.

Problems Encountered During the Year

1. Lack of regular position in the Bureau posed as a problem and is expected to be a problem from year to year unless a sufficient number of positions is provided. The absence of regular operator positions compels the Bureau to hire "casuals" or daily wage employees who by virtue of the temporary nature of the employment could not be made fully liable for misdeeds such as cases of malversation of collections, etc., as they do not fall under the Civil Service Rules. As a consequence, the employment of casuals especially redound to poor service as they are award that they will be replaced sooner or later.

2. Lack of necessary equipment and facilities. The lack of teletype machines, tape cutter and vital spare parts of printers are some causes of delay in traffic movement. Old and obsolete equipment is another. While activities and services of the Bureau expand with the establishment of additional offices, yet Bureau equipment

and funds remain the same from year to year without provisions for additional equipment. We have, however, been requesting funds for the purpose but somehow we were able to get only a minimal amount.

3. Poor working conditions in the Operating Room also contributed to decreased efficiency of the operating personnel. The room is not adequately ventilated. With so many people working at a time coupled with the heat produced by teletype machines, the temperature and dust in the room become unbearable. We have acquired air-conditioning units for the Operating Room but some broke down for lack of parts.

A major problem among the Branch Telegraph Offices - Manila Area is the lack of office equipment. For instance, Congress needs one stapling machine and a typewriter for Social Telegrams; Paco needs two electric fans, an adding machine and a typewriter for Social Telegrams; Quezon Boulevard needs one typewriter and a stapling machine; Tondo needs two office desks, six chairs and a typewriter; and San Lazaro needs two electric fans, one typewriter and two stapling machines, yet we are unable to provide due to lack of funds.

Places With Direct Teletype Lines With Manila

Places which now have direct teletype lines with Manila are the following:

Zamboanga City, Bayombong (Nueva Vizcaya), Santiago (Isabela), Catbalogan (Samar), Tuguegarao (Cagayan), Lucena City, Dagupan City, Baguio City, Laoag (Ilocos Norte), Balanga (Bataan), Cabanatuan City, Tarlac (Tarlac), Cagayan de Oro City, Tacloban City, Iloilo City, Davao City, Cotabato (Cotabato), Bacolod City, Cebu City, Legaspi City, San Fernando (La Union) and Vigan (Ilocos Sur).

LIST OF RADIO, TELEGRAPH AND COMBINED TELEGRAPH/TELEPHONE STATIONS OPENED TO PUBLIC SERVICE FROM JULY 1, 1962 TO JUNE 30, 1963

1.	Pulilan, Bulacan.....	T ...	opened July 5, 1962
2.	San Vicente via Daet	TP ...	" July 8, 1962
3.	Buenavista via Gasan	TP ...	" July 11, 1962
4.	Mayantoc via Camiling, Tarlac	TP ...	" July 12, 1962
5.	Tabon-Tabon via Tanauan	TP ...	" July 13, 1962
6.	Giporles via Balangiga	TP ...	" July 25, 1962
7.	Calinog, Iloilo	T ...	" August 1, 1962
8.	Quezon, Nueva Ecija	T ...	" August 3, 1962
9.	Santol via Balaoan, La Union	TP ...	" August 6, 1962
10.	Sta. Catalina via Bayawan	TP ...	" August 7, 1962
11.	Palanas, Masbate	T ...	" August 13, 1962
12.	Alfonso, Cavite	T ...	" August 20, 1962
13.	Bo. Cumadcad, Castilla, Sorsogon .	T ...	" August 22, 1962
14.	Anini-y, Antique	T ...	" September 10, 1962
15.	Tubao, La Union	T ...	" September 17, 1962
16.	Tuy, Batangas	T ...	" September 17, 1962
17.	Alcantara via phone Tugdan	TP ...	" October 1, 1962
18.	Las Piñas, Rizal	T ...	" October 4, 1962
19.	Mataas na Kahoy, Batangas	T ...	" October 8, 1962

20. Pasonanca Park, Zamboanga ..... T ... opened October 29, 1962
21. Natividad, Pangasinan ..... T ... " November 13, 1962
22. Agno, Pangasinan ..... T ... " November 14, 1962
23. Lagawe, Mt. Province ..... R ... " November 16, 1962
24. Carranglan, Nueva Ecija ..... T ... " November 16, 1962
25. Anaoan via Surigao ..... TP ... " November 16, 1962
26. Salcedo via Candon, Ilocos Sur ... TP ... " November 16, 1962
27. Galimuyod via Candon, Ilocos Sur . TP ... " November 16, 1962
28. San Lazaro, Manila ..... T ... " November 23, 1962
29. Valderrama, Antique ..... T ... " November 26, 1962
30. Bansud via Bongabon, Mindoro Or... TP ... " January 2, 1963
31. Enrile, Cagayan ..... T ... " January 8, 1963
32. San Juan, Abra ..... R ... " January 15, 1963
33. Solsona, Ilocos Norte ..... T ... " January 19, 1963
34. San Mateo via Marikina, Rizal .... TP ... " January 23, 1963
35. Talisay, Batangas ..... T ... " February 1, 1963
36. Calabanga, Camarines Sur ..... T ... " February 4, 1963
37. Callang, Isabela ..... T ... " February 4, 1963
38. Alimodian, Iloilo ..... T ... " February 4, 1963
39. Dauin, Negros Oriental ..... T ... " February 16, 1963
40. Uson, Masbate ..... T ... " March 13, 1963
41. San Jose via Dumaguete ..... TP ... " March 25, 1963
42. Padre Carcia, Batangas ..... T ... " March 25, 1963
43. Bailen, Cavite ..... T ... " March 26, 1963
44. Lasam, Cagayan ..... R ... " March 28, 1963
45. Makilala, Cotabato ..... T ... " March 29, 1963
46. Guiguinto, Bulacan ..... T ... " March 29, 1963
47. Anao via Paniqui, Tarlac ..... TP ... " March 29, 1963
48. Jamindan, Capiz ..... T ... " March 30, 1963
49. Allacapan, Cagayan ..... R ... " April 19, 1963
50. Del Carmen, Pampanga ..... T ... " May 4, 1963
51. Julita, Leyte ..... T ... " May 18, 1963
52. Lamut, Mt. Province ..... T ... " May 29, 1963
53. General Tinio, Nueva Ecija ..... T ... " June 10, 1963
54. Sta. Ana via San Fernando, Pamp .. TP ... " June 20, 1963
55. Claveria, Masbate ..... R ... " June 27, 1963
56. Toril, Davao ..... R ... " June 28, 1963
57. Dupax via Bambang ..... TP ... " June 29, 1963
58. Banawan, Davao City ..... R ... " June 29, 1963

OFFICES CONVERTED, TEMPORARILY OPENED, REOPENED AND CLOSED FROM JULY 1, 1962 TO JUNE 30, 1963

Converted Offices

1. Masbate Capitol via Masbate (TP) - converted into T since Aug. 1, 1962
2. Bacuag via Placer, Surigao del Norte (TP) - converted into T since Jan. 16, 1963
3. Samal via Valanga, Bataan (TP) - converted into T since Jan. 14, 1963
4. Bulan, Sorsogon (T) - " " RT " Feb. 8, 1963
5. Sto. Tomas via Tanauan, Batangas (TP) - converted into T since Feb. 16, 1963
6. Mangagoy via Bislig, Surigao del Sur (TP) - converted into T since June 30, 1963

Offices Temporarily Opened

T - EVAA Meet, Dumaguete City opened Jan. 12, 1963 and closed Jan. 18, 1963.

TP - PRISAA Meet (San Fernando, Pampanga) opened May 18, 1963 and closed on June 9, 1963.

T - Sorsogon Regional Trade Fair (Carnival Site) opened May 13, 1963 and closed on May 28, 1963.

Reopened Offices

1. San Francisco, Cagayan	Reopened	July 6, 1962
2. San Fernando, Agusan	"	July 6, 1962
3. New Piñan, Zamboanga del Norte	"	July 23, 1962
4. Esperanza, Agusan	"	August 13, 1962
5. Malolos Capitol	"	September 10, 1962
6. Alicia, Zamboanga	"	September 15, 1962
7. Palanan, Isabela	"	September 28, 1962
8. Hilongos, Leyte	"	October 15, 1962
9. Diffun, Nueva Vizcaya	"	February 9, 1963
10. Gigmoto, Catanduanes	"	April 30, 1963
11. Agutaya, Palawan	"	April 23, 1963

LIST OF GOVERNMENT OFFICES EXTENDED SPECIAL AND NOMINAL PRIVILEGES WITH THE RATES INDICATED OPPOSITE EACH OFFICE

1. President Assistant on Community Development (PACD) ..... ₱0.20

2. Rice and Corn Administration ..... ₱0.50

3. Weekly Reports of Collections and Disbursement pertaining to National Government by telegram ..... ₱1.00

4. Emergency Employment Administration ..... ₱1.00

5. Reports of Municipal Mayors by telegram addressed to the Director of Bureau of Commerce or each branch office relating to the scarsity of rice and corn supply, profiteering, hoarding and other similar conditions ..... ₱0.30

ESTABLISHMENT OF RADIO-TELEGRAPH STATIONS (HF)

During the fiscal year 1962-63, 12 radio-telegraph stations were established, increasing to 351 the number of stations in operation as of June 30, 1963. This number is 243 more than the radio-telegraph stations we have before the war which is 108.

The following is a list of new stations established:

Station	Date Opened
1. Allacapan, Cagayan	April 19, 1963
2. Bulan, Sorsogon	Feb. 8, 1963
3. Bunawan, Davao City	June 25, 1963
4. Cagdianao, Surigao del Norte	June 30, 1963
5. Claveria, Masbate	June 27, 1963
6. Lagawi, Mt. Province	Nov. 16, 1962
7. Lasam, Cagayan	March 28, 1963

Station	Date Opened
8. Palimbang, Cotabato	June 22, 1963
9. San Juan, Abra	Jan. 15, 1963
10. Tingloy, Batangas	June 25, 1963
11. Toril, Davao City	June 25, 1963
12. Upi, Cotabato	June 30, 1963

HF Radio-Telegraph Station Closed (Converted to Wire-Telegraph)

1. Fort William McKinley ..... Closed on May 8, 1963

At the end of the fiscal year 1962-63, the following were the total number of radio (HF) stations in operation:

	FY 1959-60	FY 1960-61	FY 1961-62	FY 1962-63
a. Total Radio-Telegraph Stations (Bureau)	312	324	340	351
b. Total Radio-Telegraph Stations (Private and Bureau)	5	5	5	5
c. Total Radio-Telephone Stations (Bureau)	29	27	28	28
d. Total Radio-Telephone Stations (Bureau and Private)	18	27	27	33
Total Number of Stations Maintained	366	383	400	417

For lack of equipment such as transmitter receiver (HF) and power units our expected output to establish 20 new radio-telegraph stations every year was not fulfilled. It is, therefore, recommended that the above-mentioned equipment be purchased immediately so that we may cover up our back-logs during the previous years.

ESTABLISHMENT OF VHF STATIONS

Stations	Date	Facilities Provided
1. Aparri, Cagayan	March 1963	Telegraph
2. Bacolod City	Sept. 1962	Telegraph-telephone
3. Cagayan de Oro City	Jan. 1963	Telegraph
4. Calamba, Laguna	March 1963	Telegraph-telephone
5. Calapan, Mindoro	August 1962	Telephone
6. Catbalogan, Samar	Oct. 1962	Telegraph
7. Davao City	March 1963	Telegraph
8. Dumaguete City	July 1962	Telephone
9. Legaspi City	Sept. 1962	Telegraph-telephone
10. Naga City	Nov. 1962	Telegraph
11. Olongapo, Zambales	May 1963	Telephone (2nd netwk)
12. Pandacan, Manila	Feb. 1963	Telephone (automatic dialing)
13. Roxas City	July 1962	Telegraph
14. Santiago, Isabela	March 1963	Telegraph
15. Tandarora, Legaspi	Aug. 1962	Telegraph-telephone (Spare link)

VHF RADIO PROPAGATION TEST CONDUCTED

Station	Contact Station
1. Aparri, Cagayan	Tuguegarao, Cagayan
2. Camp Lookout, Valencia	Mauyog, Cebu
3. Catbalogan, Samar	Brigitte Hill
4. Davao City	Kitanglad, Bukidnon
5. Dumaguete City	Camp Lookout, Valencia
6. Kalibo, Aklan	Roxas City
7. Naga City	Isarog, Camarines Sur
8. Roxas City	Mauyog Cebu
9. Santiago, Isabela	Ilagan, Isabela

IMPROVEMENT OF THE EXISTING VHF RADIO STATIONS

Aparri, Cagayan

Transfer of propagation test site to a newly selected site which includes the following:

(a) Erection of two 80-foot, 1-1/2 diameter G.I. pipe antenna mast.
(b) Construction of a VHF shack.
(c) Installation of equipment.
(d) Construction of temporary powerhouse.

Mt. Banoy VHF Relay Station

(a) Excavation of the precipice for four 60 degree corner reflector antennas for the following stations:
(1) 2 each - Receive for Mt. Mataba
(2) 1 each - Receive for Mt. Isarog
(3) 1 each - Receive for Mt. Sibuyan

(b) Repair of road from Barrio Sico to Mt. Banoy VHF Relay Station.

Batangas VHF Station - Batangas Message Center

(a) Construction of wooden rack for VHF equipment.
(b) Modification of CF-3A for 2-wire to 4-wire operation.
(c) Repair of Ringing Equipment, E.E. 101.
(d) Installation of 1st VHF link from Batangas Message Center to Banoy.

Calapan VHF Station

(a) Repair-modification (4w to 2w) and installation of CF-3A Repeater.
(b) Repair and installation of Ringing Equipment EE 101A
(c) Construction-installation of Key-controlled switching.
(d) Repair and installation of EE-8 field telephone.
(e) Transfer of the VHF Station from HF Radio Transmitting Station site to Mt. Lamesang Bato.

Mt. Isarog VHF Relay Station

(a) Repair of Terminal equipment CF-1A's line amplifier and metering circuits.
(b) Repair of Ringer 101-A's power supply and tone oscillator circuits.
(c) Repair of CF-3A Repeater's Channel 1 attenuator.

(d) Observation of the VHF circuits from Mt. Isarog and Tandarora.
(e) Re-arranged equipment and antennas to prevent interference.

Laoag, Ilocos Norte

(a) Construction of two 105-foot trylon towers at VHF Station site.

Ilagan, Isabela

(a) Painting of towers and construction-installation of received corner reflector antenna.

Legaspi City

(a) Changed tty and Radiophone receive frequencies of Legaspi City from Tandarora VHF Station (90.1 and 93.5).
(b) Repair of CF-3A Repeater receiver side.
(c) Repair of one T-14 Transmitter, crystal oscillator, and metering device.
(d) Repair of one R-19 VHF Receiver's power supply and I.F. circuits.
(e) Construction of VHF equipment racks and repair and renovation of telephone booth. Increased output of channel 5 VF TGH Carrier from 0.4 to 0.5 volt.
(f) Installation of telephone switchboard, telephone set and connection Ringer and Repeater.
(g) Construction of a simple polar relay tester.
(h) Modification of VF Carrier channel 2 to channel 8 for tone modulated Telegraph circuit with Manila.
(i) Transfer of all VHF equipment (tty and radiophone) from old to the new Post-Telecom Building and electrical wiring of same and PVC connections to printer and VF carrier equipment.
(j) Construction of two 30-foot trylon tower atop Legaspi Message Center Building and construction and installation of one 60 degree corner reflector antenna.
(k) Re-estabilization of VHF radio link between Mt. Isarog and Legaspi City.

San Fernando, La Union

(a) Effect the necessary connections from La Union Electric Company commercial lines to our step-down transformer at the VHF station.

Santiago, Isabela

(a) Construction of two (2) 75-foot trylon towers and shack.
(b) Construction of 3m x 4m Powerhouse and 10' x 20' VHF house.
(c) Construction of two (2) concrete foundation for two (2) Witte Power Units.
(d) Construction and installation of corner reflector antennas, installation of obstruction lights and painting of tower.

Tagbilaran, Bohol

(a) Enlargement of existing 4m x 4m powerhouse shack to accommodate two (2) 4hp Witte Engines.

(b) Improvement of existing VHF shack.
(c) Erection of two (2) antenna masts.

Tandarora VHF Station

(a) Changed tty and radiophone transmit frequencies to Legaspi City (90.1 and 93.5).
(b) Repair of CF3A Repeater power supply for microphone.
(c) Re-arranged equipment and antennas to prevent interference.
(d) Repair of the T-14 VHF transmitter output oscillator circuit.
(e) Observation of circuits for Mt. Isarog and Legaspi.

Tuguegarao, Cagayan

(a) Erection of two (2) 150-foot trylon towers, construction-installation of receive corner reflector antennas and obstruction lights and painting of towers.

Bago VHF Station

(a) Installation of one (1) 9-HP Witte engine-generator set.

Dagupan VHF Station

(a) Restoration of the control line link between Bonuan and Dagupan City to replace existing VHF link.

Office Works (Designing and Construction Section)

A. System Design Calculation and Studies Conducted:

a. VHF Radio Links

1. Canlaon, Negros Or. - Mt. Canlaon
2. Catbalogan, Samar - Brigitte Hill
3. Basco via Calayan Is. - Laoag
4. Mamburao - Mt. Banoy
5. Kalibo - Roxas City
6. Ormoc City - Mt. Mauyog
7. San Jose, Occ. Mindoro - Mt. Sibuyan
8. Manila - Ormoc City
9. Mambajao - Cagayan de Oro City
10. Zamboanga - Mt. Kitanglad
11. San Juan, Abra
12. Lasam, Cagayan
13. Balatubat, Cagayan
14. Sibutu, Sitangkai, Sulu
15. Conner, Apayao, Mt. Province
16. Sapang Dalaga, Misamis Occ.
17. Silago, Leyte
18. Maasin, Tacloban
19. Locals, Maasin
20. Tingloy, Batangas

b. HF Radio Links

1. Balatan, Camarines Sur
2. Tugayo, Lanao del Sur
3. Tabango, Leyte
4. Pantao, Libon, Albay
5. Alicia, Bohol
6. Columbio, Cotabato
7. Dangcagan, Bukidnon
8. Toril, Davao City
9. Lagawi, Mt. Province
10. Allacapan, Cagayan
11. Patnanungan, Quezon
12. Claveria, Masbate
13. Cagdianao, Surigao
14. Junalig, Quezon
15. La Paz, Quezon
16. Kumaralang, Zamboanga del Sur
17. Vitali, Quezon
18. San Isidro, Leyte
19. Limaong, Zamboanga City
20. Cuenca, Batangas
21. Upi, Cotabato

B. Technical Services on the Operation and Maintenance of the Nationwide VHF Radio Communication Network

a. Evaluation of VHF Radio Communication circuits troubles as submitted by the Manila VHF Central Terminal.

b. Evaluation of the Daily Engineers Wire check up report on VHF Radio Communication circuit conditions and attendance of station personnel.

c. Technical supervision through Radio Telephone in the operation, maintenance and repair of Radio Equipment and Accessories.

Building Construction and Site Acquisition

A. Building Project Under RA 2300 - (1959-60)

Station	Type of Building	Remarks
1. Lubuagan, Mt. Province	Telegraph Office	Completed
2. Brookespoint, Palawan	Toilet M. C.	Completed

B. Improvement or Repair Under RA 2700 - (1960-61)

1. Talon-Talon	Repair of Employees Quarters	Completed
2. Tuguegarao, Cagayan	Improvement of Telecom Bldg.	Completed

C. Building Project Under RA 3100 - (1961-62)

1. Bontoc, Mt. Province	Storeroom & Toilet with Septic Tank	Completed
2. Director's Office	Mezzanine Floor	Pending
3. Mamburao, Occ. Mindoro	Powerhouse	Completed
4. Naga City	Mezzanine Floor	Finished but not yet accepted
5. San Lazaro Exchange	Telegraph Office	Completed
6. Odiongan, Romblon	Message Center	Completed
7. Payo, Catanduanes	Telecom Building	Completed

D. Building Projects Under RA 3500 - (1962-63)

1. Remedios Telephone Exchange	Telegraph Office	Cancelled
2. Bontoc, Mt. Province	Toilet with Septic Tank	Completed
3. Batac, Ilocos Norte	Message Center	Completed
4. Equipment & Supplies Division	Warehouse	Pending in view of questionable ownership of site
5. Cavite City	Powerhouse	Completed
6. Cagayancillo, Palawan	Message Center Powerhouse	Completed as per tel 7-27-63
7. Olongapo, Zambales	Message Center	Completed
8. Magdiwang, Romblon	Powerhouse (Painting)	Completed July 19, 1963

9. Polo, Bulacan	Transmitting Station (Quonset Hut)	Completed
	Toilet & Storeroom	Completed
	Rest Room	Completed
	Flooring	Completed
10. Mt. Banoy, Batangas	Doghouse & creation of antenna VHF building	Completed
11. Ilagan, Isabela	Annex M.C. Telephone Booth	Completed
12. Oroquieta, Mis. Occ.	Repair & Painting of Message Center	Fund released but no advise of completion
13. Posts Office	Catwalk	Delivery of materials not yet completed
14. Janiuay, Iloilo	Message Center Powerhouse	Fund released but not yet started
15. Bangued, Abra	Powerhouse	Completed
	Engine Foundation	Completed
	Enlargement of VHF Stn.	Not yet started
16. Boac, Marinduque	Powerhouse	Completed
17. Sto. Tomas VHF	Enlargement of VHF Stn.	Completed 6-16-63
18. Daet, Camarines Norte	Annex of Telegraph Office	No advise of completion
19. San Carlos City	Powerhouse	No advise of completion

E. Repair and Improvement Under RA 3500 - (1962-63)

1. Brigitte Hill	Wooden Foundation	Completed
2. Sibuyan, Romblon	Powerhouse	Completed
3. Romblon, Romblon	Powerhouse	Not yet completed
4. Oroquieta, Mis. Occ.	Repair & Painting	No advice of completion
5. Calarian, Zamboanga	Employees Quarters	Completed
6. Cabanatuan City	Powerhouse	Completed
7. Motor Pool Office	Office of Radio and Telegraph Division	Delivery of materials not yet completed
8. Maripipi, Leyte	Powerhouse	Completed
9. Mt. Mauyog	VHF Building	No advise of completion
10. Banate Hill	Powerhouse	No advise of completion
11. Buruanga, Aklan	Engineroom	Completed
12. Mt. Kitanglad	VHF Station	No advise of completion
13. Cotabato City	Transmitting Station	Completed
14. Bongao, Sulu	Posts-Telecom	No advise of completion
15. Mamburao, Occ. Mdo.	Telecom Office	Completed
16. Marabut, Samar	Powerhouse	Completed
17. Donsol, Sorsogon	Soil filling & paining of Telecom Building	Completed

18. Lucena City	Powerhouse	Completed
19. Luna, Mt. Province	Elevation of flooring of PH and cementing of flooring of M.C.	Completed
20. Taguig Receiving Stn.	Powerhouse	Completed
21. Vigan, Ilocos Sur	VHF Station	Completed
22. Mambajao, Gagayan de Oro	Fuel Bodega	No advice status of repair
23. Surigao, Surigao	Message Center	Commenced on April 28, 1963
24. Pinukpuk, Mt. Province	Powerhouse	No advise of completion
25. Mauyog VHF	VHF Shack	No advise of completion
26. Tarlac, Tarlac	Painting of Equipment of Comfort Room	No advice of completion
27. Kiamba, Cotabato	Walling and Window Shutters of Telecom Building	Completed
28. Subangdaku, Cebu City	Waterpipes and fencing	No advice of completion
29. Tacloban City	Fencing of Telecom Site	No advice of completion
30. VHF Tuguegarao, Cag.	Extension of faucet	Completed
31. Bayombong, N.V.	VHF Shack	Fund released on 6-28-63
32. Cabanatuan City	Painting of M.C., PH and VHF	Completed on 10-29-62
33. Cabanatuan City	Installation of water facilities of M.C. & PH	Completed
34. Nabunturan, Davao	Painting of Telecom Office	Completed
35. Magdiwang, Romblon	Construction of fire escape at Powerhouse and Message Center	Completed

F. Acquisition of Sites

1. Mt. Guitingguiting, Cajidiocan, Romblon	Permit for special use of VHF site still under negotiation with the Director of Forestry.
2. Mt. Kitanglad, Malaybalay, Bukidnon	"
3. Brigitte Hill, Tacloban City	"
4. Barrio Gabon, Talisay, Cam. Norte	Purchase of site still under negotiation with the Director of Forestry.
5. Barrio Alimanao, Tuguegarao, Cagayan	Permit for special use of VHF site still under negotiation with the Director of Forestry.
6. Placer, Surigao del Norte	Site donated by Municipal Council of Placer for Post-Telecom bldg. technical description to be furnished by telecom investigator (Telecom Region 7)

7. Mt. Isarog, Naga City Camarines Norte	Permit for special use of VHF granted Director of Parks and Wildlife Office.
8. Mt. Sto. Tomas, Benguet Mt. Province	Protest against Interisland Broadcasting re-VHF site being handled by Legal Officer.
9. Maripipi, Leyte	Permit still under consideration by Director of Forestry.
10. Polo Field, Baguio City	Survey of site still under negotiation with the Dir. of Lands.
11. Marabut, Samar	Site for powerhouse under negotiation with Municipal Council of Marabut to allow the Bureau its free use for as long as needed.
12. Barrio Caruhatan, Valenzuela Bulacan	Survey of lot 659 already undertaken and completed by Bu. of Lands.
13. Lucena City	Space for VHF equipment in Capitol Building still under negotiation with the Director of Weather Bureau. No further advise of development from TTS Pagkatipunan of Region 2.
14. Mati, Davao	Telecom site transfer of ownership under complaint of Mr. Florentino Solier, referred to Legal Officer for proper action.
15. Tandarora, Guinobatan, Albay	Rental of VHF still under negotiation.
16. Sugod, Cebu	Request Municipal Council to donate lot for construction of M.C.
17. San Jacinto, Masbate	Request for donation of lot for Municipal Council granted. Deeds of donation received.
18. Butuan City	Referred to Legal Office regarding the proposed exchange of the present site by Municipal Council.
19. Gabaldon ruins, Iligan City	Instructed ARTS 7 to make representations with the School Superintendent at Lenao del Sur.
20. Aparri, Cagayan (Bo. Tallungan, Aparri)	Requested Legal Office to prepare contract of rental of site. No advise yet.
21. Manduyog Hill, Kalibo Aklan	Request Director of Public Schools for approval of temporary permit to occupy a portion of land for VHF. Negotiation not finalize as VHF Station was transferred to Old Buswang, Kalibo, Aklan.
22. Mt. Mataba	Permit under study of Director of Forestry.
23. Roxas City	Requested City Municipal Council to donate lot at Alta Vista for VHF site.
24. Davao City	Follow up memo to Legal Office regarding the proclamation of Transmitting Station Site.
25. Garchiterona, Cam. Sur	Received from Municipal Council the resolution for the donation of lot.
26. Santiago, Isabela	Requested the Director of Lands for a site at Bo. Rosario to be donated as VHF site.
27. Old Buswang Kalibo, Aklan	Requested Legal Office to prepare contract for rental of site.

28. Bunawan, Agusan	Municipal resoltuion regarding donation of lot already received and referred to Legal Officer for further action.
29. Surigao, Surigao	No further advise yet from RTS 7 - regarding donation of Post-Telecom Site.
30. Iba, Zambales	Requested Legal Office to prepare contract for rental of additional lot.
31. Bo. Maa, Davao City	Pertinent papers referred to CTE for the proposed purchase of VHF site.

ESTABLISHMENT OF TELEGRAPH OFFICES

During the period under review, 39 wire telegraph offices were established. Of these offices established, nine telephone/telegraph stations were converted into regular telegraph offices and one radio station was converted into a regular telegraph office.

The radio stations in Dimasalang, Masbate; Kidapawan, Cotabato and Bislig, Surigao del Sur became combined radio and wire telegraph station upon the establishment of the wire telegraph station in Palanas, Masbate; Makilala, Cotabato and Bo. Mangagoy, Bislig, Surigao del Sur on July 23, 1962; March 29, 1963 and June 20, 1963, respectively.

As of June 30, 1963, there were 750 wire telegraph offices in operation compared to 711 on June 30, 1962.

The following is a list of telegraph stations established during the fiscal year under review:

PLACE OF ESTABLISHMENT	LENGTH (KMS) POLE	LENGTH (KMS) WIRE	POINT OF CONNECTION	DATE ESTABLISHED
1. Palanas, Masbate	9	9	Dimasalang Rdo. Stn.	7-23-62
2. Masbate Capitol, Masbate	Conversion from Tph to Tgh		Mas. Rdo. Tgh Stn.	8-1-62
3. Las Piñas, Rizal	5	1	Manila (Ckt. 205)	8-7-62
4. Tubao, La Union	Conversion from Tph to Tgh		Agoo (Ckt. 142)	9-11-62
5. Talisay, Batangas	16	16	Tanawan Tgh Stn.	9-14-62
6. Natividad, Pangasinan	5.5	11	San Nicolas Tgh Stn.	9-28-62
7. Matass na Kahoy, Batangas	-	6.5	Batangas (Ckt. 242)	9-28-62
8. Agno, Pangasinan	15	30	Alaminos (Ckt. 151)	10-29-62
9. Karanglan, Nueva Ecija	13	36	San Jose Tgh Stn.	11-12-62
10. Valderama, Antique	13	16.6	Bugasong Tgh Stn.	11-15-62
11. Enrile, Cagayan	12	12	Solana Tgh Stn.	11-21-62
12. Solsona, Ilocos Norte	9	9	Dingras Tgh Stn.	12-12-62
13. Bacuag, Surigao del Norte	Conversion from Tph to Tgh		Surigao (Ckt. 711)	12-20-62
14. Callang, Isabela	.5	1	Ilagan (Ckt. 128)	12-21-62
15. Uson, Masbate	11	11	Dimasalang Rdo Tgh station	12-27-62
16. Samal, Bataan	Conversion from Tph to Tgh		Balanga (Ckt. 5)	1-3-63
17. Calabanga, Cam. Sur	9	16	Naga tgh stn.	1-5-63
18. Alimodian, Iloilo	7.5	10.5	Leon tgh stn.	1-17-63
19. Guiguinto, Bulacan	.5	1	Malolos (Ckt. 1)	2-5-63

(continued...)

PLACE OF ESTABLISHMENT	LENGTH (KMS) POLE	WIRE	POINT OF CONNECTION	DATE ESTABLISHED
20. Sto. Tomas, Batangas	Conversion from Tph to Tgh		Calamba (Ckt. 241)	2-12-63
21. San Rafael, Bulacan	6.5	13	Malolos (Ckt. 1)	2-13-63
22. Padre Garcia, Batangas	1	2	Lipa City (Ckt. 244)	3-14-63
23. Almeria, Leyte	9.5	9.5	Naval tgh station	3-28-63
24. Makilala, Cotabato	10	10	Kidapawan Rdo Stn.	3-29-63
25. Jamindan, Capiz	12	12	Mambuasao tgh stn.	3-29-63
26. Julita, Samar	Conversion from Tph to Tgh		Dulag (Ckt. 642)	4-19-63
27. Pasumil, del Carmen, Pamp.	-	19	Lubao tgh station	4-30-63
28. Camp McKinley, Pateros Rizal	Conversion from Rdo to Tgh		Manila (Ckt. 206)	5-8-63
29. Lamut, Mt. Province	6.5	6.5	Bagabag tgh stn.	5-14-63
30. Carmen, Agusan	Conversion from tph to tgh		Butuan City (Ckt.726)	5-25-63
31. General Tinio, Nueva Ecija	6.5	13	Cabanatuan City (Ckt. 58)	5-31-63
32. Banna, Ilocos Norte	16	16	Dingras tgh stn.	6-5-63
33. Bontoc, Southern Leyte	Conversion from tph to tgh		Batangas (Ckt. 676)	6-13-63
34. San Luis, Batangas	5	10	Batangas (Ckt. 241)	6-28-63
35. Bo. Mangagoy, Bislig Surigao	Conversion from tph to tgh		Bislig Rdo. Stn.	6-30-63
36. Linamon, Lanao del Norte	.5	1	Iligan City (Ckt.726)	6-30-63
T O T A L	197 kms.		317.6 kms	

ESTABLISHMENT OF TELEPHONE STATIONS IN THE PROVINCES

Due to limited funds, only 13 telephone stations were established during the period under review. Of these stations established, 11 were formally opened for combined telephone-telegraph service. The establishment of the telephone station in Danglas and Villaviciosa of Abra and Bo. Naga-Naga, Alicia, Zamboanga del Sur was not completed at the end of the fiscal year under review. Actually, the telephone stations at Danglas, Villaviciosa and Bo. Naga-Naga, Alicia were established on July 16, 1963; July 26, 1963 and July 4, 1963, respectively.

As of June 30, 1963, there were 155 telephone stations in operation, 142 of which were opened for combined telephone-telegraph service. However, two telephone stations established during the period under review for telephone-telegraph service have not yet been formally opened to the public.

The following is a list of new telephone stations established:

PLACE OF ESTABLISHMENT	LENGTH (KMS) POLE	WIRE	POINT OF CONNECTION	DATE ESTABLISHED
1. Compania Maritima, Cebu City*	-	0.5	Cebu Message Center	1-10-62
2. Alcantara, Romblon	8	8	Tugdan Rdo. Stn.	8-24-62
3. Anao-aon, Surigao	11	11	Surigao Rdo tgh stn	10-26-62
4. Bansud, Mindoro Or.	15.5	15.5	Bongabon Rdo stn.	11-19-62
5. San Mateo, Rizal	3	9	Marikina tgh stn.	1-22-63
6. San Jose, Negros Or.	3.5	8	Dumaguete Rdo stn.	3-16-63
7. Anao, Tarlac	2	9	Panique tgh stn.	3-22-63
8. San Isidro, Samar	18	18	Allen tgh stn.	3-26-63
9. Sta. Ana, Pampanga	-	4	San Fernando tgh station	4-20-63
10. B. San Jose, Baggao, Cagayan	18	18	Baggao tgh stn.	4-27-63
11. Silago, Southern Leyte	19	19	Hinunangan tgh stn.	5-15-63
12. Dupax, Nueva Vizcaya	9	9	Bambang tgh stn.	6-11-63
13. Lugait, Misamis Oriental	-	9.5	Manticao tgh stn.	6-26-63
14. Tubod, Surigao del Norte	1	7.5	Mainit tgh stn.	6-29-63
T O T A L .....108 kms.		146 kms.		

*For long distance call (VHF Cebu City)

TELEGRAPH AND TELEPHONE LINES

There was in operation a total of 9,615.84 kilometers of pole lines to which 22,227.90 kilometers of telegraph and telephone wires are attached as of June 30, 1963, compared to 9,282.34 kilometers of pole lines and 23,268.45 kilometers of wire on June 30, 1962. Some of these wires are operated simultaneously for the telephone and telegraph circuits or as a telephone-teletype circuit.

During the period under review, a total pole length of 333.50 kilometers and a wire length of 796.60 kilometers were installed. The decrease in wire length from 23,268.45 kms. to 22,227.90 kms. was due to the recovery of unused wires in the provinces of Nueva Ecija, Pampanga, Tarlac, Pangasinan, La Union, Cagayan and Surigao for re-use in our new station establishment and line repair and/or improvement projects in view of the present high cost of wires.

COMPARATIVE DATE ON ESTABLISHMENTS

	FY 1959-60	FY 1960-61	FY 1961-62	FY 1962-63
1. Number of Telegraph Offices Established:	16 (31)	25	29	30
2. Number of Telephone Offices Established:				
(a) Combined telephone-telegraph Offices	9 (10)	10	18	13
(b) Telephone Offices for Official use only	0 (3)	0	0	0
3. Total Number of Telegraph Offices in Operation	658 (644)	682	711	747

(continued...)	FY 1959-60	FY 1960-61	FY 1961-62	FY 1962-63
4. Total Number of Telephone Offices in Operation:				
(a) Combined Telephone-telegraph offices	128 (119)	132	153	155
(b) Telephone offices for official use only	97 (97)	90	90	90
5. Length in Kms. of telephone and telegraph (combined) pole lines constructed	156.10 (185.55)	178.25	365.60	333.50
6. Length in Kms. of telegraph and telephone (combined) wires installed.	302.30 (264.20)	512.30	502.75	796.60
7. Total length of Kms. of telegraph and telephone (combined) pole lines in operation	8,817.49 (8,676.39)	8,916.74	9,282.34	9,615.84
8. Total length in Kms. of telegraph and telephone (combined) wires attached to pole lines in operation	22,884.90 (22,597.60)	22,765.70	23,268.45	22,227.90

Note: TPH/TGH Station at Lumbang, Laguna closed as of 6/8/60 per AOM # 129 dated 6/10/60.

	PERCENTAGE INCREASE (OR DECREASE) OVER PREVIOUS YEARS			
	1959-60	1960-61	1961-62	1962-63
1. Number of telegraph offices established:	(48.40%)	56.25%	16%	24.7%
2. Number of telephone offices established:				
(a) Combined telephone-telegraph	(10%)	11.11%	80%	(27.8%)
(b) Telephone office for official use only	(100%)	No increase No decrease	No increase No decrease	No incrs. No decrs.
3. Total number of telegraph offices in operation	2.17%	3.65%	4.25%	5.07%
4. Total number of telephone offices in operation:				
(a) Combined telephone-telegraph	7.56%	3.12%	15.9%	1.54%
(b) Telephone offices for official use only.	No increase No decrease		No increase No decrease	No incrs. No decrs.
5. Length in Kms. of telegraph and telephone (combined) pole lines constructed.	15.8%	14.19%	105%	(8.77%)

(continued...)

	PERCENTAGE INCREASE (OR DECREASE) OVER PREVIOUS YEARS			
	1959-60	1960-61	1961-62	1962-63
6. Length in Kms. of telegraph and telephone (combined) wires installed	14.42%	69.47%	(1.87%)	58.40%
7. Total length in kms of telegraph and telephone (combined) pole lines in operation.	1.63%	1.12%	4.10%	3.59%
8. Total length in Kms. of telegraph and telephone (combined) wires attached to pole lines in operation	1.27%	(0.52%)	2.21%	(4%)

LINE CONSTRUCTION, INSTALLATIONS, IMPROVEMENTS AND/OR REPAIR AND RECOVERY PROJECTS

In accordance with our program of work during the fiscal year under review for the construction of lines in addition to new station establishment projects and for the improvement and/or repair of existing wire facilities, the following projects included in the said program were completed. These accomplished projects are grouped into two: (1) Major Line Construction, Improvement and Recovery Projects and (2) Minor Line Improvement and/or Repair Projects.

I- MAJOR LINE CONSTRUCTION, IMPROVEMENT AND RECOVERY PROJECTS:

A. Major Recovery Projects

1. Bauang, La Union-Baguio City Recovery Projects:

The recovery of wires from Bauang, La Union to Baguio City was begun on August 30, 1962 and completed on September 21, 1962 or a total of 17 working days. It involved 43 kilometers of pole length and 157 kilometers of wire length. This included the recovery of glass insulators and line hardwares.

2. Due to the establishments of VHF links between the different provinces and the confinement of communications lines within the provincial boundaries, many lines were rendered inactive and were recovered. The recovery of unused wires in the provinces is as follows:

a. Pampanga and Tarlac

This project was started on December 13, 1962 and completed on January 8, 1963 or a total of 20 working days. It involved 31.5 kilometers of pole length and 141 kilometers of wire length. The accomplished project includes the recovery of line and line hardwares.

b. Batangas and Quezon

The recovery of lines between San Juan, Batangas and Candelaria, Quezon was started on December 18, 1962 and completed

on January 15, 1963 or a total of 19 working days. It involved 16 kilometers of pole length and equal length of wires.

c. Tarlac and Nueva Ecija

The recovery of unused wires between Victoria, Tarlac and Guimba, Nueva Ecija was started on February 4, 1963 and completed on February 19, 1963 or a total of 12 working days. It involves 16 kilometers of pole length and equal length of wires. This project includes the recovery of glass insulators and other line hardwares.

d. Tagaytay City and Cavite

The recovery of unused line from Tagaytay City to Indang, Cavite was started on March 20, 1963 and completed on April 4, 1963. This involves 11 kilometers of pole/wire length. In this project, the two-pin crossbars were recovered and wooden brackets were installed instead to support the existing single line between the above places.

e. Nueva Ecija and Nueva Vizcaya

The recovery of lines, poles and line hardwares between Digdig, Nueva Ecija and Sta. Fe, Nueva Vizcaya was started on February 1, 1963 and completed on March 20, 1963 or a total of 45 working days. It involves 33 kilometers of pole line and 54 kilometers of wire length.

f. Nueva Ecija and Pangasinan

The recovery of unused lines between San Jose, Nueva Ecija and Umingan, Pangasinan was started on March 31, 1963 and completed on April 1, 1963 or a total of 16 working days. It involves 25 kilometers of pole length and 50 kilometers of wire length.

3. Replacement Project:

Due to the rampant pilferage of copper wires in the fields, our lines between Moncada, Tarlac and Bautista, Pangasinan which were formerly copper wires were replaced by copperweld wires. This project was started on May 22, 1963 and completed on June 18, 1963 or a total of 23 working days. It involves 15 kilometers of pole length and 75 kilometers of wire recovered and 60 kilometers of wire installed. In this project, retransposition of the new lines installed was also undertaken.

4. Power and control lines construction project:

P L A C E	Length (Kms) Pole	Wire	Type of cable or wire used	Gage	Date Completed
1. Koronadal, Cotabato	1.5	12	Field wire, Twisted	17	October 5, 1962
2. Ormoc City	1.5	21	PVC cable, 6 pairs Copper wire, rubber insulated, stranded	19	October 15, 1962
3. Aparri, Cagayan	1	71	PVC cable, 4 pairs Copper-weld wire, bare	19 104	Dec. 21, 1962
4. Tagbilaran, Bohol	5	80	Copper wire, bare hard drawn	10	
			Field wire, twisted	17	Dec. 29, 1962
5. Roxas City	5	70	Copper wire, bare hard drawn	10	Feb. 19, 1963
			Field wire, twisted	17	
6. Santiago, Isabela	2	20	Copperweld wire, bare	104	
			Field wire, twisted	17	May 15, 1963
7. Kalibo, Aklan	2	20	Copperweld wire, bare	104	
			Field wire, twisted	17	May 17, 1963
8. Cagayan de Oro City	1.5	9	Field wire, twisted (additional)	17	June 22, 1963
T O T A L ---	19.5 kms.	303 kms.			

OTHER PROJECTS

1. Guimba, Quezon	10	10	Copper wire, bare hard drawn	10	Nov. 29, 1962
2. Talavera-Cabanatuan City	-	20	- do -	"	
T O T A L ---	10	30			

2) Minor Line Improvement and/or Repair Projects

Place (Province)	Length of Pole Line (Km)	Date Completed	Nature of Work Accomplished
1. Antique	2	1-28-63	Replacement of 30 Mancono Poles between Km 29 to Km 26, Dao.
2. Bataan	5	11-3-62	Transfer of X-arms & wires from our pole to local electric pole line, Orani-Herbosa Section
	95	9-29-62	Gen. repair & improvement of TGH line affected by flood from Mariveles, Balanga, Dinalupihan and San Fernando, Pampanga
3. Batangas	16	2-4-63	Gen. cleaning of TGH line from Talisay to Tanauan
	2	6-11-63	Relocation of Pole Line from Bo. Manghinao to Bo. Cupang, Bauan.
	16	2-4-63	General cleaning of TGH line between Talisay and Tanauan
4. Bulacan	-	9-7-63	Transfer and repiling of poles in Valenzuela. (Transmitting Station)
	38	2-15-63	Rerouting of CKT 36 from Bigaa to Plaridel
5. Camarines Sur	7	11-1-62	General Improvement of TGH lines from Pasacao to Pamplona
6. Camarines Norte	4	11-11-62	Recovery of unused PVC from Daet to Talisay.
	8	3-16-63	Relocation of pole line between Paracale and Batobalani
7. Cavite	74	11-5-62	Replacement of 30 ea. Creasoted poles & Improvement of TGH pole from Cavite City to Indang.
	11	1-22-63	Recovery of old pole lines from Naic to Indang and establishing a new one from Indang to Tagaytay City.
	11	4-5-63	Attachment of our line to CEDA poles & recovery of lines from Trece Martires to Tanza.
	12	4-22-63	Recovery of unused wires and other TP line accessories from Tagaytay City to Indang.
	29	5-24-63	Improvement and Repair project in Cavite Province.
8. Cebu	31	10-23-63	Relocation of TGH lines from Sugod to Borbon.
	29	1-25-63	Replacement of rusty spiral-4 cable & General Improvement of pole line from Barili to Moalboal
	32	Feb.	Relocation of poles and rerouting of wires between Bogo & Tabogon.

9. Cotabato	1	12-21-62	Transfer of TGH station to New quarters utilizing 25 pcs. Mancono poles at Nuling.
	12	6-13-63	General improvement of pole lines from Koronadal to Banga.
10. Davao	-	11-16-62	Rerouting of control lines of Davao City.
	32	2-22-63	Repair and improvement of pole line between Davao City & Calinan.
11. Ilocos Sur	12	9-20-62	Replacement of 20 pcs. wooden poles from Sta. Maria to Narvacan.
	6	11-26-62	General repair of TGH lines thru the replacement of rotten poles, X-arms, pins, etc. from Sta. Maria to Narvacan.
12. Ilocos Norte	21	9-7-62	Replacement of 100 pcs. wooden poles and repair of pole line from Laoag to Pasuquin, Bacarra to Vintar.
13. Iloilo	-	11-6-62	Relocating of pole line as requested by City Engineer's office from Millan to Zamora.
	3	6-30-62	Improvement of control line at Iloilo City.
	72	2-9-63	General improvement of TGH line from Jaro to Passi.
14. Isabela	13	6-29-62	General repair of pole line thru the replacement of X-arms, pins & insulators, etc. Cabatuan-San Mateo section.
	21	6-30-62	General repair of pole line thru the replacement of X-arms, pins & insulators, etc. Echague-Jones section.
	22	8-18-62	General cleaning & fixing inclining poles, Cabatuan-Roxas section.
	26	9-24-63	General repair & improvement of our pole line between Cabanatuan and Roxas.
15. Laguna	11	8-16-62	General cleaning & replacement of broken insulators between San Pablo City and Alaminos.
	3	2-16-63	General repair of pole line between Pakil and Pangil.
16. La Union	-	9-18-62	Repair and improvement of Rosario loop.
17. Leyte	-	6-21-62	Relocation of 10 ea. sectional poles between Carigara & Barugo.
	84	3-3-63	General improvement of pole line between Malitbog and Macrohon.
	2	1-22-63	Transfer of TGH line to new pole line at Ormoc City.
18. Misamis Oriental	10	2-4-63	General repair of pole line between Oroquieta & Lopez Jaena.

19. Negros Occidental	103	7-8-62	General repair of pole line thru the replacement of brackets, crossarms, fixing inclining poles, etc. (Bacolod City-Murcia; Pulupandan-Ilog; Binalbagan-Isabela.
	22	8-31-62	General repair and improvement of pole line between Fabrica, Sagay and Escalante.
	10	12-26-62	General repair of pole thru the replacement of brackets, wires, insulators, etc. between Silay City and Saravia.
	17.5	3-2-63	General improvement of pole line between Bacolod City and Murcia.
	-	3-29-63	Relocation of poles and transfer of wires from PLDT pole line to our poles at Silay City.
	13	5-6-63	Improvement project between Manapla, Cadiz, and Fabrica.
	-	5-10-63	Transfer of line attached to PLDT pole line in Silay City.
20. Negros Oriental	1	2-12-63	Rerouting of Ckt. No. 246 and telephone line traversing PAL airstrip at Dumaguete City.
21. Nueva Ecija	9	8-16-62	Replacement of broken insulators and cleaning between Sto. Domingo and Quezon.
	-	2-25-63	Repair of telegraph office.
	-	6-13-63	Transfer of pole to San Antonio.
22. Pampanga	-	9-11-62	Erection of 2 concrete poles & hauling of 13 ea. concrete poles.
	134	9-22-62	General repair & improvement of lines damaged by floods.
	2	5-10-63	Replacement of rotten poles in Porac.
23. Pangasinan	-	6-30-62	General repair of district thru the replacement of rotten brackets, insulators of District No. 4.
24. Quezon	40	8-15-62	Transfer of line from coconut trees to 6 wooden poles.
	39	10-22-62	General improvement of TGH line from Calawag to Tagkawayan.
	2	12-20-62	Replacement of 3 pcs. of rotten poles with sectional steel poles from Tiaong to San Antonio.
	5	1-19-63	Replacement of 14 poles at TGH loop of Lopez.
	20	2-8-63	Relocation of TGH pole lines from Pitogo to Macalelon and Gen. Luna.
	3	5-24-63	Repair in Sariaya loop.
	12	5-29-63	Repair and improvement from Guinayangan to Macalelon and Gen. Luna.

25. Rizal	3	5-26-63	Installation of twisted drop wires from railroad track telegraph office, Nichols Field.
	25	5-30-63	Relocation of lines and recovery of poles from GSIS to Quezon City.
26. Samar	-	6-21-62	Emergency restoration due to landslide between Pangpang-Calumotan.
	13	7-26-62	Replacement of insulators, plugs & general cleaning between Calbayog-Oquendo.
	82.8	3-6-63	General repair of pole line thru the replacement of rusty wire and other line accessories.
27. Sorsogon	16	8-2-62	Replacement of 50 rotten poles between Juban-Magallanes.
28. Surigao	0.5	12-28-62	Recovery of spare lines of control lines of Surigao.
	11	3-12-63	Recovery of unused TP line between Placer and Bacuag.
	-	4-6-63	Installation of telephone lines from Cagwait to Aras-Asan.
29. Tarlac	-	10-13-62	Replacement of copper wires and retransposition of the Ckt. (4-lines) from Capas to Moncada.

SPECIAL SERVICES

1. Permission was granted to the Municipal Government of Alaminos, Pangasinan last August 16, 1962 for the attachment of a pair of telephone line to our telegraph poles from Alaminos proper to Mabini involving 127 sectional poles; from Alaminos proper to Bani involving 119 BT wooden poles and from Alaminos proper to Sual involving 85 GI poles.

2. Permission was granted to the Municipal Government of San Gabriel, La Union last September 3, 1962 for the attachment of a pair of telephone lines to our telegraph poles from Bacnotan to San Gabriel involving 68 GI poles.

3. Permission was granted to the Provincial Government of Antique last Sept. 18, 1962 for the attachment of a pair of telephone lines to our telegraph poles from Dao to Ani-ni-y involving 172 poles.

4. Permission was granted to the Municipal Government of Sagay, sub-province of Camiguin, Misamis Oriental last May 7, 1962 for the attachment of a pair of telephone lines to our poles in the town proper of Sagay involving 27 GI poles.

5. Permission was granted to the Municipal Electric System of Barili, Cebu last May 9, 1963 for the attachment of their three-power wires to 38 of our telegraph poles along the national road.

GTS Performance Report For The FY Ending June 30, 1963

The Government Telephone System in its 3rd year of automation is more concerned with and determined to improve rather than expand its telephone service, as the condition of its outside plant is rather precarious. However, it is very much handicapped in its activities owing to the very same problems existing during the previous fiscal year. Despite handicaps and shortcomings, however, the GTS has the following accomplishments for the fiscal year under review:

A. Maintenance and Installation Work

1. Cable and Line troubles cleared	23,620
2. Equipment (Switching) trouble detected and cleared	9,690
3. Repair work orders completed (Including repair of terminals, etc.)	373
4. Telephone cables installed (Ckt km.)	37.2
5. Manholes constructed	5
6. Length of underground ducts laid	7,786 ft.
7. Service orders completed	
(a) New Installations	1,211
(b) Inside Moves	348
(c) Outside Moves	301
(d) Disconnections	544
8. General improvement work in the operation and maintenance of manual and automatic exchanges, PBX's and PABX.	

B. Operation and Other Services:

As of June 30, 1963, there were 7,233 telephones in operation.

Operational activities handled are as follows:

1) Telephone Calls Handled -

(a) Manual operation of two-manual exchanges, 9 position interception boards, 5-position interception boards, PBX and Malacanang PABX (No. of Calls) 27,320,275

(b) Automatic (handled by automatic exchanges A, B, and C (No. of Calls) 66,893,290

C. Improvement and Modification Work of the Pentaconta Crossbar Switching Equipment

As of June 30, 1963, the Contractors (CGCT) are still undertaking some modifications and improvement of the switching equipment delivered and installed. When all discrepancies in the technical specifications are threshed out, the Bureau will undertake the final acceptance.

Problems of the GTS

Similar problems and difficulties encountered in the previous years remain the same during the period under review, such as:

1. The inter-trunk arrangements with the PLDTCo. system. There seems to be no immediate solution to this problem.

2. The rehabilitation of the outside plant network. Trouble arising from the outside plant network poses the biggest problem, as well as preventing the GTS from undertaking additional telephone installations.

3. Inadequate vehicles, equipment and tools for operation, maintenance and construction. This results in backlogs in our maintenance work finally resulting to inefficient service.

4. The inadequate government-prescribed standards and specifications governing telephone operations, maintenance and constructions.

5. The need for in-service training of skilled personnel to meet the demands of the GTS.

Recommendations:

1. The immediate procurement of the cables and outside plant materials to rehabilitate the outside plant network. This has been held pending for sometime now.

2. The elimination and solution of the above-stated problems should serve as the basis of action in the ensuing fiscal year, in order to attain the GTS's objective of rendering more efficient public service.

GTS STATEMENT OF OPERATION AND INCOME

As of June 30, 1963, the total asset of the system including those carried under the Bond Fund amounted to ₱14,989,560.04. This comprises the Current Asset amounting to ₱6,610,116.27 and Fixed Asset of ₱8,379,443.77.

The cash position of the system of ₱5,930,188.63 comprised the cash deposit with the National Treasury of ₱344,751.28; with other banks ₱5,537,725.55 and cash in the hands of the collecting disbursing officers, ₱47,711.80. Out of these amounts, ₱4,692,000.00 is earmarked for 10% down payment of the contract price per agreement with ITT, Philippines.

The receivables of ₱665,349.51 consist of the receivable from the national bureaus and offices, ₱240,347.31; from local government ₱79,203.72; from government owned or controlled corporations ₱31,204.32 and other receivables of ₱264,420.86.

The prepayment of ₱14,578.13 represents the balance of cash advance to other bureaus and offices and employees which were not yet cleared at the end of the accounting period.

The equipment and other properties valued at ₱8,379,443.77 carried under Special Fund and Bond Fund do not comprise all the equipment of the system, as part of it was carried under the General Fund and SPC. Only by actual physical inventory and reappraisal of the asset may be obtained the true asset of the system. Our asset was increased by ₱8,966,577.59 over that of last year due to improvement and expansion of the System.

The liabilities of the system of ₱4,463,501.39 under the Special Fund do not include other expenses not taken up in the books due to limited

appropriation. We have paid all our amortization due in FY 1963 on P.W.E.D. Bonds. As of June 30, 1963, we have an outstanding interest payable on PWED Bonds of ₱22,926.97 but the corresponding voucher is being prepared for settlement in July, 1963.

From the appropriation of ₱2,444,625.00 authorized under R.A. #3500 for the operation and extension of Government Telephone System, ₱1,687,059.58 had been obligated. From the Bond Fund authorized under R.A. #2701, 3101, 2700 with a total appropriation of ₱10,370,100.00 for the expansion and improvement of telecommunication services, ₱4,126,643.14 had been obligated. During the fiscal year 1963, value of the assets that have been purchased and constructed amounted to ₱3,289,882.13.

Income earned for the period amounting to ₱1,693,350.23, comprised the installation charges, provincial tolls, share of the system from overseas, telephone tolls, telephone rentals and other income. The total expenses incurred by the system including those carried under the General Fund ₱1,272,997.33. Net income realized after deducting the operating and other expenses was ₱420,352.90.

Total expenses capitalized under the Special Fund was ₱343,506.99 and under Bond Fund, ₱2,946,393.14.

From the itemization of the financial condition of the System, it may be concluded that the Government Telephone System is in a sound financial position and the expansion is not only very profitable but also very necessary to cope with the demand of the service in line with the Socio-Economic Development program of the present administration.

GOVERNMENT TELEPHONE SYSTEM
Statement of Financial Condition
As of June 30, 1963

ASSETS	Account Symbols	Special Fund	Bond Fund	Totals
CURRENT:				
Cash	70			
Other Banks	70-3	₱ 47,702.63	₱ 5,490,022.92	₱ 5,537,725.55
Collection Officer	70-4	36,421.19	-	36,421.19
Disbursing Officer	70-5	6,290.61	-	6,290.61
Other Officer	70-6	5,000.00	-	5,000.00
Treasury Account Current	70-7	344,751.28	-	344,751.28
Receivables -	71			
Due from the Gen. Fund	71-1-001	50,173.30	-	50,173.30
National Bureaus & Offices	71-1	240,347.31	-	240,347.31
Local Government	71-2	79,203.72	-	79,203.72

Gov't Owned & Controlled Corporations	71-3	31,204.32	-	31,204.32
Miscellaneous	71-9	264,420.86	-	264,420.86
Prepayments -				
Prepayments, Miscellaneous	73-1	7,892.60	6,685.53	14,578.13
Total Current Assets -		₱1,113,407.82	₱ 5,496,708.45	₱ 6,610,116.27
FIXED:				
Land, Land Improvement and structures -				
Public welfare & internal safety:	76-3			
Lands	76-3-001	1,239.49	90,651.00	91,890.49
Buildings	76-3-002	-	398,091.67	398,091.67
Tel. Lines & Stns.	76-3-003	1,381,826.78	1,013,785.52	2,395,612.30
Construction in Process	76-6	117,136.27	3,578,306.51	3,695,442.78
Equipment -				
Public welfare & internal safety:	77-3			
Motor vehicles & Accessories	77-3-018	31,554.60	2,840.90	34,395.50
Industrial machineries & implements	77-3-020	5,393.86	15,097.70	20,491.56
Hand tools	77-3-021	11,315.65	-	11,315.65
Furniture & Office Equipment	77-3-022	58,398.64	518.36	58,917.00
Technical & Scientific Instruments	77-3-025	591.50	-	591.50
Tel. cable Instruments & apparatus	77-3-027	59,278.12	1,105,044.77	1,164,322.89
Misc. equipment	77-3-030	10,761.98	4,527.00	15,288.98
Equipment in transit	77-5	131,665.83	361,417.62	493,083.45
Total Fixed Assets -		₱1,809,162.72	₱ 6,570,281.05	₱ 8,379,443.77
TOTAL ASSETS -		₱2,922,570.54	₱12,066,989.50	₱14,989,560.04

LIABILITIES, MISC. CREDITS AND SURPLUS

CURRENT:				
Payables -				
National Bureaus & Offices	81-1	₱ 1,500.00	₱ -	₱ 1,500.00
Unliquidated Obligation	81-4	574,964.98	3,870,310.73	4,445,275.71
Miscellaneous	81-9	16,725.68	-	16,725.68
National clearing Account	99	-	(4,617,110.93)	(4,617,110.93)
Miscellaneous Credits				
Deposit for Telephone	85	128,951.88	-	128,951.88
Surplus				
Capital Surplus	94	1,809,162.72	6,570,281.05	8,379,443.77
Current Surplus	92	391,265.28	6,243,508.65	6,634,773.93
TOTAL LIABILITIES, MISC. CREDITS AND SURPLUS		₱ 2,922,570.54	₱12,066,989.50	₱14,989,560.04

GOVERNMENT TELEPHONE SYSTEM
OPERATION STATEMENT
Fiscal Year Ending June 30, 1963

OPERATING REVENUE			₱ 1,682,146.22
OPERATING REVENUE DEDUCTIONS:			
Salaries:			
Regular Employees, General Fund	₱239,656.81		
Regular Employees, Special Fund	199,646.32	₱439,303.13	
Wages of Casual Employees		433,419.93	
Overtime Services		65,210.55	
Night Differential Pay		9,080,18	
Traveling Expenses		6,943.35	
Supplies and Materials		58,572.08	
Total Operating Revenue Deductions -			1,012,529.22
NET OPERATING INCOME -			₱ 669,617.00
Add OTHER INCOME			11,204.01
TOTAL INCOME BEFORE ADMINISTRATIVE & FIXED CHARGES			₱ 680,821.01
ADMINISTRATIVE AND FIXED CHARGES DEDUCTIONS:			
Administrative Charges -			
Wages of Watchmen	₱ 12,801.73		
Wages of Property Employees	3,664.48		

Overtime Services	₱ 643.60	
Clothing Allowance	704.43	
Traveling Expenses	915.70	
Supplies and Materials	16,014.58	
Rentals of PLDT Trunk Lines	59,845.30	
Insurance	1,293.52	
Contractual Services	2,670.85	
Reproduction of Tracing Plan	457.49	
Printing of Directory	300.00	
Meal Allowance	180.00	
Other services	2,608.12	
Total Administrative charges		₱102,099.80
Fixed Charges -		
Gov't. Share, L & R Premiums		
General Fund ₱14,379.40		
Special Fund 11,446.18	₱ 25,825.58	
Rentals of Bldg. Sites	414.00	
Total Fixed Charges -		26,239.58
Total Administrative and Fixed Charges-		128,339.38
NET INCOME BEFORE OTHER CHARGES		₱ 552,481.63
OTHER CHARGES DEDUCTIONS:		
Interest Expenses on PWED BONDS		132,128.73
NET INCOME FOR THE FISCAL YEAR ENDING JUNE 30, 1963 -		₱ 420,352.90

SPECIAL FUND CAPITALIZED EXPENSES

Wages of Laborers		₱191,131.56
Clothing allowance of engineers sent abroad to study under the Colombo Plan		1,580.00
Traveling Expenses		4,477.10
Test Piles		5,000.00
Other Services		7,016.96
Supplies & Materials		103,802.91
Propagation Test		2,000.00
Equipment -		
To be used in Operation -	₱ 8,455.60	
To be used in Installation -	20,042.86	28,498.46
		₱343,506.99

* * * *

RESEARCH & TRAINING DIVISION

A. General

The Research and Training Division has for its main objectives the following: (a) to organize and conduct training activities to assure the Bureau a continuous supply of competent and efficient communication engineers,

technicians, operators, skilled and semi-skilled labor and related supervisory officials to operate and maintain the existing and the latest telecommunications systems to be established now and thereafter; (b) to keep the Bureau personnel well-informed of the latest development in the field of telecommunications and (c) to conduct research and develop systems technique, explore and investigate local materials and supplies and set standards of quality and performance for the same.

To attain the above objectives, the Division was delegated the responsibility of implementing the Five-Year Telecom. Training Program, a United Nations Special Fund-assisted project. Since the start of the fiscal year under review the Division has accomplished the following:

1) Efforts were concentrated on the establishment of the Telecommunications Training Institute in the meantime that in-service training has been temporarily suspended.

2) The Division has, however, conducted pre-service training in the form of examinations. In Manila, a total of 440 applicants participated in the qualifying examination for operators; in Cebu City, 117 and in Iloilo, 67 or a total of 624 participants. Only 39 passed because the examination papers were rigidly evaluated to insure that only efficient participants are chosen.

3) Qualifying examination for radio technicians was also given for the purpose of selecting deserving survey technicians for the first year phase of the Five-Year TTI project. Seminars were also conducted to keet technical personnel abreast with the latest development in the manufacture of telecom equipment.

B. Implementation of the Five-Year Training Program

After several representations, the Philippine Counterpart Fund in the amount of ₱200,000.00 as part of the National Economic Council's contribution to the cost of TTI project was released. The amount is itemized as follows:

Second Installment of 15% of the total cost of expert...	₱	68,000.00
Laboratory Installation cost		100,000.00
Building and Office Equipment & Furniture		16,260.00
Transportation, Brokerage, Storage, Etc.		15,740.00
TOTAL	₱	200,000.00

* * * *

FINANCE & COMMERCIAL DIVISION

I. COLLECTION (MANILA)

* General Fund	₱ 2,595,424.65
** Special Fund	1,720,966.43
Total Collection	₱ 4,316,391.08

* Breakdown of General Fund Collection:

Telegraph Tools	₱	177,134.89
Tellers' Collection		1,061,634.87
Special Messengers' Deposit		43,705.40

Collect Telegraph Deposit	₱ 13,207.75	
Remittance of Collecting Officer	279,307.28	
Miscellaneous	1,020,434.46	₱ 2,595,424.65

** Breakdown of Special Fund Collection:

Telephone Tolls	₱1,129,368.20	
Connection Charge & Extra Labor	50,936.21	
IPTS & Overseas Call	219,447.56	
Telephone Directory	27.70	
Guarantee Deposit	35,040.28	
Miscellaneous	286,146.48	1,720,966.43
Total		₱ 4,316,391.08

II. COMPARATIVE STATUS OF COLLECTION FOR FISCAL YEARS 1961-1962 and 1962-1963:

	Fiscal Year 1961 - 1962	Fiscal Year 1962 - 1963	Increase
General Fund	₱2,203,140.49	₱2,595,424.65	₱ 392,284.16
Special Fund	1,393,913.91	1,720,966.43	327,052.52
	₱3,597,054.40	₱4,316,391.08	₱ 719,336.68

III. COMPARATIVE STATUS OF ACCOUNTS RECEIVABLES:

	Fiscal Year 1961 - 1962	Fiscal Year 1962 - 1963	Increase	Decrease
General Fund:				
01-71-1-001 -	₱347,798.97	₱ 332,841.81		
01-71-2-001 -	4,445.68	4,179.45		
01-71-3-001 -	16,002.27	8,546.44		
01-71-9-001 -	166,030.20	181,297.55		
	₱534,277.12	₱ 526,865.25		₱7,411.87

Last Fiscal Year, the difference was an increase of ₱131,854.89. This Fiscal Year, we were able to eliminate the increase and still decrease our Accounts Receivables by ₱7,411.87.

Special Fund:				
11-71-1-001 -	₱250,841.16	₱ 240,347.31		
11-71-2-001 -	99,722.41	79,203.72		
11-71-3-001 -	32,727.01	31,204.32		
11-71-9-001 -	204,118.91	264,420.86		
	₱587,409.49	₱ 615,176.21	₱27,766.72	

The difference last Fiscal Year was an increase of ₱83,689.91. This Fiscal Year, we were able to cut down the increase to ₱27,766.72.

IV. SALARIES PAID IN MANILA AND SUBURBS ..... ₱ 3,709,912.28

V. BILLS PREPARED:

Telegraph	4,146 Bills	.....	₱ 243,970.55
Telephone	43,632 "	.....	1,094,183.72
	47,778 Bills		₱ 1,338,154.27

VI. TOTAL AMOUNT OF TELEGRAPH TOLLS CHARGED TO GUARANTY DEPOSIT ..... ₱ 177,361.29

VII. COLLECTOR'S COLLECTION BOTH GENERAL AND SPECIAL FUND ..... ₱1,829,645.18

VIII. BANK CHECKING ACCOUNTS:

Checks prepared	3,049
General vouchers paid and indexed	3,675
Bank deposits made	₱10,480,287.54
Bank disbursements made	8,383,962.31

BALANCE SHEET AS OF JUNE 30, 1963

GENERAL FUND

A S S E T S

CURRENT:		
Cash -		
Cash in Banks	₱	206,495.45
Collecting Officers		2,277,654.44
Disbursing Officers		2,501,447.76
Others		337,025.19
Accounts Receivables -		
From Salary Adjustment Fund		3,899.44
From Special Fund		18,380.10
From Fiduciary Fund		2,073.63
National bureaus and offices		332,841.81
Local governments		4,179.45
Government owned and controlled corporations		8,546.44
Miscellaneous		181,297.55
Inventories -		
Supplies and materials in stock		208,909.23
Gasoline in Tank (Motor Pool)		1,259.57
Prepayments and Deposits -		
Prepayments		84,004.72
Guaranty Deposits		132,479.50
Deposits for Empty Drums		32,414.71
Other Assets -		
Backpay Certificate of Indebtedness		13,759.75
Total Current Assets - - - - - - - - - - - - - - -	₱	6,346,668.74
FIXED:		
Lands, Land Improvements and Structures -		
Public Welfare & Internal Safety		6,551,135.88
Work or Construction in process		560,352.03
Equipment -		
Public Welfare & Internal Safety		3,671,338.08
Items in transit		1,031,864.90
Total Fixed Assets - - - - - - - - - - - - - - - -	₱	11,814,690.89
TOTAL ASSETS - - - - - - - - - - - - - - - - -	₱	18,161,359.63

LIABILITIES, DEFERRED CREDITS & SURPLUS

Accounts payable -	
National bureaus & offices	239,545.21
Local Governments	6,450.62
Government Owned or Controlled Corporations	100,581.32
Unliquidated obligations	1,178,202.69
Miscellaneous	769,636.63
Miscellaneous Credits -	
Insurance reserve	6,876.82
Miscellaneous deposits	269,436.78
Backpay Certificate of Indebtedness	13,759.75
SURPLUS -	
Capital Surplus	11,814,690.89
Appropriated Surplus	145,953.81
Current Surplus	3,616,225.11
TOTAL LIABILITIES, DEFERRED CREDITS & SURPLUS	₱ 18,161,359.63

OPERATION STATEMENT
July 1, 1962 to June 30, 1963

GENERAL FUND

I N C O M E -

Operating and Service Income -		
From Government Business Operations:		
Telegraph Tolls		₱ 6,850,862.27
Miscellaneous Income		991,140.55
Prior year credits	₱ 970,647.21	
Fines and Penalties	5,099.13	
Miscellaneous receipts	15,394.21	
Sales of Assets -		
Sales of fixed assets		505.14
Total Income For General Fund		₱ 7,842,507.96

E X P E N D I T U R E S :

Personal Services - 1		
Project No. 101	₱6,984,257.53	
Project No. 102	1,379,694.53	
Project No. 301	904,579.26	
Total Personal Services		₱9,268,531.32
Maint. & Other Oprtg. Expenses - 2		
Project No. 101	871,900.00	
Project No. 102	288,665.29	
Project No. 301	80,648.02	
Total Maint. & Other Oprtg. Exp.		₱1,241,213.31
Fixed Expenditures -		
Life & Retirement premiums		₱ 434,060.98

Salary Adjustment	₱= 47,135.91
TOTAL EXPENDITURES - - - - - - - - - - - - - - - -	₱ 10,990,941.52
Loss	(₱ 3,208,433.56)

Note:

Because they are not considered items of operation, but capital outlays, the following expenditures have not been included in the above statement of expenditures,

From amount appropriated in the Appropriation Act,
R. A. No. 3500..... ₱473,617.91

Capital Outlays -	
Project No. 101	₱ 52,595.85
Project No. 102	5,000.00
Project No. 301	4,993.97
Project No. 401	243,146.93
Project No. 402	167,881.16
	₱473,617.91

FINANCES OF THE BUREAU OF TELECOMMUNICATIONS
Fiscal Year 1962-1963
APPROPRIATIONS AND EXPENDITURES
GENERAL FUND

ITEMS	APPROPRIATIONS	EXPENDITURES	DIFFERENCE Deficit() Superavit
PROGRAM I -			
Project No. 1 -			
Personal Services - 1	₱ 7,041,000.00	₱ 6,984,257.53	₱ 56,742.47
Maint. & Other Oprtg. Exp. 2 .	871,900.00	871,900.00	0. -
Equipment - 3	52,600.00	52,595.85	4.15
Total for Project 101	₱ 7,965,500.00	₱ 7,908,753.38	₱ 56,746.62
Project No. 2 -			
Personal Services - 1	₱ 1,400,200.00	₱ 1,379,694.53	₱ 20,505.47
Maint. & Other Oprtg. Exp. 2 .	339,500.00	288,665.29	50,834.71
Equipment - 3	5,000.00	5,000.00	0. -
Total for Project 102	₱ 1,744,700.00	₱ 1,673,359.82	₱ 71,340.18
PROGRAM III -			
Project No. 1 -			
Personal Services - 1	₱ 904,600.00	₱ 904,579.74	₱ 20.26
Maint. & Other Oprtg. Exp. 2 .	95,500.00	80,648.02	14,851.98
Equipment - 3	5,000.00	4,993.97	6.03
Total for Project 301	₱ 1,005,100.00	₱ 990,221.73	₱ 14,878.27

PROGRAM IV -			
Project No. 1 - (CAPITAL OUTLAY)			
Personal Services - 1	₱ 60,000.00	₱ 60,000.00	₱ 0. -
Maint. & Other Oprtg. Exp. 2 .	55,000.00	55,000.00	0. -
Equipment - 3	135,000.00	128,146.93	6,853.07
Total for Project 401	₱ 250,000.00	₱ 249,146.93	₱ 6,853.07
Project No. 2 - (CAPITAL OUTLAY)			
Personal Services - 1	₱ 90,000.00	₱ 52,233.00	₱ 37,767.00
Maint. & Other Oprtg. Exp. 2 -	110,000.00	86,373.29	23,626.71
Equipment - 3	50,000.00	29,274.87	20,725.13
Total for Project 402	₱ 250,000.00	₱ 167,881.16	₱ 82,118.84
Fixed Expenditures -			
Life & Ret. Insurance Premiums .	₱ 434,061.00	₱ 434,060.98	₱ 0.02
Salary Adjustment Fund	₱ 47,135.91	₱ 47,135.91	₱ 0. -
TOTAL APPROPRIATIONS & EXPENDITURES	₱11,696,496.91	₱11,464,559.91	₱231,937.00

BALANCE SHEET AS OF JUNE 30, 1963

SPECIAL FUND

(Government Telephone System)

A S S E T S

CURRENT:

Cash -		
In Bank	₱	47,702.63
Collecting Officers		36,421.19
Disbursing Officers		6,290.61
Other Officers		5,000.00
Treasury Account Current		344,751.28
Accounts Receivables -		
Due from General Fund		50,173.30
National Bureaus and Offices		240,347.31
Local government		79,203.72
Government owned or controlled corporations		31,204.32
Miscellaneous		264,420.86
Prepayment -		
Prepayments, miscellaneous		7,892.60
Total Current Assets	₱	1,113,407.82

FIXED:

Land, Land Improvements and Structures -		
Public Welfare and Internal Safety	₱	1,383,066.27
Work or Construction in Process		117,136.27
Equipment -		
Public Welfare and Internal Safety		177,294.35
Items in Transit		131,665.83
Total Fixed Assets	₱	1,809,162.72
T O T A L A S S E T S	₱	2,922,570.54

LIABILITIES, MISCELLANEOUS CREDITS & SURPLUS

Payables -	
National Bureau and Offices	₱ 1,500.00
Unliquidated Obligations	574,964.98
Miscellaneous	16,725.68
Miscellaneous deposit -	
Deposit for Telephones	128,951.88
Capital Surplus	1,809,162.72
Unappropriated Surplus	391,265.28
TOTAL LIABILITIES, MISCELLANEOUS CREDITS & SURPLUS	₱ 2,922,570.54

OPERATION STATEMENT
July 1, 1962 to June 30, 1963

SPECIAL FUND
(Government Telephone System)

INCOME

Operating and Service Income -		
From Government Business Operations		₱ 1,682,146.22
Installation charges	₱ 54,447.81	
Overseas & Interprovincial telephone tolls	569,659.20	
Telephone rentals	1,058,039.21	
Miscellaneous Income		11,204.01
Fines & penalties	403.70	
Miscellaneous receipts	10,800.31	
TOTAL INCOME FOR SPECIAL FUND		₱ 1,693,350.23

EXPENDITURES

Project No. 201 -		
Personal Services 1	₱ 736,686.37	
Maint. & Other Oprtg. Exp. 2	606,884.22	
Total Expenditures		1,343,570.59
SURPLUS		₱ 349,779.64

Note: Because they are not considered items of operation, but capital outlays, the following expenditures have not been included in the above statement of expenditures.

From account appropriated in the Appropriation Act, R. A. No. 3500.

Capital outlays		
Project No. 201	₱ 8,455.60	
Project No. 501	335,033.39	
Total Capital Outlays		₱ 343,488.99

FINANCES OF THE BUREAU OF TELECOMMUNICATIONS
FY 1962-1963
APPROPRIATIONS AND EXPENDITURES

SPECIAL FUND
(Government Telephone System)

ITEMS	APPROPRIATIONS	EXPENDITURES	DIFFERENCE Deficit ( ) Superavit
PROGRAM II			
Project No. 1			
Personal Services - 1	₱ 909,985.00	₱ 736,686.37	₱ 173,298.63
Maint. & Other Oprtg.Exp.-2.	804,085.00	606,884.22	197,200.78
Equipment - 3	40,000.00	8,455.60	31,544.40
Total for Project 201	₱ 1,754,070.00	₱ 1,352,026.19	₱ 402,043.81
PROGRAM V			
Project No. 1 (CAPITAL OUTLAY)			
Personal Services - 1	₱ 313,055.00	₱ 92,711.56	₱ 120,343.44
Maint. & Other Oprtg. Exp.2.	297,500.00	120,296.97	177,203.03
Equipment - 3	80,000.00	22,024.86	57,975.14
Total for Project 501	₱ 690,555.00	₱ 335,033.39	₱ 355,521.61
TOTAL APPROPRIATIONS & EXPENDITURES	₱ 2,444,625.00	₱ 1,687,059.58	₱ 757,565.42

BALANCE SHEET AS OF JUNE 30, 1963

BOND FUND

A S S E T S

CURRENT:	
Cash -	
In Bank	₱ 5,490,022.92
Prepayments -	
Miscellaneous prepayments	6,685.53
Total Current Assets	₱ 5,496,708.45
FIXED:	
Land, Land Improvements and Structures -	
Public Welfare & Internal Safety	₱ 1,502,528.19
Work or construction in process	3,578,306.51
Equipment -	
Public Welfare & Internal Safety	1,128,028.73
Items in transit	361,417.63
Total Fixed Assets	₱ 6,570,281.05
T O T A L A S S E T S	₱12,066,989.50

LIABILITIES AND SURPLUS

Payables -	
Unliquidated Obligations	3,870,310.73
Surplus -	
Capital Surplus	₱ 6,570,281.05
National Clearing Account	4,617,059.14
Current Surplus	6,243,456.86
TOTAL LIABILITIES AND SURPLUS	₱12,066,989.50

FINANCES OF THE BUREAU OF TELECOMMUNICATIONS
FY 1962-1963

BOND FUND

ITEMS	APPROPRIATIONS	EXPENDITURES	DIFFERENCE Deficit ( ) Superavit
PROGRAM IV -			
Project 1 - R. A. 3101			
Maint. & Other Oprtg. Exp.2	₱ 798,795.00	₱ 798,642.21	₱ 152.79
Project 1 - R. A. 2701			
Equipment 3	20,955.00	20,112.05	842.95
Project 1 - R. A. 2700			
Personal Services 1	₱ 363,100.00	₱ 83,833.58	₱ 279,266.42
Maint. & Other Oprtg. Exp.2	560,000,00	313,403.70	246,596.30
Equipment 3	7,447,000.00	1,730,401.60	5,716,598.40
TOTAL FOR R.A. 2700	₱ 8,370,100.00	₱ 2,127,138.88	₱ 6,242,461.12
TOTAL FOR BOND FUND	₱ 9,189,850.00	₱ 2,946,393.14	₱ 6,243,456.86

THE TELECOMMUNICATIONS REPARATIONS PROJECT

During the period under review, the Bureau of Telecommunications acquired sites for its various telephone exchanges in the following places: Caloocan City (for Exchange D), Mandaluyong (Exchange G), Parañaque (Exchange P), Cubao (Exchange F) and Diliman (Exchange K).

Negotiations for the acquisition of additional sites are being conducted. These proposed sites are in Makati (Exchange H), Roxas District, Quezon City (Exchange J), Bago Bantay, Quezon City (Exchange E) and Novaliches.

Acquisition of two of these sites, however, has been abandoned for various reasons. The acquisition of the proposed site at Roxas District, Quezon City appears dim in view of the apparent determination of the Quezon City Government to acquire the whole site of five hectares from the GSIS. On the other hand, the Novaliches site being offered by General G. Francisco turned out to be far from the main road. It is also far from the center of Novaliches Proper.

The proposed cable distribution system for all the exchanges has been completed including those proposed in sites still under negotiation. Survey and design of cable distribution in Exchange, A, B and C under the $1.7 million rehabilitation project, with due consideration to areas affected by the reparations project, is now being undertaken.

Survey and estimate of trunks routes were likewise completed during the fiscal year under review based on the present sites acquired and those under negotiations. The leveling works left by the Japanese engineers were completed by the Bureau's Civil team as of August 27, 1963. Drafting and printing of plans for the underground construction work is being done and is expected to be completed in earily September.

Another plan for a telecommunications building, a five-story one, has also been completed. Opening of bids, however, was suspended pending acquisition of a site at Roxas District.

The hauling of the second shipment of reparations goods consigned for the Bureau has been completed by the broker, B. Trinidad. The shipment consisted mainly of motorcycles. There was some delay in the hauling on account of the labor strike at the piers.

Biddings for the hauling and brokerage of succeeding shipments from Japan also suffered some setbacks because the bidders failed to comply with all the requirements. A rebidding was conducted last August 20, 1963 but no broker participated. Another rebidding has been recommended.

The following are the works programmed:

1) Checking and testing of conduits in the existing underground routes;

2) Requests for permits to excavate roads for underground ducts and for right of way to private and government offices. The areas covered by the plan are Manila, Caloocan City, Quezon City, Pasay City, and Mandaluyong, Makati, Parañaque, Malabon and Navotas, Rizal.

3) Requests for permits from the Bureau of Public Highways to attach conduits to bridges.

4) Preparation of specifications, detailed plans and bid requirement for materials to be provided by the Bureau.

5) Bodega for the materials and equipment to be delivered by the National Economic Council.

C A P I T A L O U T L A Y S
P R O G R A M
Fiscal Year 1962-63

——— GEN. OBLIGATION BOND - - - - GEN. REVENUE

LEGEND:

RADIO	₱3,200,000	:	30.86%	RADIO	₱ 405,000	:	50 %
TELEGRAPH	1,842,261	:	17.76%	TELEGRAPH	355,000	:	43.83%
TELEPHONE	5,327,839	:	51.38%	TELEPHONE	55,000	:	6.17%
T O T A L	₱10,370,100	:	100%	T O T A L	₱ 810,000	:	100%

T E L E P H O N E G R O W T H

1 0 0 T E L E P H O N E U N I T

1954	2,530	1959	5,064
1955	3,019	1960	5,649
1956	3,835	1961	5,821
1957	4,229	1962	6,574
1958	4,882	1963	7,505

参　考　資　料　4.

太平洋横断海底ケーブル・ルート決定のための海洋調査関係資料

(Reference Data of the Oceanic Survey for Decision of a Transpacific Submarine Cable Route)

Reference Data of the Oceanic Survey

for

Decision of a Transpacific Submarine Cable Route

Report No.1

July 1960

Transpacific Cable Project Department, KDD

1. Outline:

In constructing the first Atlantic Ocean Cables 1956, the following points were taken into consideration: deformation of the earth's crust, such as earthquakes, volcanos, tsunamis (tidal waves); configuration and sediments of the sea bottom; effects of tsunami upon the landing spot; oceanic weather conditions; fisheries, etc.

In order to decide the route in the Pacific, we think it necessary to consider the same points rather than the other various conditions.

A great-circle route via the North Pacific Ocean will be better as for the length of the cable but a southern route looks more suitable from the stand points of such other conditions as oceanic weather, location of the repeating stations, future extension of the circuits for the purpose of branching.

On condition that the southern route might be taken as in the case of the old Transpacific Telegraph Cable, we have researched the part of Japan-Guam Island line by examining the data obtainable in Japan. The results are as follows.

East of the strait line which links Japan with Guam Island there are the Japan Trench and the Mariana Trench, forming an arc, which are the deepest parts in the world. West of the arc, there is an igneous rock zone that makes a chain with Fuji volcanic zone. Moreover a seismic zone lies west of the igneous rock zone. Therefore, many factors must be taken

into account in deciding the route. The following chapters 2, 3 and 4 deal with general examinations of these factors, the chapter 5, their summary.

2. Volcano, Earthquake, Land Slide, Turbidity Current and Tsunami

This area belongs to the circum Pacific volcanic zone, and along with the zone lies a seismic zone. The area itself is a tectonic zone surrounded with a chain of trenches approximately 10,000 meters deep. So the topography from the Ocean to the continent is described as follows: trench, shallow-focus seismic zone, volcanic zone and deep-focus seismic zone. As we see in Figure 1, on the east of the area the Japan Trench, the Ogasawara Trench and the Mariana Trench form an arc north to south. Around and inside the arc there are shallow-focus seismic zones and on the west side of them there are volcanic islands; the Izu Islands, the Iwo Islands, the Ogasawara Islands and the Mariana Islands, the first and second Islands of which are an extension of Fuji volcanic zone. On the west side further, from the west side of the Nanpo Shoto to Ise Bay a deep-focus seismic zone lies. Among them the Ogasawara Islands might have erupted in the Paleogene (old Tertiary, 50 - 70 millions years ago) and they are an extinct volcano now. Mostly they consist of acqueous rocks, so the islands seem now free from the danger caused by volcanism to the cable.

In the cases of a deep-focus earthquake (the depth of its focus is more than 300 kilometers), of a intermediate-focus earthquake (the depth of its focus is between 70 and 300 kilometers), and of a shallow-focus earthquake (the depth of the focus shallower than 70 kilometers), if the earthquake magnitude is less than 8, 7 and 6 respectively, the deformation of the earth's crust is negligible, and the epicenters of the earthquake, the magnitudes of which are larger than 8, 7 and 6 respectively are shown on the chart. It is generally said that the diameter of the focus is

about several tens kilometers.

On the volcanic zone many parts such as Mt. Mihara in Oshima Island, the part near the Bayonnase Rocks (eruption at Myojin Reef in 1952), the part near the Smith Reef, Iwo Island (eruption in 1957), the Mariana Islands, the west reef of the Tennian Islands (submarine eruption in 1945) still continue their volcanic activities. The topography in these parts is very complicated.

The land slide and the turbidity current are referred to as follows: the land sliding phenomena might be said to occur due to the unstable upper sediments situated on the steep slope of the surface of the earth's crust. So land slide may seldom occur in the flat part of the ocean bottom except for the surroundings of the trenches. However, the submarine topography with such steep slopes along the Honshu, as at the mouth of the Tokyo Bay, or in the inner part of Suruga Bay, and with big rivers pouring into bays, seems to incur the danger of the turbidity currents caused by the carried sand and mud and other conditions.

As for the damage done by tsunamis the local coastline configuration, the change of the water depth, the frequency of their attack etc. must be taken into account. Tsunami is a compressive wave and it propagates from the surface to the bottom of the sea in an equal magnitude. So tsunami seems to have bad effects on the cables not only on the shore but also on the sea bottom even deeper than 100 meters. Tsunami is different with this point from the waves caused by typhoons.

The figures shown at the intervals of 85 kilometers on the 200 meter depth contour line in Figure 2 indicate the kinetic energies of those tsunamis which passed through the contour line during the past one hundred years.

3. Configuration and Deposit of the Sea Bottom

3.1. Open Sea

As mentioned above, in the area on the Tokyo-Guam line there is a chain of trenches and, inside this, a chain of islands and reefs lies north to south, parallel with this. Further the latter chain can be divided into two parallel chains. The outer one starts in the Ogasawara Islands and ends in the Mariana Islands. The inner one is a chain which begins in the Nanpo Shoto, and via Iwo Island ends in the oceanic ridges scattering over in the south. There is a probability that such ridges belonging to the outer arc will be found out also in the area from the north of the Ogasawara Islands to the Boso Peninsula, if exactly surveyed.

In the area between these two chains of islands the configuration rises and falls gently at the depth of 1,000 to 4,000 meters. In this area some quantity of volcanic mud and coarse sand is deposited on a fairly hard rock board. In the west of the inner arc, that is, the opposite part of the trenches the sea bottom is uneven. Judging from the result of echosounding survey there are many ups and downs. To the west of the Smith Reef is a chain of ridges, east to west, and the bottom in the vicinity also may be extremely uneven. On the west further the part deeper than 4,000 meters is flat.

3.2. Coast (Outer Boso Peninsula Coast, Tokyo Bay, Sagami Bay, Suruga Bay, Enshu Gulf)

The northern part of the outer coast of the Boso Peninsula, that is, the vicinity of Kuju-Kuri-Hama, is shallow to a great distance. Even in the part 20-30 nautical miles off the shore the depth is about 200 meters. So the area is unsuitable for laying cables, troubles by fisheries being considered. Moreover shallow-focus earthquakes happen frequently off the shore. The coast from the part above mentioned to the tip of the

southern part of the peninsula generally consists of rocks but as in Kamogawa Bay, of the sediments of sand and mud to the offshore. Therefore, Kamogawa Bay is better judging from the obtained data. Generally speaking, outer Boshu (Boso Peninsula) is attacked by waves from the Ocean directly, characterized with the roughness and highness of the waves.

South of Tokyo Bay, in the offshore of the southern tip of the Miura Peninsula, there lies Tokyo Submarine Canyon, the bottom of which is deeper than 500 meters. At the bottom of the canyon, rocks and gravels are spread because of collapses of the side walls. This area has many rivers pouring into Tokyo Bay, and therefore, factors of submarine land slides are inherent. The sediments of the coasts of the Miura Peninsula and the Boso Peninsula close to the canyon are composed of sand and mud.

As for Sagami Bay, in its northeast half, which is divided from the rest by a line drawn at 45° from Odawara to its southeast, the configuration in general makes a gentle slope, which ends in the basin 1,000 - 1,400 meters deep (10 nautical miles off the shore of Oshima Island). But close to the coast, where several sub-canyons are found, the slope becomes fairly steep. The area, generally speaking, is covered with mud, but in the vicinity of Kamakura the base which exposes itself on the shelf and slope at certain spots consists of Tertiary sedimentary rocks, though comparatively soft. In the offshore area along the coast of the Miura Peninsula southeast of Kamakura, there are many submarine canyons accompanied with hard rock exposures. In the vicinity of Oshima Island lava-flows caused by the eruption of Mt. Mihara run into the sea. Generally islands which belong to the arc of volcanic islands have such lava around them.

Suruga Bay is 2,500 meters deep at the mouth of the bay. Thus the sea depth off the coast of Tagono-Ura is 1,000 meters at the distance of 5 N.M. from the coast. It is clear, therefore, that the submarine

canyon deeply encroaches upon the bay and its bottom is near by the Izu Peninsula. The west side of the Izu Peninsula is about 15° - 17° steep. On the other hand the west coast of Suruga Bay has a comparatively gentle slope. The northern extreme of the interior of the bay is called Uchiura Bay (near Numazu) and it is fairly shallow to a great distance. The Fuji River pours into the west of Tagonoura. Both the Fuji River and the steep slope off Tagonoura may cause land slide. In the shore line around the Izu Peninsula and in the area shallow to a great distance from Sagara Bay to about 10 nautical miles south of Omaezaki, sediments are composed of sand, gravels, and rocks. In the other areas almost sediments are mud. The rock fragments which are occasionally found out in the submarine canyons suggest the occurrence of submarine land slides.

The sediments within 5 nautical miles from the Omaezaki Pt., are found consisting of sand, gravels or rock exposures in separate groups. From the west of this area to the outlet of the Tenryu River no rocks are found and the sediments are mostly fine sand: the slope to the offshore is gentle. It is 1,000 meters deep, for example, at the spot 20 nautical miles off and south of this spot it becomes gradually deeper; 60 nautical miles off, it becomes 4,000 meters deep. In the vicinity of this part, waves are rough. Perhaps sedimentation of sand and mud may be active there because it is near the mouth of the Tenryu River. The vicinity of Omaezaki may be the eastern end of the sedimentation area.

4. Change of Coastline and effects of Waves in Nearshore Zone

Changes of coastlines are caused by the following two factors combined in an algebraical sum: a world wide change of the level of the sea caused by change of volume of the sea water, which comes after deformation of the submarine earth's crust such as earthquakes and volcanic activities or after the formation or diminition of glaciers on a large

scale on the one hand, and a change of the level caused by the rise and fall of land on the other hand, which might be the main cause for the coast line changes. Figure 2 shows the vertical deformation of the level of Japanese lands these 25 years. Judging from the figure the change is little at the Boso Peninsula, but at Sagami Bay and at Suruga Bay bottoms have sunk about 10 centimeters, that is, the coastline retreats in these area. As seen in Figure 3 at Sagami Bay and in the vicinity of the Boso Peninsula bottoms rose about one meter because of the catastrophic earthquake in Kanto district in 1923. The areas, therefore, are now being restored to the condition before the earthquake 1923. Any way the deformation of the land mass in these areas needs no consideration. The change of the coastline is likely to be effected rather by the circulation of sand and mud of those rivers which pour into the sea as well as by waves. For instance the coastline of Kamakura in Sagami Bay has retreated maximum 100 meters these 30 years, while the coastline west of Enoshima has been advanced, because of the circulating sand and mud poured out by the Sagami River into the bay. It is difficult to speculate how the coastline will change in the future because Sagami Dam was built resently at the upper stream of the Sagami River. With an investigation of various causes for the change of the coastline being made, and with precautionary measures being taken for protection, the coast will remain unchanged in the future. Japan Public Corporation for High Way Construction is now constructing a toll high way along with this shore, with intention to complete the work by 1962.

As for Kamogawa Bay there is no worry because the bay has no big rivers, while, for Suruga Bay and Gulf of Enshu with the Tenryu River, a possible change of the coast line might be considered because of the two big rivers pouring into the bays. In case of Kamogawa Bay, the change of the coastline will be lessened because of the embayment, though the bay

faces on the Ocean.

The Gulf of Enshu faces directly the Ocean and the sand-dunes formed from the sand and gravels carried by waves may make incessant changes, effecting a big change of the coast line.

5. Study of Cable Laying Route

In studying cable laying route, it is also important to study its landing point. When we consider the laying route between Honshu and Guam Island by way of Io Sima, it must be taken into consideration that there lies Fuji Volcanic Chain to the south, and Nampo Shoto, Kazan Retto and other islands form the very complicated submarine topography and distribution of bottom materials. As we must avoid laying the cable across this volcanic chain, the landing point is considered to be either westside or eastside of Izu Peninsula according to whether the cable will be laid westside or eastside of this chain.

In the former case, if the route is too westward, the length of the cable will become much longer and connecting line between the landing point and Tokyo will also become longer. In the latter case, there lies the Japan Trench at the eastside of Japan Islands, and the bottom materials near the shore are not preferable except a part of Boso Peninsula, and, moreover, high waves constantly wash the shore. By these reasons, it is considered that this part is not suitable for the landing of a submarine cable except a part of Boso Peninsula.

Izu Peninsula itself belongs to Fuji Volcanic Chain, and the shore line is composed of igneous rock, so it is not preferable to land a submarine cable on this peninsula.

Under these considerations, we studied the cable route, dividing it to deep sea portion and the landing point on Honshu and adjoining shallow water portion, as follows:

5.1. Deep Sea Route

Items to be considered in establishing a route between Honshu - Io Sima - Guam Island may be classified as the following three major ones.

(1) Ocean current

Here, we take only Kuroshio (the Black Current) into consideration, taking aside surface waves caused by tidal current, typhoons, monsoons and tidal waves, and travelling of sea water which affects shallow water portion only.

(2) Crustal deformation

Submarine volcano, earthquake, land sliding and turbidity current.

(3) Submarine topography and distribution of bottom materials

When cliffs, rises and falls, inclinations etc. of the sea bottom exceed a certain limit, there may be a danger that the laid cable not only receives destructive residual tension, but also receives external trouble till it settles to the last position.

The effect of the Kuroshio in that area is considered to reach the depth as deep as 800 meters, so the cable must be laid in the sea bottom deeper than 1,000 meters. Avoiding the volcanic islands including Nampo Shoto, Bayonnaise Rocks, Tori Sima and Io Islands, two routes are considered, namely, the eastside and westside of the islands. As shown in the attached chart, the westside route is quite preferable for choosing 4,000 meter line, having relatively plain sea bottom except several sea mountains, the bottom materials are preferable, and having very rare shallow earthquake and deep focus earthquake which would give crustal deformation.

At the eastside of the volcanic islands, as mentioned before, the Japan Trench, the outer arc including shallow earthquake area and Bonin Islands, relatively plain area, and inner arc (arc of volcanic islands)

extend, from east to west, southward in parallel. The bottom of area between the two arcs (relatively plain area) has depth of about 2,000 meters, and composed of mud and sand, and is far from the epicenter of earthquake and volcanic zone. Therefore, the east side of the volcanic islands may be taken into consideration as the shortest deep sea route.

The old telegraph cable connecting Kamakura - Titi Sima - Guam was laid, as shown in the attached chart, on the area a little inner (west) side between the above-mentioned inner and outer arcs, and the total troubles during 20 years after laying between Kamakura & Titi Sima was only three including a trouble caused by the Great Earthquake of 1923, and one each occurred between Titi Sima & Guam near the landing point of Titi Sima and Guam respectively. Taking the landing point aside, it is presumed that a trouble free route can be obtained in this area considering the difference between the conventional armored cable and the new armorless cable as far as the deep sea portion is concerned.

(cf: "Report on Troubles of the existing submarine cables in the western Pacific area" already reported)

5.2 Landing point on Honshu and adjoining shallow water portion

We consider the following places as the landing point of the cable.

Kamogawa Bay (Southeast part of Boso Peninsula)

Tokyo Bay

Sagami Bay

Suruga Bay

Enshu Nada

The former three are the points when the cable runs the eastside of the volcanic islands, while the latter two the westside.

5.2.1 Tokyo Bay

There is a remarkable canyon toward the ocean, and many small pieces of rock are found at the bottom. This is a proof that there was a land sliding at the innermost part of the bay or at both sides. Therefore, this is not appropriate for the cable route. But 50 - 100 meter depth lines along Miura and Boso Peninsulas were formed by the erosion of the old coastal line and is comparatively plain. The fact that there are few sediments in these area is a proof that there are very few bottom deformation. Therefore, if the cable must be laid along these lines, however, the longer the shallow water portion is, the more the danger of troubles by fishing activities is considered. Therefore, it is considered that this route is not preferable for the cable route.

It is considered to be the effect of the quake and land sliding that the old Guam cable was cut to pieces at the time of the Great Earthquake in Kanto District in 1923. When the cable was landed at Tokyo, the cable also suffered many troubles caused by fishing and anchor of ships and we were compelled to change the landing point to Kamakura in Sagami Bay. Such being the case, we consider that Tokyo Bay is not appropriate as a cable route.

5.2.2. Sagami Bay

The bottom is covered by sand in the area from the coast to the depth of 200 meters. The base under sand is clayey aqueous. Even in the area where the base is exposed, there may be no fear that the cable is damaged. However, there are several canyons in this bay, but the sea is calm and the coast is scarcely affected by tidal waves. So if an appropriate route is chosen by avoiding these canyons, a preferable landing point can be established in the bay. The old Guam cable has never been in trouble since the landing point was changed from Tokyo Bay to Sagami Bay.

However, there is one thing to draw our attention. According to the statistical study based on the record of old great earthquakes, the maximum accerelation of the earthquakes which are presumed to occur across Sagami Bay and Suruga Bay within the next 100 years would be 600 gal in peak value (M = 7.3).

Therefore, if we consider the defects of this bay for cable laying, they may be to avoid those canyons carefully in order to avoid troubles caused by turbidity current as a result of earthquake, and to pass between Boso Peninsula and O Sima where the bottom profile is very complex.

5.2.3. Kamogawa Bay in Boso Peninsula

This bay is located far from the epicenter of shallow earthquakes and above-mentioned estimated maximum accerelation peak value, and it is possible to establish a route to avoid the vicinity of O Sima. So the conditions are favorable. But the connecting land line will be longer by 40 n.m. than the case of Sagami Bay. On the contrary, cable length is shorter by 30 n.m. Therefore, there would be very little difference between the total construction cost in case of Sagami Bay and Kamogawa Bay. The bottom is covered with sand, same as Sagami Bay, and the base rock is aqueous rock. In some seasons, Kuroshio changes its path to the north, so it is safe to choose the route in the area where the bottom is covered with sand. There is also a canyon but an appropriate landing point can be established by avoiding it in spite of a little larger shore waves.

5.2.4. Suruga Bay

A trench of the depth of 2,000 meters comes deeply in the bay. Its side near Izu Peninsula has the bottom inclination of 17° which is not measured even in the Japan Trench. The fact that there are pieces of rock and pebble means that there are collapse of cliffs and land slidings, same as the case of Tokyo Bay, and so this part may be dangerous for the

cable route. The effect of tidal waves is very great in this bay.

5.2.5. Enshu Nada

Enshu Nada faces the Pacific directly and constant shore waves are high. The bottom is covered by sand and there are no remarkable canyons, and, the sea gradually deepens. Therefore, there is no problem for the landing point. However, the connecting line to Tokyo will be longer by 60 n.m. than the case of Suruga Bay. But in this case, just the same as the case of Kamogawa Bay, the cable length will be shortened by 30 n.m. Therefore, the total construction cost would be about the same.

It is common to all those bays mentioned above that the vertical crustal deformation near the shore is very small.

5.3. General route

Taking the above-mentioned studies into consideration, the general route between Honshu - Io Sima - Guam Island is considered to be the following two routes as shown in the attached chart.

(1) Tokyo (130 n.m.) Enshu Nada 655 n.m. Io Sima 760 n.m. Guam

(2) Tokyo (70 n.m.) Kamogawa Bay 640 n.m. Io Sima)
Tokyo (30 n.m.) Sagami Bay 670 n.m. Io Sima) 745 n.m. Guam

Numbers show the length of the span (Slack is not included).
Numbers in parenthesis show the length of connecting land line.

The former passes the westside of the volcanic islands, while the latter the eastside.

5.4. Matters for further study

We studied and made a tentative plan of the general route without surveying those areas. However, there are very few bibliographies concerning ocean survey of the waters in question and there are many unknown waters in the Pacific along the Japan Islands, so a preliminary survey of

the following areas would be necessary.

(a) Eastside route

We anticipated a sea ridge which is composed of aqueous rock and rock and which is connected to Bonin Islands at the eastside of the volcanic islands and there would be a plain area between the ridge and the volcanic islands. We must make sure if it is true and also if there is any canyon which falls into the Japan Trench across the ridge.

(b) Westside route

We anticipated that there are plain areas of about 4,000 meters in depth at the westside of the volcanic islands. We must make sure if it is true.

(c) Shore

There are comparatively many data on shores, but few data are available for the shores of Enshu Nada, Kamogawa Bay and the north-eastern part of O Sima. How are the bottom topography and bottom materials of those areas?

参　考　資　料　5

西太平洋に現存する海底ケーブルの障害状況報告

(Report on Troubles of the Existing
Cables in the Western Pacific Area)

REPORT ON TROUBLES OF THE EXISTING SUBMARINE CABLES IN THE WESTERN PACIFIC AREA

April 1960

Transpacific Cable Project Department, KDD

Japan has, at present, about 400 submarine cables, but very few of them are laid in the Pacific area. Investigations were made into troubles of the following eight submarine cables:

Kawazuhama (Izu Peninsula) - Osima, #1 and #2
" " " - Nii Sima
Nii Sima - Miyake Sima, #1 and #2
Miyake Sima - Hatizyo Sima
Kamakura - Titi Sima (ceased service)
Titi Sima - Guam (ceased service)

1. Statistics Classified by Cause of Troubles

The time of laying varies with each section, so the period taken in our investigation varies accordingly, from 15 to 58 years. According to the records, troubles can be classified according to causes as shown in Table 1.

The troubles called "mechanical chafe and electrolytic corrosion" are considered to be those which are caused by the chafe of steel armor by waves mainly near the landing point, and by the natural corrosion of steel armor owing sometimes to tidal electromotive force in the offing.

Troubles called "eccentricity and degeneration of G. P." are as follows: Cable used for those sections at that time is G. P. cable with Gutta Percha as insulator, and it is apt to be eccentric and to degenerate by oxidization mainly at the landing point. The troubles are caused by lowering of insulation resistance owing to those phenomena.

The cable is occasionally cut off with an axe by the crews of a fishing boat to free the anchor or fishing net from tangled cable. In the "anchor and fishing" troubles, troubles of this kind are included.

In the "others", troubles by teredos and by other causes are included. However, the causes of the most part of them are unknown. This is unique phenomena in the submarine cables. When a cable is hooked up for repair, it is occasionally cut off at a certain weak point, and the other end of the cable can not be found, and, accordingly, the cause of the trouble could not be confirmed. These troubles are considered to be included in "mechanical chafe and electrolytic corrosion."

Generally speaking, by reviewing Table 1, more than 70% of total troubles, 110 in number, and the most part of "others", 26 in number, are considered to be "mechanical chafe and electrolytic corrosion" troubles. "Eccentricity and degeneration of G. P." troubles are counted to only 12.

Table 1 Troubles Classified by Cause

Name of Section	Length of Section in n. m.	Period for Investigation	No. of Trouble Classified by Cause				Total
			Mechanical Chafe & Electrolytic Corrosion	Eccentricity & Degeneration of G. P.	Anchor & Fishing	Others	
Kawazuhama - O Sima No. 1	20.4	58 years (1902 - 1960)	16	4	1	5	26
" - " No. 2	20.5	15 " (1945 - 1960)	5	1	0	0	6
Kawazuhama - Nii Sima	31.2	29 " (1928 - 1957)	19	0	0	2	21
Nii Sima - Miyake Sima No. 1	20.7	51 " (1906 - 1957)	22	1	2	3	28
" - " No. 2	36.4	16 " (1944 - 1960)	2	1	0	0	3
Miyake Sima - Hatizyo Sima	85.8	46 " (1906 - 1952)	29	4	2	8	43
Kamakura - Titi Sima	663.4	33 " (1906 - 1939)	17	1	1	4	23
Titi Sima - Guam	899.4	33 " (1906 - 1939)	0	0	0	*4	4
Total			110	12	6	26	154

* Causes are unknown for Titi Sima - Guam cable, so they were classified in "Others."

In the case of P. E. coaxial cable, the latter troubles would not happen. Therefore, it may be concluded that the cause of troubles in these sections excepting the former cause is only "anchor and fishing" troubles which is counted to only 6 cases.

2. Relation between Lapse of Time after Laying and Frequency of Troubles

Table 2 shows that the more year elapses after laying, the more troubles occur. It is a matter of course that as the degree of deterioration of a cable progresses, so the cable is apt to be in trouble.

Each section in Table 2 not only differs in its length, its route and accordingly, the depth, sea current and nature of soil at the bottom respectively, but also the period for our investigation varies each other. Especially, the cable between Kawazuhama and Niisima had been used for 25 years between Osima and Niishima before laid in that section. Therefore, the lapse of year in this section would exceed the listed figure.

This table must be examined by each section, but, taking the others aside, consideration was given to five sections which have been in service for more than 30 years. The sums of the number of trouble are 9, 16 and 44 for less than 10 years, 10 - 20 years and 20 - 30 years respectively. It may be concluded that the practical life of armored G. P. cable would be around 20 years, and the first trouble would be found after about 7 years and thereafter, though there was a section (Kawazuhama - Osima) in which a trouble was found only one year after laying.

Judging from these figures in those tables, there might be few troubles caused by enormous natural forces, for example, large turbidity current, landslide etc.

3. Relation between Troubles and Sea Depth

To investigate sea depth in relation to troubles is, so to speak, to investigate rises and falls and condition of inclination of the sea bottom, not sea depth itself. Especially, in the area which is in the limit of effect of the Black Current (area from the coast of Japanese Islands and Bonin Islands), we must investigate relations between depth and speed of the Black Current. In the area near the coast, the effect of billows caused by typhoons must also be taken into consideration.

Fig. 3 - Fig. 9 show relations between the order of occurred troubles after laying and sea depth.

Excepting above mentioned Kawazuhama - Niisima section, we may conclude as follows:

a. Number of troubles near the shore is especially great.

b. Many troubles occurred in the offing where the bottom become suddenly shallower.

c. Troubles are found very rarely at a depth of more than 1,000 meters.

Table 2 Lapse of year and Frequency of Trouble

Name of Section	Length of Section in n. m.	Period for Investigation in year	Lapse of year till the first trouble	No. of Trouble				Total
				Less than 10 years	10-20 years	20-30 years	More than 30 years	
Kawazuhama - O Sima No. 1	20.4	*58	10	0	3(1)	5	18	26
" - " No.2	20.5	15	1	4	2(1)	-	-	6
Kawazuhama - Nii Sima	31.2	29	7	4(1)	11	6	-	21
Nii Sima - Miyake Sima No. 1	20.7	*51	3	4(1)	6(2)	10	8	28
" - " No. 2	36.4	16	10	1(1)	2	-	-	3
Miyake Sima - Hatizyo Sima	85.8	*46	7	4	3	14	22	43
Kamakura - Titi Sima	663.4	*33	7	1	2	14	6	23
Titi Sima - Guam	899.4	*33	17	0	2	1	1	4
Total				9(1)	16(3)	44		

(Note) 1. The figures with brackets in the columns "Less than 10 years" and "10 - 20 years" show only the number of troubles due to the causes other than "mechanical chafe and electrolytic corrosion."

2. The figures at the bottom of the columns "Less than 10 years" to "20 - 30 years" show the total number of the troubles of those five sections with the elapsed period of over 30 years after laying which are marked with asterisks.

d. However, natural trouble could occur in such "stratosphere of the sea" (the sea at a depth of more than 800 meters where the Black Current is not flowing).

We may point out the four points mentioned above regarding the relations between troubles and sea depth.

Troubles occurred in the land portion of the "near the shore" mentioned in paragraph a. are, for the most part, due to eccentricity and degeneration owing to exidization of G. P. which are attributable to the nature of G. P., but there exist mechanically wear-out troubles caused by repetition of shore waves in the sea portion. Further, it may be assumed that there exist troubles caused by corrosion of armoring steel wire by electrolytic corrosion due to electromotive force of sea current besides mechanical wear-out troubles in the sea portion at a depth of about 100 meters to 500 meters. Generally speaking, corrosion of armoring wire itself will not mean cable trouble, but a mechanical force to cut off center conductor is necessary; in some cases, it may be tidal current, and in the other, it may be tensile strength of its own weight when the cable was laid in the bottom where rises and falls are remarkable. Thus, cable would be in trouble with these external causes. The tensile strength of G. P. center conductor (5.5 mm^2) is 110 kilogram.

In relation to paragraph b., frequent variation of sea-depth means that there are rises and falls in the sea bottom, and the cable is subject to be effected mechanically and electrically by the Black Current in the shallow water area. By these considerations, we may understand the reason why there exist many troubles in those offing areas.

Paragraph c. indicates that the sea bottom at a depth of more than 1,000 meters, generally speaking, has little rises and falls, that is to say, the bottom is relatively plain, and the Black Current is not flowing there.

Paragraph d. shows that even in the deep sea where the Black Current is not flowing, there exists a natural force to cut off center conductor of G. P. cable. The appearance of the tip of the cut-off cable is the same as the case in shallow water. That is to say, there may be rises and falls to some extent at the bottom, and sometimes the direct effect of earthquake and landslide might also be taken into consideration.

As an example of the latter, we experienced two or three troubles in the cable to Titi Sima at the time of the Great Earthquake of Kanto District in 1923. However, the landing point of the cable was moved to Kamakura in 1931, and no record is available for those troubles.

Attached chart #6077 & #6080 show the route of the above mentioned section, and x marks show the points where troubles occurred within 20 years after laying.

4. The Investigation and the Armorless Cable

We have investigated troubles of the existing submarine cables. Before utilizing these results for the laying route investigation of the new armorless cable, we must consider the difference between the conventional cable and the new armorless coaxial cable.

Conventional submarine cable is, mainly, of single core, 5.5 sq. mm G. P. insulated cable. As an example, the necessary items of those cables used in shallow water and deep sea are:

	Armoring wire	Outer diameter	Weight in the sea	Tensile strength
Shallow water cable	8 mm x 10	45 mm	3.8 ton/km	17.5 ton
Deep sea cable	2.9 mm x 15	26 mm	0.8 ton/km	12.5 ton

The shallow water cable is laid in the sea shallower than 50 meters, while the deep sea cable is laid at a depth of more than 400 meters. As a reference, the items of the armorless cable which is to be used for the Transpacific cable are:

Armoring wire	Outer diameter	Weight in the sea	Tensile strength
none	32 mm	0.5 ton/km	7.3 ton

This cable is said to be used in the sea deeper than 800 meters.

Comparing old and new cables, in connection with the case of deep sea portion, it is clear that the tensile strength of the new cable is far more smaller than that of the conventional cable, though the latter is armored while the former is not. The reason why Bell Laboratory recommends this new type is considered to be true as far as the "stratosphere of the sea" is concerned. Though the absolute value of the tensile strength is smaller, the value will be retained for a long period of time because the strand is located in the center of the cable and therefore it does not receive any external effect such as corrosion. While that of the old cable is 12.5 tons at first but it would become zero if it is corroded in the long-lapse of time. Therefore, the new cable is considered to be superior to the old one in regard to the tensile strength. It may be concluded that troubles caused by the corrosion of armoring wire in the deep sea portion mentioned in the preceding paragraph can be avoided by using the new cable.

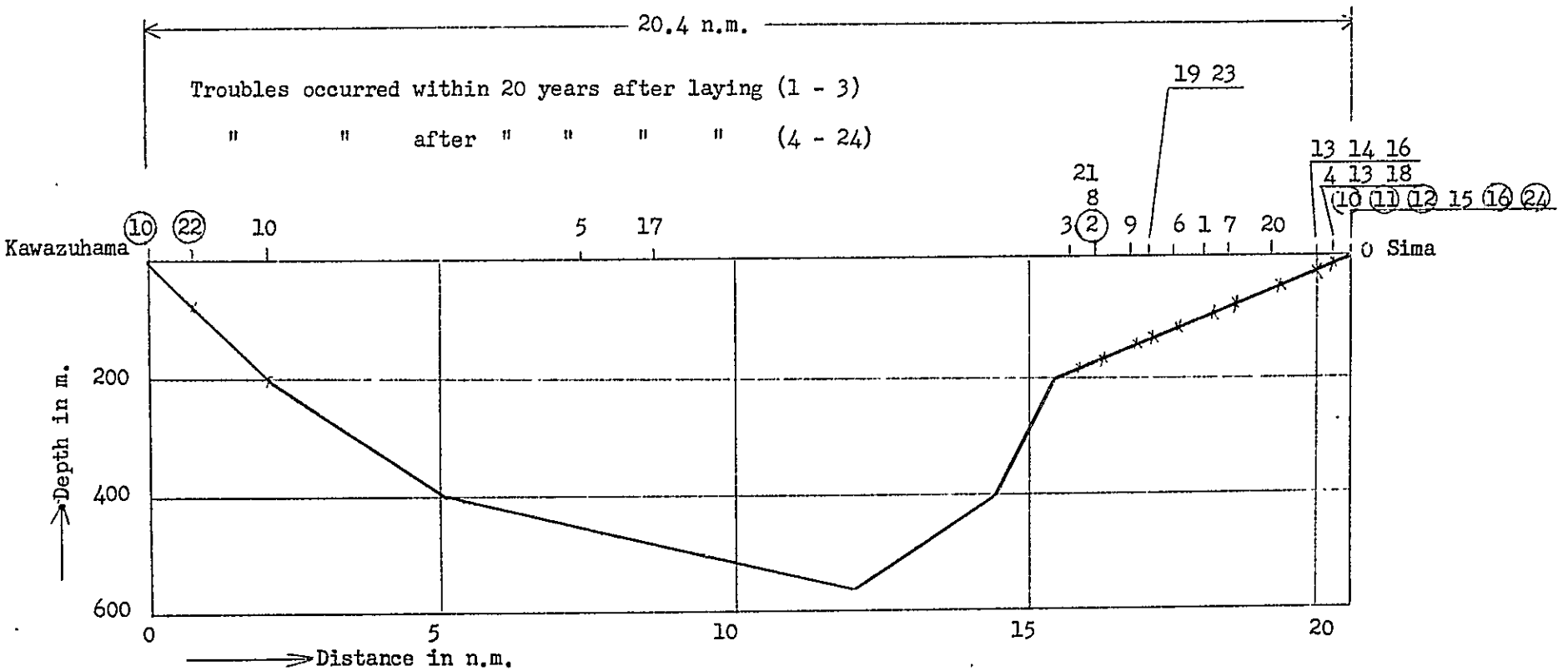
When we consider troubles in the deep sea portion of the Bonin cable, of 23 troubles occurred during 33 years (from 1906 to 1939), 21 troubles were caused by "mechanical chafe and electrolytic corrosion" besides one each by "fishing" and "eccentricity." However, only three of them occurred during 20 years after laying, and the rest occurred thereafter. It is considered to be unnatural to think that "mechanical chafe" caused many troubles occurred after 20 years after laying. It must be understood that electrolytic corrosion progressed calmly at the bottom of the sea.

If the armorless cable is laid on the same route as this section (examinations are necessary as to the shallow water portion near the coast), it can not be concluded that there would be a danger to experience the same number of troubles as occurred in the conventional cable. At present, it is possible to measure sea depth by means of supersonic wave, and moreover, the cable laying technique is far more progressed than the time of laying of old cable, and it has become possible, to some extent, to lay cables along rises and falls of the sea bottom. That is to say, we have become controllable against causes of troubles.

Fig. 3

Kawazuhama - O Sima (No. 1)

Laid in August, 1902



(Note) 1. Number shows the order of occurred troubles.

2. The cause of troubles expressed as encircled number is other than "mechanical chafe and electrolytic corrosion."

Fig. 4

Kawazuhama - O Sima (No. 2)

Laid in January, 1945

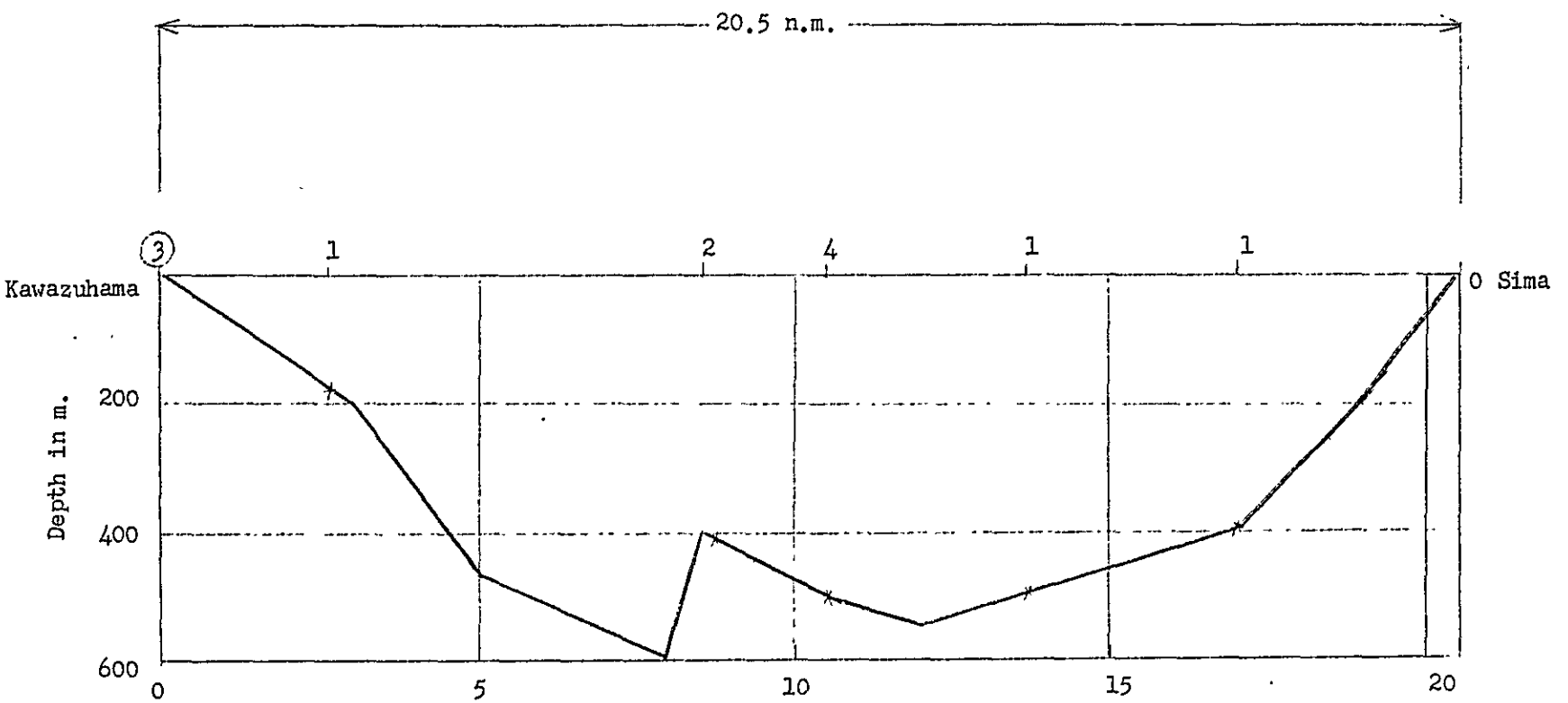


Fig. 5

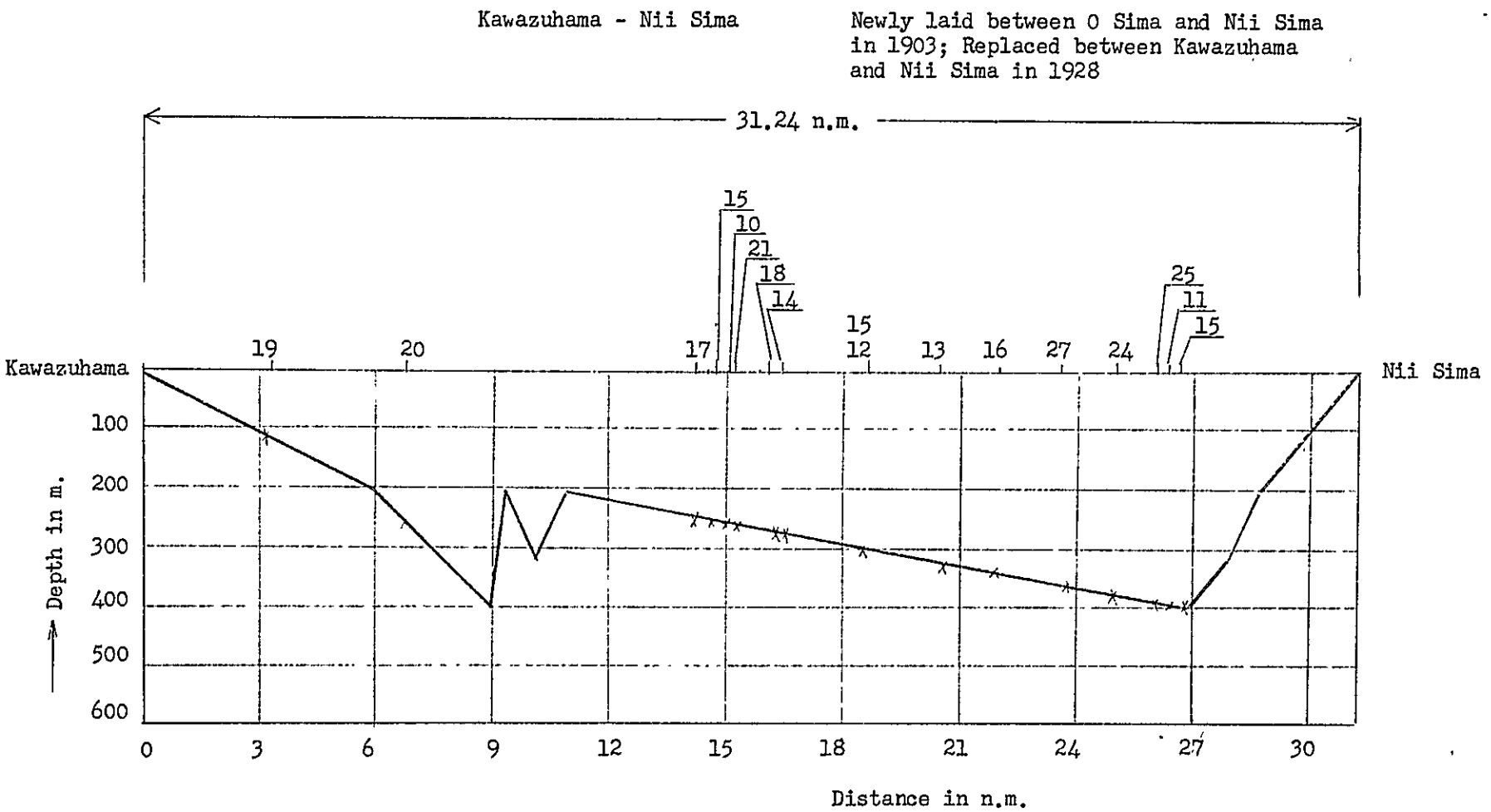
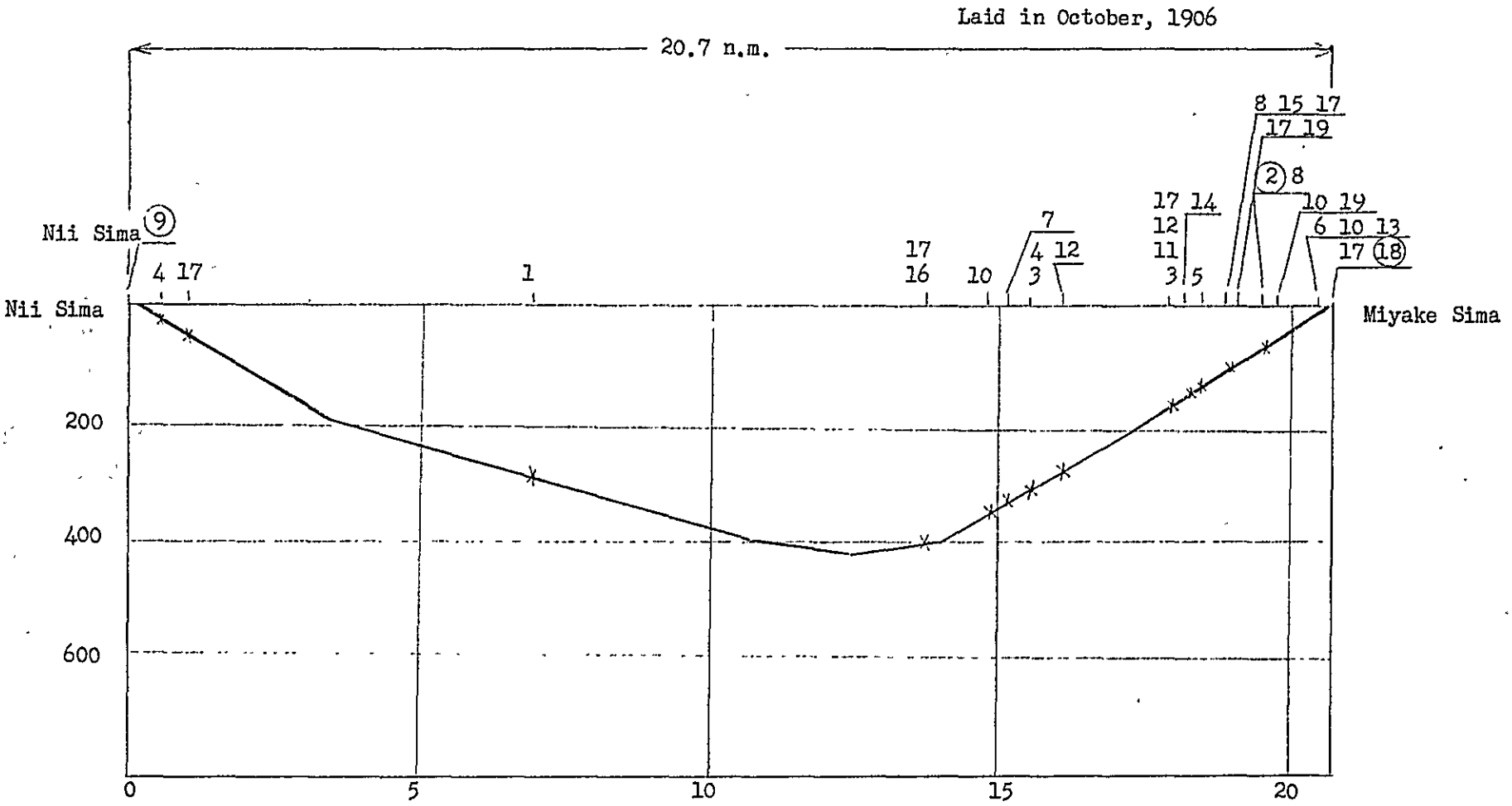

Kawazuhama - Nii Sima
Newly laid between 0 Sima and Nii Sima in 1903; Replaced between Kawazuhama and Nii Sima in 1928
31.24 n.m.
15
10
21
18
14
25
11
15
19
20
17
15
12
13
16
27
24
Kawazuhama
Nii Sima
Depth in m.
100
200
300
400
500
600
0
3
6
9
12
15
18
21
24
27
30
Distance in n.m.

Fig. 6

Nii Sima - Miyake Sima (No. 1)



Troubles occurred within 20 years after laying (1 - 8)

" " after " " " " (9 - 19)

Fig. 7

Nii Sima - Miyake Sima (No. 2)

Laid in July, 1944

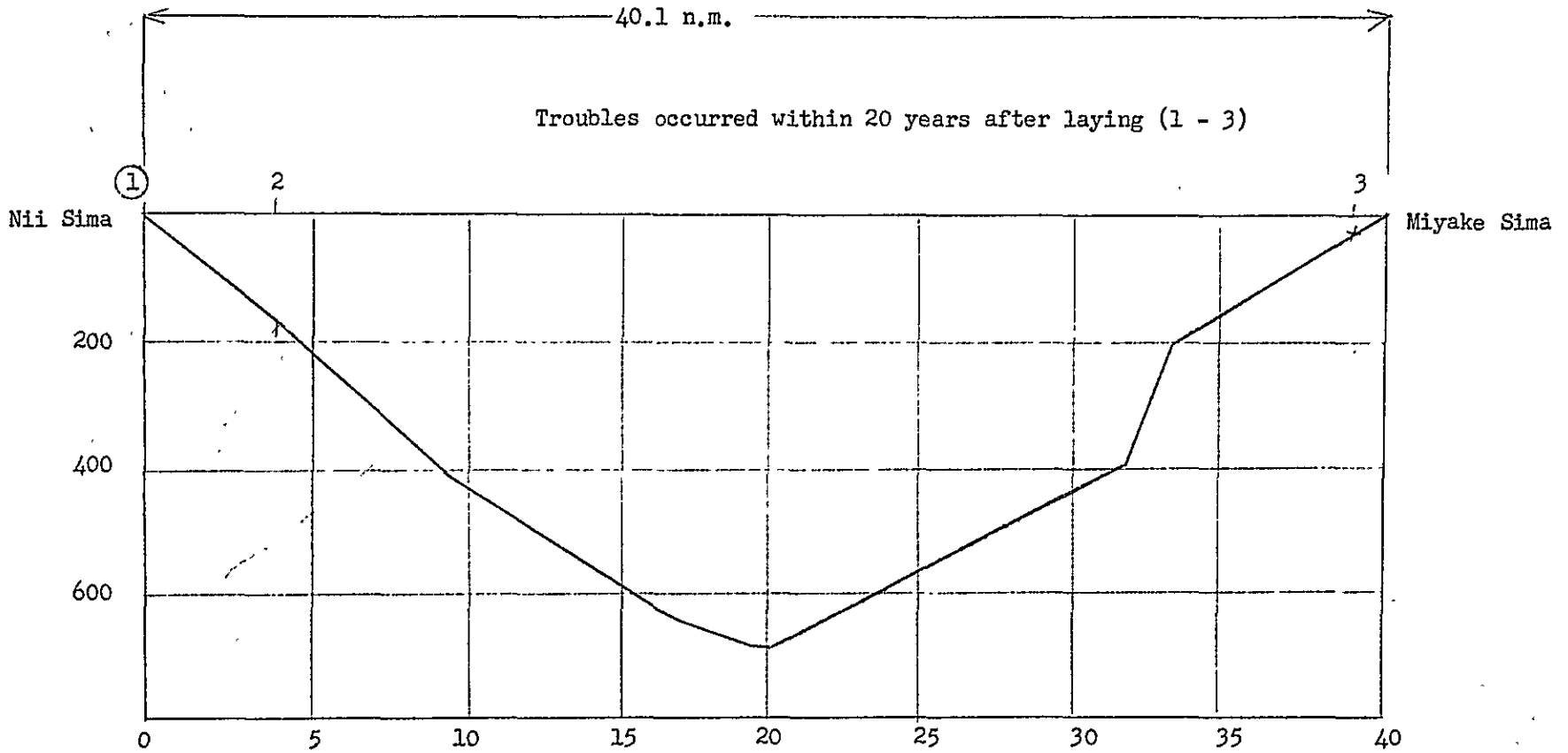


Fig. 8

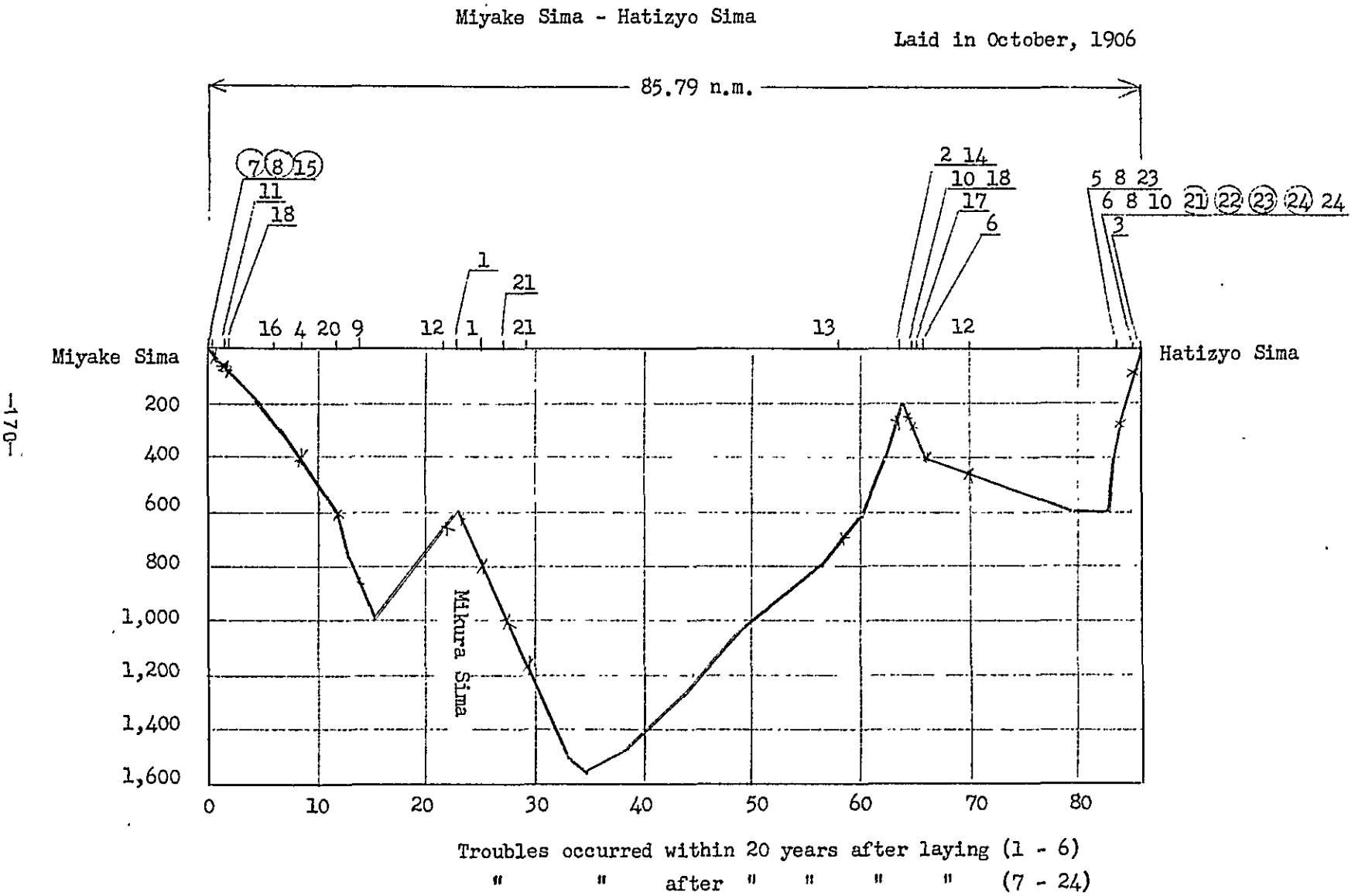
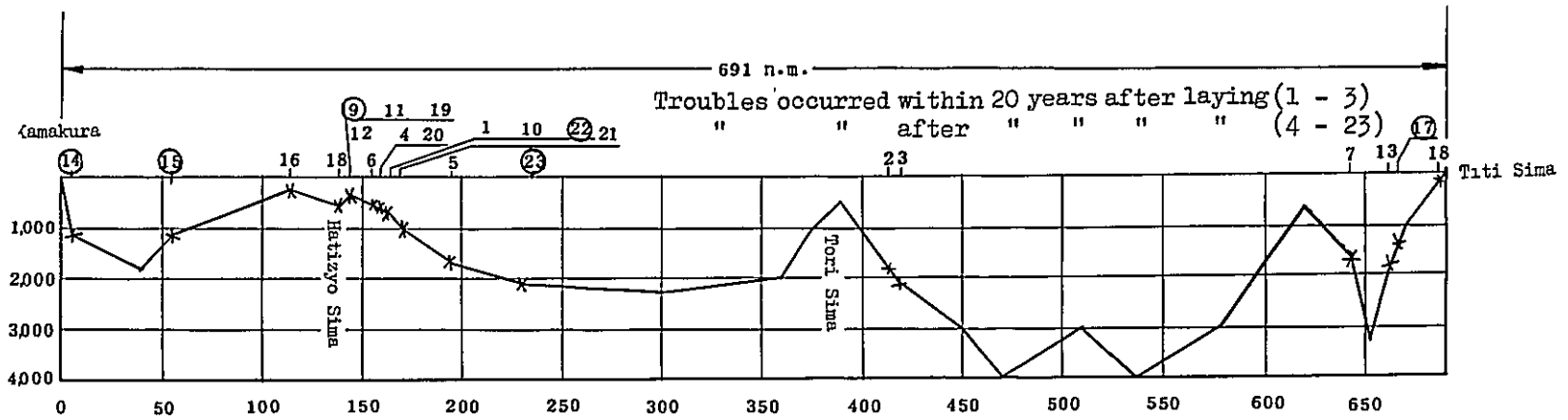

Miyake Sima - Hatizyo Sima
Laid in October, 1906
85.79 n.m.
7 8 15
11
18
16 4 20 9
12
1
21
1
21
13
2 14
10 18
17
6
12
5 8 23
6 8 10 21 22 23 24 24
3
Miyake Sima
Hatizyo Sima
200
400
600
800
1,000
1,200
1,400
1,600
Mikura Sima
0
10
20
30
40
50
60
70
80
Troubles occurred within 20 years after laying (1 - 6)
" " after " " " " (7 - 24)

Fig. 9 Kamakura - Titi Sima Laid in 1906 (Landed at Etchujima, Tokyo)

Landing point was changed in 1931



The cable was cut in the offing of Boso Peninsula at the time of the Great Earthquake of Kanto District in 1923, but the location is unknown because of the change of route

Titi Sima - Guam Laid in 1906