PD-AAC-669059 (2)

AGENCY FOR INTERNATIONAL DEVELOPMENT

PROJECT PAPER FACESHEET

1. TRANSACTION CODE: [ ] A ADD, C CHANGE, D DELETE — PP 110p

2. DOCUMENT CODE: 3

3. COUNTRY/ENTITY: LIBERIA

4. DOCUMENT REVISION NUMBER: [ ]

5. PROJECT NUMBER (7 digits): 669-0159

6. BUREAU/OFFICE: A. SYMBOL: AFR; B. CODE: 06

7. PROJECT TITLE (Maximum 40 characters): Improved Navigational Aids

8. ESTIMATED FY OF PROJECT COMPLETION: FY 79

9. ESTIMATED DATE OF OBLIGATION: A. INITIAL FY 79; B. QUARTER [ ] (Enter 1, 2, 3, or 4); C. FINAL FY 79

10. ESTIMATED COSTS ($000 OR EQUIVALENT $1 =)

A. FUNDING SOURCE	FIRST FY B. FX	FIRST FY C. L/C	FIRST FY D. TOTAL	LIFE OF PROJECT E. FX	LIFE OF PROJECT F. L/C	LIFE OF PROJECT G. TOTAL
AID APPROPRIATED TOTAL	387	53	440	387	53	440
(GRANT)	(387)	(53)	(440)	(387)	(53)	(440)
(LOAN)	( )	( )	( )	( )	( )	( )
OTHER U.S. 1.						
OTHER U.S. 2.						
HOST COUNTRY	105	55	160	105	55	160
OTHER DONOR(S)						
TOTALS	492	108	600	492	108	600

11. PROPOSED BUDGET APPROPRIATED FUNDS ($000)

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	PRIMARY TECH. CODE C. GRANT	PRIMARY TECH. CODE D. LOAN	E. 1ST FY 79 F. GRANT	E. 1ST FY 79 G. LOAN	H. 2ND FY — I. GRANT	H. 2ND FY — J. LOAN	K. 3RD FY — L. GRANT	K. 3RD FY — M. LOAN
(1) ST	7013	822		440					
(2)									
(3)									
(4)									
TOTALS				440					

A. APPROPRIATION	N. 4TH FY — O. GRANT	N. 4TH FY — P. LOAN	Q. 5TH FY — R. GRANT	Q. 5TH FY — S. LOAN	LIFE OF PROJECT T. GRANT	LIFE OF PROJECT U. LOAN
(1)					440	
(2)						
(3)						
(4)						
TOTALS					440	

12. IN-DEPTH EVALUATION SCHEDULE: MM [ ] YY [ ]

13. DATA CHANGE INDICATOR. WERE CHANGES MADE IN THE PID FACESHEET DATA, BLOCKS 12, 13, 14, OR 15 OR IN PRP FACESHEET DATA, BLOCK 12? IF YES, ATTACH CHANGED PID FACESHEET.

[1] 1 = NO, 2 = YES

14. ORIGINATING OFFICE CLEARANCE

SIGNATURE: [signature]

TITLE: Director
USAID Mission to Liberia

DATE SIGNED: MM 01 DD 31 YY 79

15. DATE DOCUMENT RECEIVED IN AID/W, OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION: MM [ ] DD [ ] YY [ ]

AID 1330-4 (3-78) CLEARANCE: PR: NMarsh 1/31/79
CONT: D.D'ANTONIO [signature] 1/31/79

LIBERIA:
IMPROVED NAVIGATIONAL AIDS AT PRINCIPAL AIRPORTS

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PART I. PROJECT SUMMARY AND RECOMMENDATIONS

ACTION MEMORANDUM FOR THE DIRECTOR

FROM : Navaids Project Review Committee
William C. Darkins, Coordinator

SUBJECT: Liberia - Improved Navigational Aids at Principal Airports (669-0159)

I. PROBLEM: Attached for your review and authorization is a project paper, which proposes an AID Grant to the Government of Liberia in an amount not to exceed U.S. $440,000, in order to assist the Government of Liberia in improving the reliability of navigational aids at its principal airports.

II. DISCUSSION:

A. Description of the Project

1. The Government of Liberia (GOL) has requested U.S. financing of the subject project as part of its intense preparations for the 1979 meeting of the Organization of African Unity (OAU) which will be convened in Monrovia, Liberia in July 1979. The GOL is concerned about the repercussions of the greatly increased jet air traffic directly resulting from the OAU meeting and the advent of regularly scheduled wide-bodied aircraft.

Roberts International Airport (RIA) is Liberia's only international airport and the most significant component of its developing airport network. The Heads of State and their official parties will undoubtedly be using this network extensively. In addition, RIA is frequently used by the U.S. commercial carrier operating in West Africa. Also, in crisis situations RIA is a

staging airfield for the evacuation of U.S. personnel and dependents from Africa.

2. Specifically, the Project will consist of furnishing technical assistance, training services and minor civil construction for the rehabilitation and renovation of existing navigational aids; procurement and installation of new navigational equipment and aids, associated navigational aids test and emergency service equipment, spare and repair parts, which are required to support Liberia's objectives of improved safe air travel to and from its international and principal domestic airports.

3. The implementing agency for the Project will be the Government of Liberia, Ministry of Commerce, Industry and Transportation. The Committee anticipates the GOL/MCIT will request USAID/Liberia to act as its contracting agent, since time is an urgent factor.

B. Financial Summary: The AID Grant for the project will not exceed U.S. $440,000 and all of it will be obligated in the first year of the project. The table below summarizes the estimated financial requirements of the project by source and input:

(1) Input (AID)	($U.S.) Cost
a. Distance Measuring Equipment (DME)	100,000
b. Instrument Landing System (ILS) spares	70,000
c. Spriggs-Payne-RIA Communications Link	30,000
d. Air Traffic Control (ATC) Recorder System	30,000
e. Remote Control System	20,000

(1) Input (AID) (Cont'd)	($US) Cost
f. Rotating Airport Beacon	5,000
g. Non-Directional Beacons (NDB)	160,000
h. Other Costs	25,000
Total	$440,000

(2) GOL Resources	160,000
Total	160,000
Project Grand Total	$600,000

C. Socio-Economic, Technical and Environmental Description

(1) The project was subjected to social and economic analyses. The conclusion in both cases was that the project was sound.

(2) Further, based upon the analysis of the navigational aids expert, we have concluded that the project is technically sound.

In addition, following expert consultation and recommendations, we are confident that the project contains the requisite inputs in order to permit judicious administration and management, implementation and maintenance of the project. Consequently, achievement of AID/GOL mutual objective of improved navigational aids at RIA, Zwedru (Tchien), Voinjama, Harper, Greenville and Spriggs-Payne Airports is assured.

(3) After consultations with the navaids expert and further review, the Mission Environmental Officer recommends a negative determination.

D. Conditions Precedent to Disbursement of AID Grant Funds

The Conditions Precedent to First Disbursement are included in the Project Authorization and Request for Allotment of Funds Part II (PAF II), and will be incorporated in the subject project Grant Agreement.

E. Prior Actions and Congressional Notification

1. AID/W Project Review Committee notified USAID on 25 November, 1978 (State 298041) that PID was approved as modified by the Committee. Notification of the subject project was transmitted to the U.S. Congress on 11 December 1978. Further on 2 January, 1979 (State 327733), USAID was notified that the "waiting period" had expired and there were no objections raised by the Congress, consequently USAID was to proceed with PP authorization. AID/W Project Review Committee advised that predominant justification for Project must fall within authorities: Section 106 of Foreign Assistance Act of 1978, particularly Article 5.

2. On January 8, 1979, an expert navigational aids engineer, Mr. J.R. Marchant, was dispatched to Liberia to assist with the development of the Project. At the conclusion of his assignment, Mr. Marchant had submitted the following reports and provided miscellaneous technical assistance to the Director of Civil Aviation:

(a) "Review of Liberian Navigation Aids"

(b) "Liberian Navigation Aids Improvement Program Priority Sequence"

(c) "Engineering Analysis"

(d) "Evaluation of Proposals and Recommendations"

(e) "Environmental Impact Identification and Evaluation"

(f). "Suggested Improvements for Liberian Aviation"

The Committee is pleased with the thoroughness and quality of his reports.

3. On July 12, 1978, Mr. William Newell, FAA representative notified U.S. Dept. of Commerce Major Products Group, FAA Brussels and FAA Washington (Monrovia 5013) that Roberts International Airport's intention to purchase new DME equipment. Subsequently, discussions at the highest levels in Monrovia, State and AID/W were held. On October 2, 1978, Mr. Alfred Hotvedt, DS/ENGR, discussed the above requirements with Mr. Thiergartner of E-Systems. The scope of work was given to Mr. Kuhn, E-Systems, here in Monrovia o/a October 17, 1978. On November 27, 1978, USAID received a technical/cost proposal from E-Systems U.S.A. Coincidently in the same month USAID received a technicial/cost proposal from F and F Electronics, Liberia. The proposals were reviewed and evaluated o/a January 12 1979 by Mr. Marchant, expert Navaids engineer. USAID contemplates negotiated procurement for a "turnkey" type contract for installation and procurement of commodities.

4. On January 18 and 19, 1979, USAID held contract consultations here in Monrovia with Mr. Sultan, REDSO Regional Contracts Officer. He reviewed our situation and offered some useful comments. The subject project draft Grant Agreement was delivered by Mr. Sultan to Mr. Dragon, AFR/GC, TDY REDSO/WA on January 22, 1979. The USAID Director has already made the determination that the subject Grant Agreement is routine and does not require the services of a lawyer.

III. RECOMMENDATION:

The Navaids Project Review Committee represented by USAID Controller, Program, Executive and Capital Projects offices hereby recommend that you sign the attached PAF II, Navaids Project Paper, Environmental Decision and thereby authorize the subject project.

APPROVED: _____

DISAPPROVED: _____

DATE : 31 January 1979

Drafted by:CP:WCDarkins/PR:NMarsh: _____

Cleared by:CP:HVGuiot (draft)
CON:DD'Antonio: _____
EO:LKavanagh: (draft)

cc:AFR/DR for AID/W Distribution

Attachments:

A. Project Authorization and Request for Allotment of Funds (PAF) Part II

B. Project Paper

PROJECT AUTHORIZATION AND REQUEST FOR ALLOTMENT OF FUNDS (PAF) PART II

COUNTRY : Liberia

PROJECT : Improved Navigational Aids at Principal Airports

PROJECT NO.: 669-0159

Pursuant to Part I, Chapter 1, Section 106 (a)(5) of the Foreign Assistance Act of 1961, as amended, and redelegation of authority vested in the Assistant Administrator for Africa of the Agency for International Development (A.I.D.), I hereby authorize a Grant of AID funds to the Government of Liberia, not to exceed Four Hundred Forty Thousand Dollars ($440,000) to assist in financing certain foreign exchange and local costs of goods and services required for the Project as described below. The entire amount of the AID financing herein authorized for the Project will be obligated when the Project Agreement is executed.

1. The Project:

The project will consist of furnishing technical assistance, training services and minor civil construction for the rehabilitation and renovation of existing navigational aids; procurement and installation of new navigational equipment and aids, associated navigational aids test and emergency service equipment, spare and repair parts, which are required to support Liberia's objectives of improved safe air travel to and from its international and principal domestic airports.

2. Negotiation and Execution of the Grant Agreement

I hereby authorize the initiation of negotiation of the subject project Grant Agreement by the USAID officer to whom such authority has been delegated in accordance with pertinent AID regulations and Delegations of Authority, subject to the following essential terms, covenants and conditions, together with such other terms and conditions as AID may deem advisable.

A. Source and Origin of Goods and Services:

Goods and services financed by AID under the subject Grant shall have their source and origin in the United States (Code 000 of the AID Geographic Code Book as in effect at the time orders are placed or contracts entered into for such goods and servies), except as AID may otherwise agree in writing.

B. Local Currency Costs:

Local Currency Costs may be financed under the Grant for the costs and goods and services required for the Project having their source and, except as AID may otherwise agree in writing, their origin in Liberia.

C. Conditions Precedent to First Disbursement:

Prior to the first disbursement under the Grant, or to the issuance by AID, of documentation pursuant to which disbursement will be made, the Grantee will, except as the Parties may otherwise agree in writing, furnish to AID in form and substance satisfactory to AID:

(1) An opinion of the Minister of Justice of the Republic of Liberia that the Grant Agreement has been duly authorized and/or ratified by and executed on behalf of the Grantee, and that it constitutes a valid and legally binding obligation of the Grantee in accordance with all its terms.

(2) A statement of the name of the person holding or acting in the Office of the Minister of Commerce,Industry and Transportation, and of any additional representatives, together with a specimen signature of each person specified in each statement.

D. Covenants:

1. The Grantee and AID shall agree to establish an evaluation program as part of the Project.

2. The Grantee shall agree to submit, within a reasonable time after signing of the subject Grant Agreement, a detailed plan for a program of preventive maintenance for all equipment and facilities financed under the Grant for a period of not less than three years.

Remo Ray Garufi
D I R E C T O R

Cleared by:CP:HVGuiot: (draft)
CON:DD'Antonio
PR:NMarsh
EO:LKavanagh (draft)

II. PROJECT BACKGROUND AND DETAILED DESCRIPTION

A. Economic Overview

1. The Four Year National Socio-Economic Development Plan

The Four-Year Plan was approved and implemented in early 1976. The basic objectives of the GOL's development strategy are: (a) diversification of production; (b) dispersion of sustainable socio-economic activities throughout the country; (c) total involvement of the entire population in the development efforts; and (d) equitable distribution of the benefits of economic growth, development, and diversification so as to ensure an acceptable standard of living to all Liberians. Originally, the Plan anticipated GOL development expenditures of $415 million over the period 1976-80. However, there was a significant revision of the Plan in 1978, which adjusted planned expenditures through 1980 to $585 million. This revision was necessary after the GOL made the decision to accelerate implementation of many of its original development projects and in some cases add new ones. Most people familiar with the background for this decision agree that it was done in order that completion of these development projects would coincide with the meeting of the Organization of African Unity (OAU) here in Monrovia in July 1979. Approximately 50 percent of the $170 million increase in development expenditures can be attributed to accelerated development projects and additional ones. The remainder of the increase is the result of inflation and the deterioration of the value of the U.S. dollar.

2. Structure and Growth of Gross Domestic Product (GDP)

The Liberian economy is dualistic in structure and practice. Its principal components are the modern (monetary) economy and the traditional economy.

The monetary economy which contribrutes 82 percent to total GDP at constant factor cost in 1977, in further subdivided into concession sectors (rubber, forestry and mining) and other modern sectors such as construction, manufacturing and the Government.

The traditional economy which consists mainly of Liberia's staple food - rice, but also includes cassava, palm produce and sugar cane. Seventy percent of the population of Liberia is engaged in some activity in the traditional economy. However, it only contributes approximately 18 percent to total GDP.

Liberia's economy is dominated by rubber and iron-ore for export. The concessions involved in this sector contribute a great deal in terms of employment, GOL revenues and as a source of export earnings.

The concession and modern sectors of the monetary economy generate most of the domestic income. Iron ore mining is the largest single activity and it alone accounts for at least 75 percent of the value added to GDP by all concessions and 65 percent of total export earnings. However, iron-ore mining like most modern sectors, interfaces very little in a direct linkage with the rest of the Liberian economy

In 1977, GDP at factor cost was $615 million. After 1974, the real rate of growth of the GDP began to taper and decline sharply. This is mainly attributable to the sharp drop in iron ore production which is the major contributor to the GDP. Also, until 1977, the major producers had not made

new plantings. Rubber, forestry, cocoa and coffee production is expected to increase slightly. Private consumption share of total resources available has been rising over the past three years at the annual average rate of 16 percent. However, GOL's consumption share of total resources has remained relatively stable.

3. Public Finance

Total GOL Domestic revenues are expected to increase approximately 22-1/2 percent over the assumption in the 1976 Plan. Most of this increase will be attributed to substantial increases in the import duties, reforms in the tariff system and judicious tax administration. However, GOL recurrent expenditures will have increased approximately 34 percent over the assumption of the Plan. This has been caused by increases in GOL employees' salaries which have remained unadjusted for almost 10 years, and increases in purchases of tools and services associated with the development projects.

Liberia usually exercises very conservative fiscal management, however for the past two years, the GOL has experienced rather large budget deficits. In 1978/79, the GOL probably will experience an approximate $99 million deficit. However, the deficit will probably be covered by: (a) net foreign aid loans, (b) domestic sources, (c) cash drawdowns at the Central Bank, and (d) borrowing from the Central Bank.

In addition, in 1978 disbursed net public sector debt was approximately $236 million of which bilateral and multilateral foreign aid loans accounted for 76 percent of that total. Disbursed public debt has been steadily increasing since 1974, and is related specifically to the rigorous pace of implementation of development projects. However, the ratio of debt service

(payments on external public compared to export earnings) remains in the respectable range of less than six percent.

4. Foreign Trade and Balance of Payments

The Liberian economy will continue to suffer from the iron-ore market dislocation as long as that commodity remains the most significant contributor to its GDP. The iron ore market is going through a long valley which will continue for sometime into the early 1980's. Receipts from higher coffee prices and judicious tax administration may restore some the elateness of the pre-1974 period, however, the economy will take time to restore itself fully.

Liberia's trade balance has been deteriorating significantly over the past four years. However, presently the deficits are getting smaller. The worsened condition of the balance of trade is the result of deterioration of the terms of trade, export growth stagnation, imports for development projects and significant increases in private consumption.

5. Sector Characteristics

Liberia's domestic air services is the primary source of quick convenient access to the principal coastal towns and those in the hinterland. It also makes an important contribution to the economic development of Liberia. During the 1950's and 1960's, the growth of air transport was stimulated by the fact that very few towns in Liberia were connected by all-weather roads and those which existed followed circuitous, time consuming routes. Recently more towns have been connected to the national road network, however, Liberia

still has an underdeveloped road network, and the roads are not well maintained. Also certain vital socio-economic services in the hinterland still depend heavily in the convenience and speed of air services for the transport of certain goods and personnel. In addition, the GOL has begun to promote tourism in the country.

Since the implementation of the Four-Year Development Plan, the Government of Liberia has invested considerable resources in rehabilitating and upgrading its developing domestic air services system. In addition to the national airlines (Air Liberia), there are a few non-scheduled air charter services. Air Liberia offers efficient regularly scheduled services to the principal airports at Voinjama, Harper, Greenville, Zwedru, Spriggs-Payne, Belefanai and Yakepa. The GOL has recently added a Boeing 737 jet and Hawker-Siddley 748 to its existing fleet of DC-3s and light aircrafts. Domestic Airport Agency is responsible for the operation of all domestic airfields and collects fees from its users.

Roberts International Airport is located 32 miles southeast of Monrovia, the capital of the Republic of Liberia. The airport was established as a U.S. Military base during World War II. Since 1962, the U.S. Government has provided financial assistance (approximately $9.6 million) to the Government of Liberia for the following improvements at Roberts International Airport (RIA):

(a) Engineering design services;

(b) landing area improvements;

(c) landing/navigational improvements;

(d) operational and support facilities (water wells and storage; commissary and laundry);

(e) aircraft and baggage handling and emergency equipment;

(f) realignment of the airport terminal approach road, and

(g) installation of a security fence.

A.I.D. has not provided any prior financial assistance for Liberia's domestic airports. The GOL has complemented the prior U.S. financed improvements at RIA by converting the old passenger terminal to an air cargo terminal, completion of a new passenger terminal and parking facilities and management staff housing.

Moreover, as long as either: (1) vehicular operating costs remain high, (2) the time factor continues to rise in importance, (3) accessibility to the hinterland by land continues to be awkward, or (4) road building continues at its unavoidably slow pace, and (5) the pace of national economic development is sustained, air transport will remain a viable transportation alternative.

B. Project Development

The proposed project was identified by the Government of Liberia Ministry of Commerce, Industry and Transportation as the immediate phase of a long-range plan for upgrading the reliability of the domestic airport system and Roberts International Airport navigation safety facilities and equipment.

USAID/L began collaboration with the GOL in August 1978 as a result of the GOL's decision to accelerate this critical phase of their long range plan for upgrading the airport system. This had become an urgent matter because Liberia will host the meeting of the Organization of African Unity (OAU) in July 1979. Consequently, the GOL was concerned that antiquated navaids would be dangerously overloaded because of the OAU Conference. The visiting Heads of State and their official parties will be using the principal airports extensively. Also, U.S. Government sharesthe same concerns in addition to the use of RIA as a staging airport in emergency situations involving the evacuation of U.S. personnel and dependents from Africa.

Several carriers have regularly scheduled DC-10 aircraft service to RIA. In early 1979, Pan American Airways will provide regularly scheduled Boeing 747 aircraft service to Liberia. The GOL has already made appropriate improvements to the RIA runway, taxiway and apron, in order to accomodate these new services.

In May, 1977, Pan American Airways at the request of the GOL, prepared a comprehensive Master Plan for RIA future development. Also, in Januarv, 1979, AID financed the services of a navigational aids engineer, who surveyed the critical safety features of the Liberia airports system.

This project will supplement existing improvements at RIA and the principal domestic airports at Spriggs-Payne, Voinjama, Zwedru (Tchien), Harper and Greenville. Consequently, it will ensure proper utilization of existing improvements at RIA financed under USAID loans 669-H-017 and 669-H-017A.

C. Detailed Description of the Project

The proposed project will address the critical need for upgrading and improving the reliability of navigational safety aids at Roberts International Airport (RIA) and the principal domestic airports at Voinjama, Spriggs-Payne, Zwedru (Tchien), Harper, and Greenville. This project is consistent with the GOL's Four Year National Socio-Economic Development Plan (1976) and is in support of their immediate and long range needs. Further, the technology applied is within the scope of that already in use in Liberia's airport system. Wherever necessary the project will furnish technical training within the limit of available funds, for key technicians involved with the operation or maintenance of project equipment.

The total cost of the Project is estimated to be $600,000, of which AID will provide a Grant of funds not to exceed $440,000. The GOL will contribute resources to the project of a minimum of $160,000. The Project Assistance Completion (PACD) will be one year after the signing of the Grant Agreement, however, it is anticipated that the project will be fully implemented within six months of the signing of the Agreement.

As indicated in a more detailed manner in the "Financial Plan" section, AID will finance the following:

(a) Procurement and installation of a dual Distance Measuring Equipment (DME) system including associated test equipment and spare parts, for Robert International Airport (RIA); ($100,000)

(b) Procurement and installation of spare and repair parts for the Instrument Landing System (ILS) at RIA; ($70,000)

(c) Procurement and installation of an Air Traffic Control (ATC) Recorder system, including spare parts and appropriate options, at RIA; ($30,000)

(d) Procurement and installation of a VHF Radio Link between the Spriggs-Payne and RIA Airport ATC towers; ($30,000)

(e) Procurement and installation of a Rotating Airport Beacon for Spriggs-Payne ATC tower ($5,000)

(f) Procurement and installation of a Remote Monitor and Control System for DME and VOR at RIA: ($20,000)

(g) Procurement and installation of Non-Directional Beacons (NDB) for RIA, Spriggs-Payne, Voinjama, Zwedru (Tchien), Harper and Greenville airports, including spare parts and minor civil construction; ($160,000)

(h) The furnishing of training for appropriate airport personnel in the operation and maintenance of the project equipment ($5,000)

PART III. PROJECT ANALYSES

A. Technical Analysis (Engineering Analysis)

Project Description

This Project has the objective of implementing certain high priority requirements for improved navigation aids in Liberia. It is planned that most of the new equipment involved will be operational prior to the forthcoming OAU Conference during the summer of 1979.

Six airfields are to receive new equipment. These are:

1. Robertsfield
2. Spriggs Payne
3. Greenville
4. Harper
5. Zwedru
6. Voinjama

Robertsfield Improvements

Robertsfield will be equipped with the following new systems:

1. A new and comprehensive set of spare parts for the ILS System.
2. A new dual DME System, to be colocated with the SEL VOR (currently under installation).
3. A new 20 channel ATC recorder.
4. A VHF communications link between Robertsfield and Spriggs Payne Control Tower.
5. A remote monitor and control system to serve both the VOR and DME equipment.
6. A new NDB transmitter and antenna to replace the 'Mike Oscar' (MO) beacon.

Spriggs Payne Improvements

Spriggs Payne will be equipped with the following new systems:

1. A new NDB transmitter and antenna to replace the existing beacon.
2. A VHF communications link between Spriggs Payne and Robertsfield Control Tower.
3. A Rotating Airport Beacon Light.

Greenville, Harper, Zwedru and Voinjama Improvements

These airstrips will each receive a new NDB beacon and antenna, to replace the existing aged systems.

2. Existing Facilities (Pertinent to this Project)

2.1. Robertsfield

Robertsfield presently does not have a comprehensive set of spare parts for the ILS system. In addition, training on the system is needed for new staff in the Communications Maintenance Department. Because of the importance of the ILS as the primary landing aid, high priority is assigned to the acquisition of these spares and the associated maintenance training.

The existing DME is beyond repair and extremely outdated. Presently located in the old VOR shelter, the system will be scrapped when the new VOR becomes operational.

The existing ATC recorder is very old and has insufficient channel capacity for present and planned ATC logging requirements. The equipment is located in the Robertsfield Control Tower.

There is no means of coordination between Robertsfield Control Tower and the relatively busy Spriggs Payne Control Tower. This situation increases the risk of collision due to lack of knowledge of aircraft movements. The old VHF link is now beyond repair and has been out of service for some considerable time. Additionally there is no telephone link between these control towers.

The Robertsfield Control Tower needs information on the status of principal navigation aids. The new VOR presently does not have the remote control equipment required for the status reporting and control function. A similar capability will be needed for the new DME system.

The Robertsfield MO NDB is extremely antiquated and should be replaced. Since the system is on the airfield it does receive regular maintenance and has therefore, endured so long.

2.2. Spriggs Payne

The NDB beacon at Spriggs Payne is a very old Phillips vacuum tube model. It has become almost impossible to obtain spare parts for the system. As a result, the system should be replaced by more modern solid state equipment.

The lack of coordination between Spriggs Payne and Robertsfield has already been described. The VHF radio link is badly needed.

There is no Rotating Airport Beacon Light at Spriggs Payne. Since the airport is very active, equipped for night operations and does experience

reduced visibility conditions, a rotating beacon is urgently required. Much of the airport location for landing is accomplished visually at Spriggs Payne. The beacon will, therefore, greatly enhance safety by quickly orienting pilots as they approach the area.

2.3. Greenville, Harper, Zwedru and Voinjama

The NDB beacons at Greenville, Harper and Zwedru are all old models identical to that located at Spriggs Payne. The Voinjama beacon is of World War II vintage and completely unserviceable. The Greenville beacon is presently undergoing repair. The Harper beacon is serviceable but suffers from distortion in the audio modulation. The Zwedru beacon carrier is radiating but the electromechanical ID Modulation Keyer is unserviceable and there are no spares available.

All of these beacons need complete replacement with up-to-date solid state equipment. The shelters can be reworked to accept the new transmitters.

3. Cost Estimates

The following table shows the estimated costs of the equipment required for the Navigation Aids Improvement Program.

DME	100,000
ILS Spares	70,000
ATC Recorder	30,000
Communications Link	30,000
NDB Beacons	160,000
Remote Control	20,000
Rotating Beacon	5,000
Total [1/]	$415,000

1/ Contingencies not included

4. Management and Training

The program will be accomplished by means of a turnkey contract let by USAID to a qualified communications contractor. A certain level of technical liaison will be required between the successful contractor and the RIA Communications Maintenance Department. This will ensure that the necessary details on siting, electrical power and signal interfaces are properly coordinated.

Training will be arranged for all of the major systems. To avoid a reduction in operating manpower, much of the training will be accomplished by bringing instructors to Liberia from the various equipment suppliers. Certain more complex equipment such as the dual DME may require maintenance staff from RIA to attend formal classes of instruction at the manufacturers' plant in the USA.

Maintenance of RIA equipment will continue to be performed by the RIA Communications Department. However, further consideration must be given to the necessary preventive maintenance for the NDB beacons at the outlaying sites such as Spriggs Payne, Greenville, Harper, Zwedru and Voinjama.

These sites should be regularly visited by maintenance technicians if their usefullness is to be expected to continue reliably. Initially, visits will be required twice a month until confidence is established in the operating stability. The visits can then be opened up to monthly period inspection. Later perhaps the inspection period may be again opened up to a two month interval between inspections. The most practical

approach to the visits will be to use a light aircraft assigned to fly to each of the sites in turn. Typically the entire route can be covered in one day.

One practical approach to the problem of remote site maintenance would be to expand the scope of the RIA contract to include the remote airfields. RIA personnel have the necessary test equipment and experience. Some additional manpower will, however, be required for this work.

5. Technical Soundness

The status of existing navigation aids was checked by the AID Consultant's visit to each site. Prior to this, preliminary technical data and budgeting estimates had been obtained from equipment suppliers.

The AID Consultant has examined each proposed improvement for technical integrity and reviewed details of prospective equipment suppliers.

The DME will be a proven, ICAO accepted design. The ILS spare parts are straightforward in design. The ATC Recorder is a proven device already well understood by RIA maintenance personnel.

A Communications link identical to that proposed for the Control Tower link, is already operational between RIA and Monrovia using low power VHF.

The NDB beacons available are well proven designs requiring less maintenance and adjustment than systems presently in use at RIA and outlying stations.

Similarly, well developed technology is available for VOR/DME remote status and control equipment.

The Airport Rotating Beacon for Spriggs Payne is no more complex than the system in use at RIA.

Well qualified companies have expressed interest in supplying all aspects of this program with deliveries in less than six months from receipt of order.

The program costs are reasonably estimated and a priority list of requirements has been made. In the event of unforeseen cost escalation, the lowest priority item or items can be deleted from the program.

Because of the above plans and background data, it is believed that the Navigation Aids Improvement Program can be successfully extended within the assigned budget.

B. Administrative Feasibility

1. Structure and Resources

a. The project will be executed by the Ministry of Commerce, Industry and Transportation. The Office of the Assistant Minister for Transportation Services will have immediate project oversight. He will be assisted by the Director for Civil Aviation. The Assistant Minister reports to the Deputy Minister for Commerce. The Liberian Domestic Airport Agency and Roberts International Airport (RIA) are under the general supervision of the Assistant Minister for Transportation Services. However, the operations Management of RIA is performed under a contract with Pan American Airways Technical Services Division. But the Domestic airport network is managed by a Liberian entity, - Liberian Domestic Airport Agency.

b. The total budget of the Ministry of Commerce, Industry and Transportation is approximately $2.44 million, of which $1.004 million is Transportation Services Development Program. In fiscal year 1978/79, the budget (including development program) for the Office of Transportation services will account, for approximately 52 percent of the Ministry's total budget. Within this Office, the Division of Civil Aviation's budget will account for approximately 40 percent of the Office of Transportation Services budget. Other Divisions of this Office are: Division of Land Transport and Division of Maritime Affairs.

2. The existence of the Pan Am operations contract does not necessarily indicate that the Ministry is unable to manage the operations of RIA but the present arrangement probably represents judicious use of the Government's scarce resources. In a situation such as this, priorities must be established and

financial returns to the Ministry analyzed. The Ministry of Commerce, Industry and Transportation is quite capable of executing this project and effectively maintaining the project. This has been true with the effective utilization and management of the inputs provided with AID and other resource in the past, specifically AID Loans 669-H-017 and 669-H-017A. In addition, the Ministry has motivated, qualified technical staff available for necessary training and skills upgrading for some project inputs.

3. The Ministry of Commerce, Industry and Transportation is committed to the timely development of Liberia's airport network as evidenced by its plans for upgrading its domestic airports and airline (Air Liberia). Recently Pan Am Technical Services Division completed a long range master plan for further development of RIA. This plan was requested by the Ministry.

4. As evidenced by the contract with Pan Am for technical services, and various commercial carrier route agreements, the Ministry has a proven record of its ability to select, award and administer contracts with local as well as foreign firms. However, due to the time factor and urgency for immediate implementation of this project, it is anticipated that AID will be requested to procure the services of a contractor who will procure the project's inputs and also be responsible for technical services, installation, and minor civil construction.

C. Financial Plan

(1) SUMMARY COST ESTIMATE AND FINANCIAL PLAN
(U.S. $000)
PROJECT PAPER

	AID 1/		Host Country		
SOURCE	FX	LC	FX	LC	TOTAL
Use:					
1. Distance Measuring Equipment (DME)	91	9	-	-	100
2. Instrument Landing System Comoponents, etc.	65	5	-	-	70
3. Air Traffic Control (ATC) recorder system	29	1	-	-	30
4. RIA - Spriggs Payne Radio Link	28	2	-	-	30
5. Non-Directional Beacons (NDB)	130	30	-	-	160
6. Training and other costs	10	-	-	-	10
7. VOR, Installation & Test Equipment	-	-	105	5	110
8. NDB Maintenance, Training, Admin. Support	-	-	-	50	50
9. Remote Control/ Monitoring System	19	1	-	-	20
10. Rotating Airport Beacon	5	-	-	-	5
11. Contingencies 2/	10	5	-	-	15
TOTAL	387	53	105	55	600

1/ Grant Funds include AID Foreign Exchange (FX) and AID Local Costs (LC) for a total of U.S. $440,000.

2/ VOR excluded.

(2) Financial Analysis Methodology

An analysis of the GOL's source and application of funds and ability to successfully service its obligations and approach to fiscal management is included as a part of the "Economic Overview" located in Part II, Section A. of this paper.

Also, in Part III, Section B, "Administrative Feasibility", the budget of the Ministry of Commerce, Industry and Transportation, including relevant Division, is analyzed. As far as the financial viability of RIA and the Domestic Airport Agency is concerned, the various statements of revenue and expenditures were analyzed in Part III, Section D, "Economic Feasibility"

D. Economic Feasibility

1. Introduction

The navigational equipment, aids and facilities which will be furnished for the project are classified as pure safety items. Taking into consideration the serious deterioration and antiquated state of the essential navigational aids at Liberia's principal airports, there is no realistic alternative to this project. The project should be implemented immediately in order to safeguard passengers, cargo and the Government's substantial investment in its developing airport network. The Liberian economy derives considerable benefits from its international and domestic airports. Specifically the Government receives substantial revenue from landing and parking fees, aircraft handling, premises land rental, airport service sales and aircraft catering services.

In addition, the combined payrolls of the international and domestic airport operations are approximately $1.3 million. This is a direct benefit to the hundreds of Liberians who work at these facilities. Also, since the former large expatriate staffs are being gradually replaced by qualified Liberians, one would expect an increase in the number of Liberians who benefit from this source. Another important source of benefit to the Government and people of Liberia is tourism. The GOL is promoting tourism which is dependent on facilities available, i.e. transportation services and hotel accomodations. It still remains a difficulty to obtain casual accomodations and many times confirmed reservations at the Ducor and other respectable hotels in Monrovia, as well as the hotel at Robertsfield. In addition, the Government derives additional revenue from an embarcation tax which is levied per passenger at RIA.

Further, the local economy and the GOL coffers gain significantly from the millions of gallons of aircraft fuels which are consumed.

These significant sources of revenue would be jeopardized, if passengers and commercial carriers perceived a serious threat to the safe movement of people and cargo at these airports. Consequently, the reliability of the system of navigational aids at frequently used airports has a considerable impact on business and trade.

2. Roberts International Airport Operations

a. Roberts International Airport derives almost all of its operating income from landing and parking fees, aircraft handling charges, catering services, premises rentals and service sales. Landing fees are fixed charges, on a per plane basis, for the landing of a specific type of aircraft. These charges are the largest single source of income to RIA. Since 1975 this source has accounted for average 43 percent of gross revenues.

b. Aircraft handling charges are also levied on a per plane basis, however, they cover a variety of services. Some of the principal services provided are: water supply, solid and liquid waste disposal and baggage transport between the terminal building and the planes. This source alone over the past three years has accounted for average 33 percent of gross revenues.

c. RIA's modern aircraft catering service sales also makes a major contribution to gross revenues. The most recent three-year average was 13 percent of gross revenues.

d. RIA Expenses

The expenditures on payrolls and utilities over the past three years (1975-77) have averaged 65 percent of gross expenditures over the same period. It is significant to note that as a percentage of gross expenditures, the payroll item declined at a rate of 1-1/2 percent between 1975-77. However, the expenditure on utilities remained constant at 11 percent for 1975-76 and decreased by one percentage point in 1977. RIA maintained an operating surplus of slightly over $200,000 dollars for 1975-76.

In addition, during the period 1975-77, gross revenues increased 15 percent, while gross operating expenses, during the same period, increased 26 percent. It is significant to note that major capital improvements are not financed nor intended to be financed from the operating surplus.

e. Air Traffic Trends

Roberts International Airport is a relatively busy airport. In 1977 total cargo and mail loaded/unloaded increased 61 and 66 percent, respectively, over 1974 totals. Also in 1977, passengers departing/arriving and passengers in transit increased 74 and 25 percent, respectively, over the 1974 base figures. Coincidently, aircraft landings only increased two percent over its 1974 base figure. The initiation of wide-bodied aircraft service for some commercial carriers could significantly affect this figure in the future.

3. Liberian Domestic Airports Agency Operations

a. The principal domestic airports in Liberia (except RIA) are managed and operated by the Liberian Domestic Airports Agency. British Caledonia

Airways, under contract with the Government of Liberia, provides technical assistance to the Liberian national airline - Air Liberia. Air Liberia has several light propeller-driven aircrafts, however, the pride of the fleet is the new Boeing 737 jet and Hawker-Sidley 748 turbo-prop. The HS-748 provides regular service to some domestic airfields. The center of the domestic airports operations is Spriggs-Payne Airport located within the boundaries of the City of Monrovia (the nation's Capital). The Liberian Domestic Airports Agency only in recent years began to manage and operate the developing domestic airport network.

b. The Liberian Domestic Airport Agency derives the bulk of its income from landing and parking fees, airport services, premises and land space rental. In 1977-78, aircraft landing and parking fees accounted for 45 percent of gross revenues and rental of the "premises and land space" comprised 31 percent of gross revenues during the same period. In addition, another significant source of income was "airport services" which account for 23 percent of gross revenues.

c. The operating expenses of the Liberian Domestic Airports Agency (LDAA) consists of payroll, personnel expenses, utilities, outside services and supplies.

The following is an approximation of the burden of key elements of operating expenses on gross operating expenses: (1977-78 period)

(1) payroll, 64 percent;

(2) personnel expenses, 7 percent;

(3) utilities, 6 percent;

(4) outside services, 7 percent;

(5) supplies, 8 percent.

d. Air Traffic Trends

At the close of FY 78, there was a 33 percent increase in air cargo traffic over the base FY 70. During the same span of eight years, air passenger traffic increased by 68 percent over the FY 70 base. Between FY 1970 and FY 1978, aircraft landings increased substantially at Voinjama, Zwedru (Tchien) and Greenville Airports, while there was only a slight increase at Spriggs Payne. However, aircraft landing at Spriggs-Payne in FY 78, accounted for 75 percent of all aircraft landings at the other principal domestic airports (excluding Robertsfield). In addition, over the past eight years aircraft tonnage has quadrupled at Greenville, tripled at Spriggs-Payne and almost doubled at Zwedru (Tchien) and Harper. These impressive air traffic trends are indicative of, interalia, the economic growth and development of those areas as well as the demand for services and consumption items. All of these airports are in or near well populated areas.

E. Social Soundness Analysis

This project will involve the furnishing of the appropriate priority navigational equipment, spares, installation and training which would upgrade the navaids system reliability. These are pure safety items. The upgraded systems will safeguard the lives and property of more than 200,000 air passengers and crew who will use Roberts International Airport (RIA) and more than 36,000 who will use the domestic airfields. More than 60,000 people will depart RIA this year for various reasons, and since the GOL levies a $5.00 embarcation tax, this amounts to approximately $180,000 in revenue. Also, the Robertsfield Hotel is located adjacent to the airport property. It has 50-75 rooms available and is well patronized. The room rates are approximately $35.00 a night. Also adjacent to the airport are the huge Firestone rubber plantation (approximately 9 million trees), the ExChem Chemicals plant and Unification Town. Approximately 50,000 people live in this Harbel-Charlesville-Unification town area.

Therefore, any aircraft accident could inflict serious damage to life and property in the area.

The Spriggs-Payne is located in the densely populated Sinkor area of Monrovia. The runway extends within 500 yards of one of the busiest streets in Monrovia. It is a predominantly residential area.

The other airports are located within or near population centers which are not nearly as densely populated as those near RIA and Spriggs-Payne airports. All of the airports in the hinterland are located in heavily agricultural

areas. The airports at Voinjama and Zwedru are located deep in the hilly interior near the Guinea and Ivory Coast borders, respectively. The Greenville and Harper airports are located along the coast near the Atlantic Ocean.

Moreover, the variable risks of fatal damage/losses due to aircraft pilot errors and other circumstances are quite evident. The extrapolated population data are: Monrovia (est. 270,000), Harper (est. 14,000), Greenville (est. 11,000), Voinjama (est. 6,000) and Zwedru (est. 4,000). The airports in the hinterland and Monrovia are surrounded by populations who would have considerable difficulty in recovering from any personal losses.

F. Environmental Concerns

The Initial Environmental Examination concluded that the Project will have little or no adverse environmental, social, ecological nor public health impact in the project areas. Consequently, the examiners recommended that a negative environmental determination be made for this Project. The examiners' recommendation was approved by the USAID/Liberia Mission Director (see Annex D).

IV. Implementation Plan

A. Required Actions: (1979)

Event	Time	Action
1. Authorization of Project Paper	Jan.31,79	USAID/L
2. Request Advice of Allotment of Grant Funds	Jan.31,79	USAID/L
3. Request Ad Hoc Redelegation of Contracting Authority from AA/SER	Jan.31,79	USAID/L
4. Draft Grant Agreement (Transmitted to Ministry of Commerce,MOF, and MPEA	Jan.29,79	USAID/L
5. Commerce Project Review and Grant Agreement Negotiation	Jan.30,79	USAID/L and GOL
6. Advice of Allotment of Grant Funds received	Feb.7,79	AID/W, O/FM
7. Ad Hoc Redelegation of Contracting Authority received	Feb. 7,79	AID/W, AA/SER
8. Formal Signing Grant Agreement	Feb.7,79	USAID/L and GOL
9. Announcement of Contract Award and Contract Signing	Feb.8,79	USAID/L and Contractor
10. Initiate Procurement Action for Project Commodities	Feb.8,79	Contractor
11. ATC Recorder Equipment,ILS spares,Test Equipment and Rotating Airport Beacon Arrive in Liberia	May,1979	Various US Vendors
12. Begin Installation of the above items	May,1979	Installation Contractor
13. DME,Communications Equipment and Remote Control equipment arrive in Liberia	Jun.1979	Various US Vendors

	Event	Time	Action
14.	Begin Installation of the above items	Jun.1979	Installation Contractor
15.	FAA Flight Test	Jun.1979	FAA, RIA
16.	All Project Inputs Operational	Jul.1,1979	Installation Contractor and Various Vendors

B. Monitoring and Implementation

1. The project will be monitored by the USAID/L Capital Projects and Engineering Office. The USAID/L Engineer and Capital Projects Development Officer will periodically (as often as bi-weekly until project completion) visit the various project sites until the project is completed. After project completion residual monitoring responsibility will be assigned to the USAID/L Engineering Office. USAID/L will have the sole responsibility of monitoring project implementation. The Mission has the necessary staff to accomplish this task.

2. Project implementation responsibility of the Ministry of Commerce Industry and Transportation, Division of Civil Aviation. This Division will provide day-to-day oversight of the activities of a prime contractor who will be given detailed project implementation responsibility. There are no organizational changes or legislative actions required on the part of the GOL in order to implement the project.

3. The Ministry of Commerce, Industry and Transportation does not have the staff resources at this time to devote to a host country contracting mode. From experiences with other GOL agencies, this approach can be quite time consuming. In addition, practically all GOL agencies are engaged in intense preparations for the Organization of African Unity (OAU) Conference in Monrovia in July, 1979.

Therefore, USAID/L anticipates the GOL will request AID to procure goods and services for the project in its behalf.

4. USAID/GOL contemplate the use of a prime contractor for procurement of commodities and installation of the project. The GOL would prefer that this contractor would have technical qualified agents in Liberia which would be able to remedy any emergency problems, especially during the OAU meeting.

5. The project will be implemented with the expressed objective of having the project completed by the time of the OAU Conference. However, neither USAID, GOL or the contractor have much control over delivery dates from U.S. vendors. Notwithstanding the importance of the OAU confab, this project is vitally needed, even if the OAU were not being held in Monrovia. The DME and the NDBs are the only items we anticipate will take longer than 10 days to install. The DME should be installed within 15 days, after receipt in country and the NDB should be installed within 30 days after receipt in country.

V. EVALUATION PLAN

A. The Evaluation Program will include:

1. An evaluation of progress towards attainment of the objectives of the Project.

2. Identification and evaluation of constraints which may inhibit such attainment.

3. An assessment of how such information may be used to help overcome such problems, and

4. Evaluation, to the degree feasible, of the overall development impact of the Project.

B. The USAID Project officer and engineer will monitor the Project on a continuous basis, including regularly scheduled project site visits. Ministry of Commerce officials will be invited to accompany them. They will develop regular Project status assessments which will specifically address items 1 and 2 in the above evaluation program. These assessments will be discussed with the Ministry formally from time to time, with a view toward developing optional plans to overcome any constraints to the attainment of the Project's objectives.

At the conclusion of the Project activity in March 1980, a formal evaluation of the Project will be conducted. The evaluation team will consist of a USAID officer, the Assistant Minister for Transportation Services - Ministry of Commerce, the Director of Civil Aviation and a representative from the Ministry of Public Works Engineering Division.

PART VI. ISSUES AND ASSUMPTIONS

A. Issues

Please refer to Part II, B, "Project Development".

B. Assumptions

1. The GOL will provide the necessary budgetary support to RIA and the domestic airport system, in order to ensure adequate utilization and maintenance of the project inputs;
2. The navaids/communications technicians employed by RIA and Liberia Domestic Airport Agency (DAA) will be sufficiently motivated to make effective use of their skills and training;
3. All project inputs will be furnished as scheduled and in a timely manner;
4. The appropriate navaids technicians will be available for training when required;
5. AID/GOL obligations will be made in a timely manner;
6. The GOL will continue to utilize RIA, Zwedru, Spriggs-Payne, Harper, Greenville and Voinjama airports to serve airport traffic throughout the useful life of the navaids/communication equipment supplied by the Project.

TABLE 1:

SECTORAL ORIGIN OF GDP AT FACTOR COST 1973 - 1977
(MONETARY ECONOMY)

(in million dollars)

SECTOR	1973	1974	1975	1976	1977 1/	Annual Growth (%) 1974	1975	1976	1977
A. Constant (1971) Prices:									
Export-Oriented Sectors	179.7	181.6	166.3	163.7	*	1.0	-8.4	-1.1	-3.7
Agriculture	49.2	47.6	50.1	55.3	*	-3.3	5.3	10.4	9.4
Rubber	(25.7)	(26.0)	(24.9)	(24.3)	(23.4)	(1.2)	(-6.5)	(2.5)	(6.0)
Forestry	9.8	7.5	12.5	16.4	15.1	(-23.5)	66.7	(31.2)	(-8.0)
Other	(13.7)	(14.1)	(13.3)	(14.0)	*	(2.9)	(-5.7)	5.3	*
Mining and Quarrying	130.5	134.0	116.2	108.4	97.1	2.7	-13.3	-6.0	-10.4
Iron ore	(118.2)	(125.0)	(110.3)	(103.9)	(92.5)	(5.8)	(-11.8)	(-5.1)	(-11.0)
Other	12.5	9.0	5.9	4.5	4.6	(-26.8)	(-34.4)	(-23.7)	(2.2)
Domestic-Oriented Jectors	163.3	175.0	177.2	194.7	199.4	6.9	1.3	9.9	5.0
Manufacturing	20.9	26.0	23.1	28.0	*	24.4	-11.2	24.4	*
Construction	12.8	15.7	14.1	17.7	17.8	22.6	-10.2	25.5	0.6
Government Services	24.5	27.0	29.2	31.0	*	10.2	8.1	6.2	*
Other Services	105.5	106.3	110.8	118.0	*	0.8	4.2	6.5	*
Total GDP at Factor Cost	343.4	356.6	343.5	358.4	362.0	3.8	-3.7	4.8	1.0
A. Current Prices:									
Export-Oriented Sectors	187.2	232.5	294.4	260.9	*	24.2	28.5	-12.7	*
Agriculture	57.4	73.5	62.6	78.2	*	28.0	-14.6	24.5	*
Rubber	(37.1)	(47.9)	(29.6)	(39.5)	*	29.1	-37.8	32.6	*
Forestry	6.0	6.4	13.8	18.2	*	6.7	115.6	31.9	*
Other	(14.3)	(19.2)	(19.2)	(20.5)	*	34.3	(-)	6.8	*
Mining and Quarrying	129.8	159.0	231.8	182.7	140.3	22.5	48.4	-22.6	-23.2
Iron Ore	(110.9)	(147.5)	(224.7)	(176.3)	(132.0)	(33.0)	(95.9)	(+39.0)	(-25.1)
Other	18.9	11.5	7.1	6.4	8.3	(-39.2)	(-38.3)	(- 9.9)	29.7
Domestic Oriented Sectors	188.0	227.2	264.7	308.5	*	20.9	16.5	16.5	*
Manufacturing	22.6	34.6	36.3	45.2	*	53.1	4.9	24.5	*
Construction	15.0	21.4	28.8	37.9	44.1	42.7	34.6	31.6	16.4
Government	31.2	36.0	43.8	51.5	71.0	15.4	21.7	17.6	37.9
Other Services	119.2	135.2	155.8	173.9	*	13.4	15.2	11.6	*
Total GDP at Factor Cost	375.2	459.7	559.1	569.4	615.0	22.5	22.6	1.0	8.0

1/ Preliminary Estimates
* Breakdown not available.

Source: Economic Survey of Liberia 1977

TABLE 2:
TRENDS IN NOMINAL AND REAL GDP, 1973 - 1977

(IN MILLION DOLLARS)

Item	1973	1974	1975	1976	1977 1/
Monetary Economy					
GDP at Current Factor Cost	375.2	459.7	559.1	569.4	615.0
GDP at Constant (1971) Factor cost	343.4	356.6	343.5	358.4	362.0
GDP Deflator (Index)	109.3	128.9	162.8	158.9	169.9
Annual Change %					
GDP at Current Factor Cost	-	22.5	21.6	1.8	8.0
GDP at Constant (1971) Factor cost	-	3.8	-3.7	4.3	1.0
GDP Deflator	-	17.9	26.3	-2.4	6.9
Traditional Economy					
GDP at Current Factor Cost	78.2	110.6	117.3	130.2	155.0
GDP at Constant(1971) Factor cost	60.8	68.8	68.0	73.5	77.2

1/ Preliminary estimates

Source: Economic Survey of Liberia 1977.

TABLE 3:
SUMMARY OF GOVERNMENT REVENUE AND EXPENDITURE
1974-1977

Item	1974	1975	1976	1977 1/
Budgetary Revenue	108.6	125.3	149.8	12.7
Recurrent Budget	72.0	79.8	87.6	117.7
Recurrent Budget Surplus	36.6	45.5	62.2	55.0
Development Budget (Government)	14.9	24.0	29.9	35.5
Budgetary Surplus/deficit	21.7	21.5	32.3	19.5
External Resources Expenditure	17.4	29.3	49.7	81.0
Government Surplus/Deficit	4.3	-7.8	-17.4	-61.5
Financing of Surplus/Deficit	-4.3	7.8	17.4	61.5
Foreign Financing: Net	-1.6	11.6	34.4	58.7
Foreign Grants	12.3	11.3	16.0	16.0
Foreign Loan, Net	-13.9	0.3	18.4	42.7
Disbursement	(5.1)	(18.0)	(33.7)	(65.0)
Amortization	(-19.0)	(-17.7)	(-15.3)	(-22.3)
Domestic Financing 2/	-2.7	-3.8	-17.0	2.8

Source Table 8, 11, and 13

1/ Preliminary

2/ Residual (including internal debt paid)

Source: Economic Survey of Liberia 1977.

TABLE 4:

EXPORT AND IMPORT PRICE INDICES, 1974 - 1977

(1975= 100)

ITEM	1974	1975	1976	1977
Exports	78.4	100	103.4	119.7
Imports	78.9	100	95.9	117.8
Terms of Trade	99.3	100	107.8	101.6

BALANCE OF TRADE, 1972 - 1977

(in US $ million)

ITEM	1972	1973	1974	1975	1976	1977
Export F.O.B.	269.8	324.0	400.2	394.4	457.1	447.4
Less Imports, CI.F.	178.7	193.5	288.4	331.2	399.2	463.5
Trade Balance	+91.1	+130.5	+111.8	+63.2	+57.9	-16.1

Source: Economic Survey of Liberia 1977.

TABLE 5:
POPULATION BY COUNTY AND AGE GROUP, 1974

Sex/Age Group Co./Terri.	BOTH SEXES					
	0-9*	10-14	15-34	35-59	60+	All age
Bomi Territory	18343	5812	21507	12642	3833	62137
Bong County	60153	22429	63352	37085	11169	194188
Grand Bassa	34705	13259	40123	25348	8742	123177
Grand Cape Mt.	16856	5545	18593	11211	4418	56603
Grand Gedeh	22970	7986	21217	14865	4786	71824
Kru Coast	7756	3454	7505	5977	2437	27129
Lofa County	56734	14866	57049	38892	3196	130737
Marshall	6122	1970	7292	4000	1347	20731
Maryland	20645	7776	18351	13439	4273	64484
Montserrado	102620	40841	40443	59765	3435	357104
Nimba	75798	28167	80946	49984	4782	249677
River Gee	9034	3342	7759	5685	1925	27745
Sasstown	2880	1232	2599	2168	1069	9948
Sinoe	16988	6756	18009	11930	3962	57645
LIBERIA	451484	163435	505745	292991	89374	1503120

Source: Economic Survey of Liberia 1977.

TABLE 6

ROBERT INTERNATIONAL AIRPORT

STATEMENT OF INCOME AND EXPENDITURE

FOR THE YEAR ENDED JUNE 30, 1977/76/75

	1977 $	1976 $	1975 $
INCOME			
Landing revenues and parking fees	992,775	1,099,284	1,000,793
Premises rentals and service sales	212,688	212,012	151,360
Aircraft handling revenues	829,611	794,498	720,259
Other sales	69,201	66,705	33,468
Aircraft catering sales	722,504	741,674	670,334
Less cost of catering	(344,208)	(401,726)	(427,107)
Profit on disposal of assets	775	2,186	4,007
Interest receivable	5,726	5,965	6,959
	2,489,072	2,520,598	2,160,073
EXPENDITURE			
Payrolls	1,251,165	1,209,859	1,054,569
Personnel expenses	137,626	96,800	88,420
Utility expenses	231,911	250,076	222,684
Legal and medical	17,593	15,358	13,630
Other outside services	36,903	82,340	64,308
Airport operations fee	183,333	150,000	150,000
Direct maintenance	161,110	128,589	90,207
Tools and expendable shop supplies	8,270	3,154	9,145
Other supplies and expenses	194,181	232,942	138,470

EXPENDITURE (Cont'd)

	1977 $	1976 $	1975 $
Insurance, public liability and employee welfare	122,926	67,340	47,544
Bad debt expense	27,567	2,992	13,253
Depreciation - airport machinery and equipment	56,453	56,035	35,805
Rental of equipment	131,179	13,286	13,369
Interest charges	4,946	5,404	2,482
	2,477,163	2,314,175	1,943,886
OPERATING SURPLUS BEFORE EXCEPTIONAL ITEM	41,909	206,423	216,187
EXCEPTIONAL ITEM	(21,512)	-	-
OPERATING SURPLUS FOR YEAR TRANSFERRED TO AIRPORT DEVELOPMENT ACCOUNT	20,397	206,423	216,187

SOURCE: Roberts International Airport

TABLE 7

AIR PASSENGER TRAFFIC

ROBERTS INTERNATIONAL AIRPORT PASSENGERS

YEAR	DEPARTING	ARRIVING	TRANSIT	TOTAL 1/ OFF/ON
1973	29,842	26,320	68,510	56,162
1974	30,892	27,179	89,722	58,071
1975	39,307	34,597	102,437	73,904
1976	42,126	40,392	103,515	82,518
1977	51,639	49,162	111,704	100,801

SOURCE: Roberts International Airport.

1/ Includes only departures and arrivals.

TABLE 8

CARGO AND MAIL TRAFFIC

ROBERTS INTERNATIONAL AIRPORT

YEAR	CARGO (Kilos)			MAIL (Kilos)		
	LOADED	UNLOADED	TOTAL	LOADED	UNLOADED	TOTAL
1974	1,111,246	1,073,102	2,184,348	73,854	178,559	252,413
1975	980,612	1,727,324	2,707,936	118,085	183,594	301,679
1976	1,201,832	1,816,725	3,018,557	163,427	215,053	378,480
1977	1,227,352	2,289,338	3,516,690	176,637	241,989	418,626

TABLE 9

AIRCRAFT LANDINGS

ROBERTS INTERNATIONAL AIRPORT

YEAR	TOTAL AIRCRAFT LANDINGS
1974	2,534
1975	2,922
1976	2,552
1977	2,590

SOURCE: Roberts International Airport.

TABLE 10

PROFIT & LOSS ACCOUNTS
FOR THE FISCAL YEAR ENDED FEBRUARY 28, 1977 - 78

LIBERIAN DOMESTIC AIRPORTS AGENCY

INCOME		
Landing Fees	$85,188.50	
Parking Fees	3,336.50	
Aircraft Handling Charges	438,90	
Airport Services Charges	44,672.50	
	$133,636.40	
OTHER INCOME		
Premise Rental	14,681.20	
Land Space Rental	45,581.00	
Sale of Electricity	2,600.00	
Garbage Collections	180.00	
	63,042.20	
TOTAL INCOME		$196,678.60
OPERATING EXPENSES		
Payroll	110,031.18	
Personnel Expenses	11,446.89	
Utilities Expenses	10,003.96	
Medical Expenses	408.25	
Outside Services	12,156.84	
RIA Service Cost	947.00	
Direct Maintenance	6,234.16	

OPERATING EXPENSES (Cont'd)

Tools & Exp. Shop Supplies	2,783.40	
Other Supplies	14,009.45	
Insurance	706.47	
Employees Welfare	168.22	
Other Expenses	2,882.37	
TOTAL EXPENSES		$171,778.19
Income from Operations		24,900.41
Interest Income	$483,90	
Sale of Assets	25,00	
		508.90
NET INCOME		$25,409.31

SOURCE: Liberian Domestic Airports Agency.

TABLE 11

AIR CARGO AND PASSENGER TRAFFIC

LIBERIA DOMESTIC AIRPORTS

FISCAL YEAR	TOTAL CARGO (Kilos)	Total Passengers
1970	183,790	21,617
1978	244,995	36,291

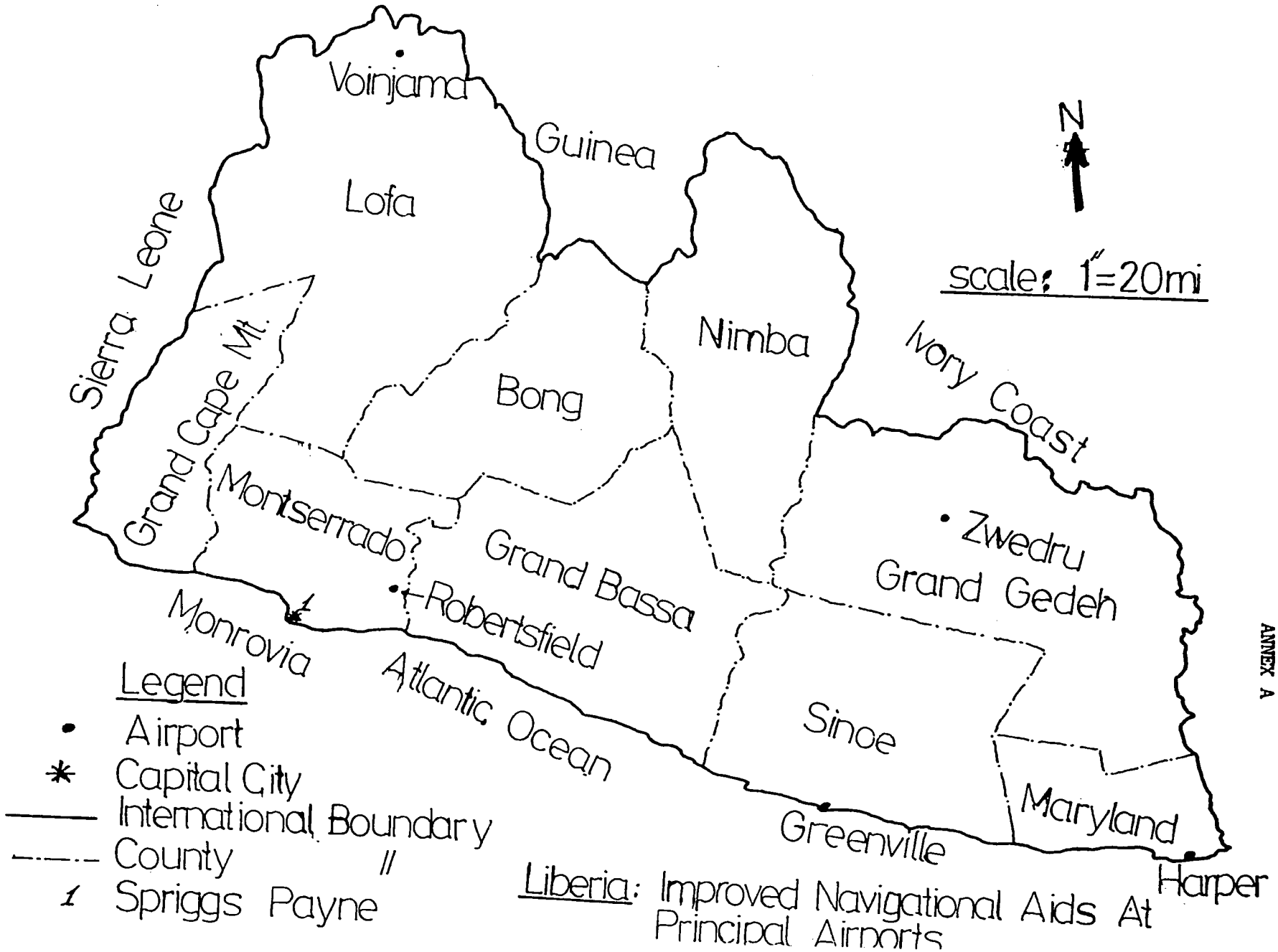
SOURCE: Liberian Domestic Airports Agency.

TABLE 12

AIRCRAFT LANDINGS AND TONNAGE

AIRPORT FACILITY	TOTAL AIRCRAFT LANDINGS		AIRCRAFT TONNAGE (Lbs.)	
	FY 70	FY 78	FY 70	FY 78
Spriggs - Payne	11,461	11,483	35,000	117,000
Voinjama	40	214	6,300	10,000
Zwedru (Tchien)	56	733	28,000	46,500
Greenville	857	1,969	28,000	117,000
Harper	1,272	909	28,000	46,500
TOTAL	13,686	15,308		

SOURCE: Liberian Domestic Airports Agency.



Liberia: Improved Navigational Aids At Principal Airports

ANNEX A

ANNEX B

January 12, 1979

Department of State
US A.I.D. Mission
Tubman Boulevard
Monrovia, Liberia

Attn: Mr. Howard Guiot

Subj: Review of Liberian Navigation Aids

For clarity of presentation, I plan to submit three principal documents on the Navaid improvement program. These are:

1. Existing Equipment Review
2. Priority Sequence
3. Proposed Evaluation and Recommendations

Presently, assisted by Victor Thomas of RIA Communications, I have completed the survey of the pertinent equipment at the following airfields:

Robertsfield International Airport
Spriggs-Payne
Greenville
Harper
Zwedru
Voinjama

Additionally, I am now aware of your budgetary and schedule constraints concerning the forthcoming OAU Conference preparations. As a result I am now submitting the Existing Equipment Review and the Priority Sequence.

If possible, I would like to start on the proposal evaluation following our FAA Liaison meeting with Mr. Newell on Friday, January 12, 1979.

I hope this information will assist you in getting the Navaid program underway.

Yours very truly,

J.R. Marchant
Staff Engineer
Pan American Technical Services, Inc.

LIBERIAN NAVIGATION AIDS IMPROVEMENT PROGRAM

EXISTING EQUIPMENT REVIEW

J.R. Marchant
Pan American Technical
Services, Inc.

INTRODUCTION

During the 9 thru 10 January 1979, the Navaids at each of the following airfields were inspected for condition and replacement considerations. The work was performed under the guidance of Mr. Howard Guiot of the US A.I.D. Mission in Monrovia.

Airfields Checked:

Robertsfield International Airport
Spriggs - Payne
Greenville
Harper
Zwedru
Voinjama

An equipment condition discussion and recommendations for each airfield is presented in the following sections of this report.

ROBERTSFIELD INTERNATIONAL AIRPORT

1. VOR Equipment

The existing VOR is a very early WILCOX model. Although long overdue for replacement, the system continues to function well and recently passed its flight inspection tests. Installation of a modern SEL VOR is nearing completion. This system could be commissioned around mid-April with the assistance of an SEL Equipment Commissioning Engineer. Presently there is no provision for Remote Monitoring and Control of the SEL VOR.

Recommendations:

1. The services of an SEL Commissioning Engineering should be organized soon to complete this installation.

2. The Remote Monitoring and Control System can be acquired under the DME procurement program. The system can serve both the VOR and the DME. This is however not an urgent OAU support consideration.

3. There is not an urgent requirement for battery back-up power for the VOR/DME. The entire system is presently predicated on a 15-second start-up of the emergency diesel generator.

4. Power stabilizers are recommended for the VOR/DME and ILS installations.

2. Distance Measuring Equipment (DME)

The existing DME equipment built by ITT is very old and beyond economic repair. The lack of a DME at RIA is a definite factor in causing approach delays and inconvenience.

Recommendations:

1. A new dual 1000 watt DME system should be installed as quickly as possible. The frequency will remain as presently assigned (1172 MHz).

2. The new dual DME equipment should be collocated with the SEL VOR presently being installed.

3. A larger capacity air conditioner should be installed in the VOR shelter, to handle the addition of the DME system.

4. The DME procurement should be expanded to include Remote Monitoring and Control capability to serve both the SEL VOR (Located nearby) and the new dual DME system. This will be further discussed with the selected DME supplier.

3. Instrument Landing System (ILS)

The existing AIL ILS system is in good condition and functioning well. However, since this is the principal landing Navigational Aid, a comprehensive spares compliment must be maintained. Without such, the system could be out of service at a moment's notice and safety compromised.

The Glide Slope and localizer systems are in particularly good condition. The 75mc outer and middle marker beacons require new batteries for their integral back-up power system. The Low Frequency marker Foxtrot Romeo (FR) is a modern beacon manufactured by Standard Radio and Telephone AB a Swedish company of ITT. The system is presently out of service awaiting crystals for the newly assigned frequency of 263 KHz. Special action to expedite delivery of the crystal has been arranged by the writer and RIA Communications staff.

The FR beacon is in an unusual location. Usual practice is to collocate LF outer marker (or compass locator) beacons with the 75mc fan marker beacon. This is not pressing requirement at RIA,

....3

but relocation of FR to the outer marker should be planned for the future.

Recommendations:

1. Procurement of a "scrubbed down" list of essential spares for the ILS should be implemented. Such a list will be provided under separate cover to the AID Mission by the writer.

2. Plans should be made for later collocation of the FR LF beacon with the 75mc Outer Marker. This is not a requirement for OAU preparations. There will probably be a need for a new shelter and antenna

4. Non-Directional Beacon (NDB)

Since RIA will have VOR/DME equipment, the need for the NDB beacon could diminish. Most of the traffic into RIA is VOR/DME equipped.

A possible reason to retain NDB equipment at RIA would be to serve some of the smaller aircrafts from Spriggs - Payne that have only ADF equipment.

The present NDB Mike Oscar (MO) at RIA is quite old for Pan Am/ Aerocomm equipment and would normally be replaced. The system however is functioning well.

Recommendations:

1. If sufficient funds are available consistent with the proposed priority schedule, the MO beacon could sensibly be replaced. A 500 Watt NDB would be preferred. This replacement is however not required for the OAU preparations program.

5. ATC Tape Recorder

RIA requires at least 16 channel ATC recording capability. This system is important to future flight safety in the event of an accident. Without it, diagnosis of vital factors in accident is impossible. A suitable 20 channel recorder has been identified for this purpose.

Recommendations:

1. The 20 channel Dictaphone recorder should be procured as soon as possible to bring RIA into compliance with ICAO requirements.

6. Runway Visual Range (RVR) Transmissometer

The RVR Transmissometer at RIA is a very early model and is now completely unreliable. High failure rates and instability in the detector circuits make calibration difficult. From a flight safety point of view, RVR readouts should not be passed to pilots unless they can be trusted and subject to accurate and stable calibration.

Recommendations:

1. A new RVR System should be procured and installed in the existing touchdown zone location. The writer and Victor Thomas will recommend a Supplier for this equipment shortly.

2. The cable from the Transmissometer site to the Control Tower should be replaced. The existing cable has suffered deterioration and is another source of instability in the system performance.

SPRIGGS-PAYNE AIRPORT

1. NDB Beacon

The NDB is located off the end of runway 05. It is accessible via a few minutes drive from the airport.

The transmitter is an early type RM557 vacuum tube system built by Phillips of Toronto, Canada. The Spriggs-Payne NDB is functioning but should be replaced by more modern equipment. Spare parts are becoming impossible to obtain for the Phillips equipment, and reliability is generally poor.

The shelter is of substantial concrete construction and can be reworked to support the new beacon equipment.

The Antenna tower can similarly be renovated for use with the new equipment, saving time and money.

Recommendations:

1. Procure a new solid state NDB with an output power of at least 300 watts. The equipment should employ modular redundant failure mode design, whereby failures reduce output power rather than shut down the station. A new center fed "T" wire antenna will be installed with the new NDB system.

2. Rehab the existing shelter generally as follows:

   (i) Block off existing ventilation holes in the wall.

   (ii) Install a 10000 BTU airconditioner primarily to control humidity. However ambient temperature will further enhance reliability.

   (iii) Install a new power input box and circuit breaker panel.

   (iv) Install a new strong door, preferably of metal construction and a good quality padlock and hasp.

   (v) Paint interior and exterior of shelter building (White color suggested).

3. The frequency for the new beacon should be unchanged (315 KHz). The two letter identification is SM. The writer and RIA Communications will investigate new ICAO requirements to determine the need for three letter ID coding. This would probably insert the letter L (Liberia) before the existing two letter code.

....6

2. Spriggs-Payne to RIA Communications Link

Liberian Telecommunications Corporation has previously indicated that a telephone circuit can be provided between Spriggs-Payne and RIA. Earlier, there was a VHF/FM radio link between the two control towers using Motorola transceivers. These transceivers were found to be beyond repair. However, the Yagi directional antenna is still in good condition and pointed to RIA Control Tower.

Inter-tower ATC liaison between Spriggs-Payne and RIA would be a definite asset to safety of flight operations.

Recommendations:

1. Proceed with instructions to LTC to implement the telephone line circuit between Spriggs-Payne and RIA Control Towers.

2. Procure two pairs of 20 to 50 watts VHF/FM Transmitters & Receivers for implementing a full duplex link via the existing antenna.

3. For standardization purposes, COMCO should be checked for suitable equipment. Several other suppliers including Motorola are available. The writer and RIA Communications department (Mr. Victor Thomas) will make recommendations on this item shortly.

The frequencies previously assigned to this function are:

ROB TX	-	Spriggs RX	162.9 MHz
Spriggs TX	-	ROB RX	168.65 MHz

3. Procure an interface that will multiplex a 50-band Teletype channel on the same VHF circuit. Voice and TTY would be simultaneously available.

3. Rotating Beacon

There is a definite need for a Rotating Beacon (Light) for Spriggs-Payne Airport. This relatively inexpensive visual aid will assist pilots in locating the airport and safely approaching the landing potters at night. Since this item effe[illegible] Navigation and would enhance safety during the OAU, it is included in this report.

Recommendations:

1. Procure a medium power rotating beacon and investigate the practicality of installing it on the roof of the Control Tower at Spriggs-Payne Airport.

   Advice on prospective suppliers and cost will be forwarded to A.I.D. and RIA Communications as soon as possible.

GREENVILLE AIRSTRIP

NDB Beacon

The NDB at Greenville is conveniently located close to the Terminal building adjacent to the runway. The beacon was found to be of identical design to that at Spriggs-Payne, but was unserviceable. Repairs are presently underway. Replacement of the transmitter and rehab of the shelter and antenna are required.

Recommendations:

1. An identical replacement and rehab program to that recommended at Spriggs-Payne should be implemented.

2. Station frequency will be 387 KHz with two letter ID code GE.

HARPER (CAPE PALMAS) AIRSTRIP

NDB Beacon

The NDB at Harper is located about 50 yards from the Airstrip. The design is identical to the Spriggs-Payne system except that a Center fed T wire antenna is used. The original tower collapsed following insulator mounting failure. The T antenna is satisfactory, but higher masts would be preferred. The beacon was functioning but the modulation depth was excessive causing distortion of the ID signal. This was satisfactorily re-adjusted during the visit.

Recommendations:

1. Replace the transmitter and rehab the shelter as recommended for the Spriggs-Payne system.
2. Replace the antenna poles by 60 foot types.
3. Station frequency will be 324 KHZ with two letter ID code CP.

ZWEDRU (TCHIEN) AIRSTRIP

NDB Beacon

The NDB beacon at Zwedru is located off the end (but not quite in line) with the runway. The two mile trip requires a car for access. The system is identical to the Spriggs-Payne system. From the air, a carrier was detected but no modulation. Upon inspection it was found that the IDENT Keyer Motor was frozen. Power was disconnected from the motor and the beacon carrier restored.

Recommendations:

1. An identical replacement and rehab program to that recommended for the Spriggs-Payne system.

2. Station frequency will be 342 KHZ with two letter ID code TN.

VOINJAMA AIRSTRIP

NDB Beacon

The NDB at Voinjama had not previously been visited by Victor Thomas. However, the Charter Pilot Bill Riley knew of the approximate location. Following a short aërial search the beacon was found practically obscured by tall trees and heavy vegetation. The beacon is on the top of a small hill some eight miles from the Airstrip. The airstrip is completely unattended. No prior communications had been confirmed concerning our visit, however Mr. Remo Garufi, the A.I.D. Director had requested a message be sent.

Several low passes were made over the town to alert someone to our need for assistance with transport. Approximately 15 minutes after landing and waiting in an open wooden "Terminal Building" we were pleased to be visited by Mr. Daniel Goe of the A.I.D. Agricultural Station. Mr. Goe was extremely helpful in driving us into Voinjama and enquiring as to the exact location of the beacon.

The beacon is on top of the hill opposite the Coffee Plantation and factory. The key to the shelter is held by the factory and we were shown the way by Mr. Moneba Ballajan, one of the employees.

It was found that what had once been small trees, had now completely grown through and beyond the top of the center fed T wire antenna. During wet weather, this would have shorted the antenna and damaged the transmitter. Additionally, the trees are so large as to shield the antenna from functioning properly.

The shelter was a poor quality building, but dry and locked.

The transmitter was found to be a very old dual Aerocom 100-XL Serial No. 266. Some tubes were out of their sockets (octal WWII vintage) and the power breakers were switched off.

We concluded that there was nothing useful for a future NDB system and that a completely new site was needed.

Recommendations:

1. Procure a completely new 300 Watt NDB, shelter and 60 foot T wire antenna.

2. Select a completely new site having the following features:

   (i) Relatively high, clear terrain.

   (ii) Availability of reliable electrical power.

Note: A fairly high hill just beyond the buildings of the town was noted. This hill already has a communications tower located upon it. Mr. Daniel Goe suggested we investigate the practicality of this site since it does have suitable electrical power available.

3. Station frequency will be 400 KHz with a new ID code of VA recommended.

Note: The old NDB was ex RIA equipment having code RL. New NOTAMS and application will be required for the VA code assignment.

LIBERIAN NAVIGATION AIDS IMPROVEMENT PROGRAM

PRIORITY SEQUENCE

1. ILS Spare Parts for RIA
2. Dual DME System for RIA
3. 20 Channel Recorder for RIA
4. RIA/Spriggs NHF Radio Link
5. Rotating Beacon for Spriggs-Payne
6. Voinjama NDB
7. Zwedru NDB
8. Spriggs-Payne NDB
9. Harper NDB
10. Greenville NDB
11. RIA RVR System
12. RIA NDB

ANNEX C

ITEMIZED TECHNICAL/EQUIPMENT LIST

ITEM 1/	DESCRIPTION	QUANTITY	ESTIMATED COST 2/ ($US) CIF MONROVIA
1	Dual Distance Measuring Equipment (DME)	1	100,000
2	Instrument Landing System (ILS) Spare/Repair Parts	Comprehensive lot	70,000
3	VHF/FM Transmitters and Receivers	2 pairs	30,000
4	20-Channel ATC Recorder System	1	30,000
5	Remote Monitoring and Control System	1	20,000
6	Rotating Airport Beacon	1	5,000
7	Non-Directional Navigational Beacons	6	160,000
8	Contingencies and Other Costs	-	25,000
	Estimated Total Cost		$440,000

1/ Includes recommended spare parts where not specifically stated.

2/ Cost of equipment installation, insurance and freight included.

ANNEX D

INITIAL ENVIRONMENTAL EXAMINATION

Project Location: - Six major airports throughout Liberia.

Project Title: - Improved Navaids for principal airports in Liberia.

Funding: - US $440,000

Life of Project: - Eight years commencing February 1,1979.

IEE Prepared by: - Howard V. Guiot, Chief Engineer,USAID/Liberia
J.R. Marchant - Staff Engineer
Pan American Technical Services,Inc.

ENVIRONMENTAL ACTION RECOMMENDED:

The Project has little or no adverse environmental, social, ecological nor public health impact in the project area. We recommend a negative determination for the Project.

Concurrence:

Date:

31 January 1979

Mission Director

Assistant Administor/Director Decision

Date:

INITIAL ENVIRONMENTAL EXAMINATION

1. Description of Project Area and Environment

The project area encompasses the entire territory of Liberia.

GENERAL FEATURES

The Republic of Liberia is located on the west coast of Africa, between 4° and 9° north latitude and 7° to 11° west longitude. The nation's territory encompasses approximately 43,000 square miles, with over 350 miles of coastline on the Atlantic Ocean and extending inland from the ocean to distances varying between 100 and 170 miles. Liberia is bounded to the northwest by Sierra Leone, to the north by Guinea and to the east by the Ivory Coast.

It is estimated that the population of Liberia is about 1,750,000. Approximately 13 percent of this population, or some 220,000 people reside in Monrovia, the nation's capital and largest city.

Four major physiographic zones form distinctive belts of elevation and relief extending from the coastline inland. The Liberia coast is characterized by the effects of a powerful surf which has produced an even coastline along which active sand beaches separate coastal lagoons from the sea and surf formed bars occuring at the mouths of rivers. A few points along the shoreline such as Greenville, Cape Mesurado and Cape Palmas have palisades directly fronting the ocean.

Averaging 25 miles in depth, the coastal plain attains an elevation of between 30 and 100 feet above sea level. Its surface is flat or very gently rolling with a few isolated rising over 150 feet.

Major rivers cross the plain in broad meanders which become wider near the shoreline and merge with coastal lagoons and mangrove swamps.

The inner margin of the coastal plain is marked by transition to a more rugged terrain of rolling hills with a general elevation of 200 to 500 feet. Abrupt elevation changes and waterfalls along major streams signify the beginning of a plateau and mountain region which extends as much as 80 miles inland in width. The general aspect of this belt is that of a dissected plateau having an elevation of 600 to 1,000 feet above sea level. This surface is crossed by several low mountain which rise an additional 500 to 800 feet above the surrounding terrain. Hillsides normally have a convex form which streams occupying V-shaped valleys characterized by small pattern is quite intricate with closely spaced streams and valleys.

Due to its proximity to the equator and the influences of prevailing currents, the climate of Liberia is tropical, with two distinct seasons. These are the wet season, which occures normally between May and November, and the dry season which lasts for the remainder of the year and includes the "Harmattan" period, noted for low humidity and associated drying affects.

Both rainfall and temperature vary appreciably with respects to coastal proximity. Average monthly rainfall records for Robertsfield, Greenville, Harper, Zwedru, Voinjama and Spriggs-Payne vary from 80 inches to as high as 200 inches.

2. Environmental Impacts

The various navigation and communication systems involved in this program are modern electronic equipment, fed from locally available electrical power. No diesel generators are included, resulting in no noise or pollution impact. The systems are entirely silent and clean.

Since navigation beacons are important to the safety of aircraft operations, they contribute to the useful development of air transportation and its benefits in communications aspects.

It has generally been demonstrated, that an airport provides a stimulus to the locality it serves in terms of social, economic and cultural benefits.

Air Transport helps bridge the isolation of communities, bringing trade, education, communication, medical assistance from well developed sources.

The implementation of reliable navigation aids, especially at smaller outlying stations, will encourage aviation links to those communities and help safeguard the lives of pilots and passengers.

In situations requiring urgent medical evacuation from stations such as Voinjama and Zwedru during the rainy season, a reliable navigation beacon could contribute to saving a life.

IMPACT IDENTIFICATION AND EVALUATION FORM

Impact Areas and Sub-areas	Impact Identification and Evaluation
A. LAND USE	
1. Change the charger of the land through.	
a. Increasing the population	N
b. Extracting natural resources	N
c. Land Clearing	N
d. Changing soil character	N
2. Altering natural defenses	N
3. Foreclosing important uses	N
4. Jeopardizing man or his works	N
5. Other factors	
B. WATER QUALITY	
1. Physical state of water	N
2. Chemical & biological states	N
3. Ecological balance	N
4. Other factors	

N-No environmental impact
L-Little environmental impact
M-Moderate enviornmental impact
H-High enviornmental impact
U-Unknown environmental impact

IMPACT IDENTIFICATION AND EVALUATION FORM - 2

C. ATMOSPHERIC

1. Air Additives _____ N

2. Air pollution _____ N

3. Noise pollution _____ N

4. Other factors

_____ _____

_____ _____

D. NATURAL RESOUCES

1. Diversion,altered use of water _____ N

2. Dilution of cultural traditions _____ N

3. Other factors _____

E. CULtural

1. Altering physical symbols _____ N

2. Dilution of cultural traditions _____ N

3. Other factors _____

Ethics _____ M

IMPACT IDENTIFICATION AND EVALUATION FORM - 3

F. SOCIO-ECONOMIC

1. Changes in economic/employment patterns _____ N
2. Changes in population _____ N
3. Changes in culture patterns _____ N
4. Other factors _____
   Agricultural Activity _____ H
   _____ _____

G. HEALTH

1. Changing a natural environment _____ N
2. Eliminating an ecosystem element _____ N
3. Other factors _____
   Accessibility to medical attention _____ M

H. GENERAL

1. International impacts _____ N
2. Controversial impacts _____ N
3. Larger program impacts (positive) _____ N

_____ _____

_____ _____

I OTHER POSSIBLE IMPACTS (not listed above)

_____ _____

_____ _____

_____ _____

ANNEX E

REPUBLIC OF LIBERIA
MINISTRY OF PLANNING AND ECONOMIC AFFAIRS
P. O. BOX 9011
MONROVIA

Date Rec'd 1/31/79
ACTION: CP
INFO: D/DD
PR
CON
RF

OFFICE OF THE DEPUTY MINISTER

MPEA-10/D-7/'79

January 31, 1979

Mr. Director:

I have the honour to herein submit a formal request, through your Agency, from the Government of Liberia, to the Government of the Unite States of America for assistance in the renovation and improvement of our navigational equipment and overall capability in this area. This request is motivated by our objectives of improved travel to and from both our international and principal domestic airports.

As regards the kind of assistance required, we would like some technical assistance, as well as the following:

(a) Training and civil construction for the rehabilitation and renovation of existing navigational aids;

(b) Procument and installation of new navigational equipment and aids;

(c) Associated navigational aids test and emergency services equipment; and

(d) Spare and repair parts.

These are all necessary "support-type" inputs critical to the achievement of the objectives identified earlier. Moreover, with the ensuing OAU Summit planned for the middle of the year, and the increased demands that this is expected to place on our existing navigational capability, we would be pleased if some favourable consideration could be accorded this request and it be treated with a certain amount of urgency.

Such assistance as we have described, should, we estimate, involve a total of about $600,000. The Government of Liberia is prepared to provide approximately $160,000 of this, which includes primarily costs borne on an "in-kind" basis. The Ministry of Commerce will be the designated implementing Agency.

We would appreciate receiving an early response on this matter.

With kind regards,

Sincerely yours

Samuel D. Greene
ACTING MINISTER

The Director
USAID Mission
Monrovia, Liberia

" ANNEX F "

TELEGRAM

AMEMBASSY MONROVIA

Proj file

ACTION: AID
INFO: CHG A/DCM ECON CHRON

UNCLASSIFIED
Classification

STATE 002695
5JAN79 0837
Due 1/10/79

ACTION: CP
INFO: D/DD
PR
CDN
CHRON
RF

DE RUEHC #2695 0050745
ZNR UUUUU ZZH
R 050156Z JAN 79
FM SECSTATE WASHDC
TO AMEMBASSY MONROVIA 8252
BT
UNCLAS STATE 002695

ACTION/FILE COPY
RETURN TO C & R

AIDAC

E.O. 12065: N/A

TAGS:

SUBJECT: NAVIGATIONAL AIDS AT PRINCIPAL AIRPORTS, PROJECT 669-0159.

REFS: A) STATE 327733, B) STATE 298041

1. FOLLOWING INFORMATION BEING PROVIDED TO HELP CLARIFY QUESTIONS RAISED IN RECENT TELECONS BETWEEN USAID AND AFR/CAWA.

2. REF B DATED NOVEMBER 25 APPROVED PID AS MODIFIED AND AUTHORIZED USAID PROCEED WITH PREPARATION OF PP.

3. USAID SHOULD CONSIDER AUTHORITY DELEGATED TO MISSION DIRECTORS TO APPROVE PROJECTS OF DOLS 500,000 OR LESS AS BEING APPLICABLE TO SUBJECT PROJECT. ASSUME USAID WILL HAVE ACCESS TO LEGAL ADVICE IF NEEDED RE SECTION 106 JUSTIFICATION, PER PARA 3 REF B.

4. ALLOTMENT OF FUNDS WILL BE MADE PROMPTLY BY AID/W UPON RECEIPT OF REQUEST FROM USAID INDICATING THAT PP HAS BEEN AUTHORIZED AND MISSION PREPARED TO EXECUTE PRO AG. VANCE

ANNEX F

VAN

KJL

UNCLASSIFIED
Classification

50161-101

OPTIONAL FORM 151
(Formerly FS-511)
January 1973
Dept. of State

TELEGRAM

AMEMBASSY MONROVIA

NAVAIDS PROJ

ACTION: USAID
INFO: CHG A/DCM ECON CHRON

UNCLASSIFIED
Classification

STATE: 327733
2 JAN 79 1133
Due 1/5/79

ACTION: CP
INFO: D/DD
CON
PR
CON
CHRON
RF

DE RUEHC #7733 3638958
ZNR UUUUU ZZH
R 3[illegible]Z DEC 78
FM SECSTATE WASHDC
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SUBJECT: CONGRESSIONAL NOTIFICATION FOR NAVIGATIONAL AIDS AT PRINCIPAL AIRPORTS PROJECT, 669-0159

1. NO OBJECTIONS RAISED BY CONGRESS TO SUBJECT CN DURING WAITING PERIOD ENDED DECEMBER 26.

2. PIO/T FOR NAVIGATIONAL AIDS SPECIALIST IN PROCESS. ETA O/A JANUARY 8, 1979. NEWSOM
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ANNEX G

NAN

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UNCLASSIFIED
Classification

OPTIONAL FORM NO. 10
MAY 1962 EDITION
GSA GEN. REG. NO. 27
5010-107

UNITED STATES GOVERNMENT

Memorandum

TO : Mr. Remo Ray Garufi, Director

DATE: January 24, 1979

FROM : Bernard E. Donnelly, General Engineering Advisor

SUBJECT: Liberia: Improved Navigational Aids at Principal Airports: FAA 1961, as Amended, Section 611(a) Determination

Based upon the information contained in the subject Project Paper, specifically the Technical/Engineering Analysis and the Financial Plan, it appears there are adequate engineering plans in order to execute the project, and a reasonably firm estimate of the cost to the United States for the subject project assistance.

c.c.: William Darkins, Coordinator
Navaids Project Review Committee

PROJECT CHECKLIST

Listed below are, first, statutory criteria applicable generally to projects with FAA funds, and then project criteria applicable to individual fund sources: Development Assistance (with a sub-category for criteria applicable only to loans): and Security Supporting Assistance funds.

A. GENERAL CRITERIA FOR PROJECT.

1. App. Unnumbered; FAA Sec. 653(b)

(a) Describe how Committees on Appropriations of Senate and House have been or will be notified concerning the project; (b) is assistance within (Operational Year Budget) country or international organization allocation reported to Congress (or not more than $1 million over that figure plus 10%)?	(a) A Congressional Notification has been sent. (b) Yes
2. FAA Sec. 611(a)(1). Prior to obligation in excess of $100,000, will there be (a) engineering, financial, and other plans necessary to carry out the assistance and (b) a reasonably firm estimate of the cost to the U. S. of the assistance?	Yes, See Annex I. (FAA Sec. 611(a) Determination).
3. FAA Sec. 611(a)(2). If further legislative action is required within recipient country, what is basis for reasonable expectation that such action will be completed in time to permit orderly accomplishment of purpose of the assistance?	No recipient country legislative action is required.
4. FAA Sec. 611(b); App. Sec. 101. If for water or water-related land resource construction, has project met the standards and criteria as per Memorandum of the President dated Sept. 5, 1973 (replaces Memorandum of May 15, 1962; see Fed. Register, Vol 38, No. 174, Part III, Sept. 10, 1973)?	N/A

5. FAA Sec. 611(a). If project is capital assistance (e.g., construction), and all U. S. assistance for it will exceed $1 million, has Mission Director certified the country's capability effectively to maintain and utilize the project?	N/A
6. FAA Sec. 209, 619. Is project susceptible of execution as part of regional or multilateral project? If so why is project not so executed? Information and conclusion whether assistance will encourage regional development programs. If assistance is for newly independent country, is it furnished through multilateral organizations or plans to the maximum extent appropriate?	No.
7. FAA Sec. 601 (a); (and Sec. 201 (f) for development loans). Information and conclusions whether project will encourage efforts of the country to: (a) increase the flow of international trade; (b) foster private initiative and competition; (c) encourage development and use of cooperatives, credit unions, and savings and loan associations; (d) discourage monopolistic practices; (e) improve technical efficiency of industry, agriculture and commerce; and (f) strengthen free labor unions.	N/A
8. FAA Sec. 601(b). Information and conclusion on how project will encourage U. S. private trade and investment abroad and encourage private U. S. participation in foreign assistance programs (including use of private trade channels and the services of U. S. private enterprise).	Private trade will be encouraged through the procurement of project goods of U.S. source and origin.
9. FAA Sec. 612(b); Sec. 636(h). Describe steps taken to assure that, to the maximum extent possible, the country is contributing local currencies to meet the cost of contractual and other services, and foreign currencies owned by the U. S. are utilized to meet the cost of contractual and other services.	The GOL will provide a minimum of 25% of total project funding.

10. FAA Sec. 612(d). Does the U. S. own excess foreign currency and, if so, what arrangements have been made for its release?	No.

B. FUNDING CRITERIA FOR PROJECT

1. Development Assistance Project Criteria

a. FAA Sec. 102(c); Sec. 111; Sec. 281a. Extent to which activity will (a) effectively involve the poor in development, by extending access to economy at local level, increasing labor-intensive production, spreading investment out from cities to small towns and rural areas; and (b) help develop cooperatives, especially by technical assistance, to assist rural and urban poor to help themselves toward better life, and otherwise encourage democratic private and local governmental institutions?	(a) N/A (b) N/A
b. FAA Sec. 103, 103A, 104, 105, 106, 107. Is assistance being made available: (include only applicable paragraph -- e.g., a, b, etc.-- which corresponds to source of funds used. If more than one fund source is used for project, include relevant paragraph for each fund source.)	FAA Sec. 106(a), paragraph (5).
(1) (103) for agriculture, rural development or nutrition; if so, extent to which activity is specifically designed to increase productivity and income of rural poor; (103A) if for agricultural research, is full account taken of needs of small farmers;	N/A
(2) (104) for population planning or health; if so, extent to which activity extends low-cost, integrated delivery systems to provide health and family planning services, especially to rural areas and poor;	N/A

(3) (105) for education, public administration, or human resources development; if so, extent to which activity strengthens nonformal education, makes formal education more relevant, especially for rural families and urban poor, or strengthens management capability of institutions enabling the poor to participate in development;	N/A
(4) (106) for technical assistance, energy, research, reconstruction, and selected development problems; if so, extent activity is:	Yes
(a) technical cooperation and development, especially with U. S. private and voluntary, or regional and international development, organizations;	N/A
(b) to help alleviate energy problem;	N/A
(c) research into, and evaluation of, economic development processes and techniques;	N/A
(d) reconstruction after natural or manmade disaster;	N/A
(e) for special development problem, and to enable proper utilization of earlier U. S. infrastructure, etc., assistance;	Yes. Prior assistance given under AID Loans 669-H-017 and 669-H-017A.
(f) for programs of urban development, especially small labor-intensive enterprises, marketing systems, and financial or other institutions to help urban poor participate in economic and social development.	N/A

(5) (107) by grants for coordinated private effort to develop and disseminate intermediate technologies appropriate for developing countries.	N/A
c. FAA Sec. 110(a); Sec. 208(e). Is the recipient country willing to contribute funds to the project, and in what manner has or will it provide assurances that it will provide at least 25% of the costs of the program, project, or activity with respect to which the assistance is to be furnished (or has the latter cost-sharing requirement been waived for a "relatively least-developed" country)?	Yes. The project agreement will require a GOL contribution at a minimum of 25% of the cost of this project..
d. FAA Sec. 110(b). Will grant capital assistance be disbursed for project over more than 3 years? If so, has justification satisfactory to Congress been made, and efforts for other financing?	No
e. FAA Sec. 207; Sec. 113. Extent to which assistance reflects appropriate emphasis on; (1) encouraging development of democratic, economic, political, and social institutions; (2) self-help in meeting the country's food needs; (3) improving availability of trained worker-power in the country; (4) programs designed to meet the country's health needs; (5) other important areas of economic, political, and social development, including industry; free labor unions, cooperatives, and Voluntary Agencies; transportation and communication; planning and public administration; urban development, and modernization of existing laws; or (6) integrating women into the recipient country's national economy.	(1) N/A (2) N/A (3) Will upgrade technical skills of Liberians in utilizing and maintaining project equip. and facilities. (4) N/A (5) Safer air travel to and from principal domestic and international airports. Safer/more secure movement of commercial goods and services within and outside the country, e.g. air cargo, mail, emergency evacuation of residents of the areas. Improvement of reliability of navaids systems at principal domestic and international airports. (6) N/A

f. FAA Sec. 281(b). Describe extent to which program recognizes the particular needs, desires, and capacities of the people of the country; utilizes the country's intellectual resources to encourage institutional development; and supports civic education and training in skills required for effective participation in governmental and political processes essential to self-government.	The project is in support of GOL's air transport sector goals, articulated in the National Socio-Economic Development Plan (1976-80).
g. FAA Sec. 201(b)(2)-(4) and -(8); Sec. 201(e); Sec. 211(a)(1) - (3) and - (8). Does the activity give reasonalbe promise of contributing to the development: of economic resources, or to the increase of productive capacities and self-sustaining economic growth; or of educational or other institutions directed toward social progress?	Project will contribute to GOL economic development activities and goals.
Is it related to and consistent with other development activities, and will it contribute to realizable long-range objectives?	Yes.
And does project paper provide information and conclusion on an activity's economic and technical soundness?	Yes.
h. FAA Sec. 201(b)(6); Sec. 211(a)(5), (6). Information and conclusion on possible effects of the assistance on U. S. economy, with special reference to areas of substantial labor surplus, and extent to which U. S. commodities and assistance are furnished in a manner consistent with improving or safeguarding the U. S. balance-of payments position.	All of the project's goods are manufactured in the U.S. and will be procured from U.S. sources. Some project planning technical assistance has already been procured from U.S. sources.

2. Development Assistance Project Criteria (Loans only)

a. FAA Sec. 201(b)(1). Information and conclusion on availability of financing from other free-world sources, including private sources within U. S.	N/A

b. FAA Sec. 201(b)(2); 201(d). Information and conclusion on (1) capacity of the country to repay the loan, including reasonableness of repayment prospects, and (2) reasonableness and legality (under laws of country and U. S.) of lending and relending terms of the loan.	N/A
c. FAA Sec. 201(e). If loan is not made pursuant to a multilateral plan, and the amount of the loan exceeds $100,000, has country submitted to AID an application for such funds together with assurances to indicate that funds will be used in an economically and technically sound manner?	N/A
d. FAA Sec. 201(f). Does project paper describe how project will promote the country's economic development taking into account the country's human and material resources requirements and relationship between ultimate objectives of the project and overall economic development?	N/A
e. FAA Sec. 202(a). Total amount of money under loan which is going directly to private enterprise, is going to intermediate credit institutions or other borrowers for use by private enterprise, is being used to finance imports from private sources, or is otherwise being used to finance procurements from private sources?	N/A
f. FAA Sec. 620(d). If assistance is for any productive enterprise which will compete in the U. S. with U. S. enterprise, is there an agreement by the recipient country to prevent export to the U. S. of more than 20% of the enterprise's annual production during the life of the loan?	N/A

3. Project Criteria Solely for Security Supporting Assistance

N/A

FAA Sec. 531. How will this assistance support promote economic or political stability?

4. Additional Criteria for Alliance for Progress

N/A

(Note: Alliance for Progress projects should add the following two items to a project checklist.)

a. FAA Sec. 251(b)(1),-(8). Does assistance take into account principles of the Act of Bogota and the Charter of Punta del Este; and to what extent will the activity contribute to the economic or political integration of Latin America?

b. FAA Sec. 251(b)(8); 251(h). For loans, has there been taken into account the effort made by recipient nation to repatriate capital invested in other countries by their own citizens? Is loan consistent with the findings and recommendations of the Inter-American Committee for the Alliance for Progress (now "CEPCIES," the Permanent Executive Committee of the OAS) in its annual review of national development activities?

STANDARD ITEM CHECKLIST

Listed below are statutory items which normally will be covered routinely in those provisions of an assistance agreement dealing with its implementation, or covered in the agreement by exclusion (as where certain uses of funds are permitted, but other uses not).

These items are arranged under the general headings of (A) Procurement, (B) Construction, and (C) Other Restrictions.

A. Procurement

1. FAA Sec. 602. Are there arrangements to permit U. S. small business to participate equitably in the furnishing of goods and services financed?	Yes. All goods must be of U.S. sources and origin. All services may be of U. S. source, also.
2. FAA Sec. 604 (a). Will all commodity procurement financed be from the U. S. except as otherwise determined by the President or under delegation from him?	From the U. S.
3. FAA Sec. 604 (d). If the cooperating country discriminates against U. S. marine insurance companies, will agreement require that marine insurance be placed in the U. S. on commodities financed?	N/A
4. FAA Sec. 604 (e). If offshore procurement of agricultural commodity or product is to be financed, is there provision against such procurement when the domestic price of such commodity is less than parity?	N/A
5. FAA Sec. 608 (a). Will U. S. Government excess personal property be utilized wherever practicable in lieu of the procurement of new items?	YES

6. FAA Sec. 901 (b). (a) Compliance with requirement that at least 50 per centum of the gross tonnage of commodities (computed separately for dry bulk carriers, dry cargo liners, and tankers) financed shall be transported on privately owned U. S.-flag commercial vessels to the extent that such vessels are available at fair and reasonable rates.

Yes, compliance is required in project agreement.

7. FAA Sec. 621. If technical assistance is financed, will such assistance be furnished to the fullest extent practicable as goods and professional and other services from private enterprise on a contract basis? If the facilities of other Federal agencies will be utilized, are they particularly suitable, not competitive with private enterprise, and made available without undue interference with domestic programs?

Yes

N/A

8. International Air Transport. Fair Competitive Practives Act, 1974

If air transportation of persons or property is financed on grant basis, will provision be made that U. S.-flag carriers will be utilized to the extent such service is available?

Yes.

B. Construction

1. FAA Sec. 601 (d). If a capital (e.g., construction) project, are engineering and professional services of U. S. firms and their affiliates to be used to the maximum extent consistent with the national interest?

Yes.

2. FAA Sec. 611 (c). If contracts for construction are to be financed, will they be let on a competitive basis to maximum extent practicable?

Yes.

3. FAA Sec. 620 (k). If for construction of productive enterprise, will aggregate value of assistance to be furnished by the U. S. not exceed $100 million?	N/A

C. Other Restrictions

1. FAA Sec. 201 (d). If development loan, is interest rate at least 2% per annum during grace period and at least 3% per annum thereafter?	N/A
2. FAA Sec. 301 (d). If fund is established solely by U. S. contributions and administered by an international organization, does Comptroller General have audit rights?	N/A
3. FAA Sec. 620 (h). Do arrangements preclude promoting or assisting the foreign aid projects or activities of Communist-Bloc countries, contrary to the best interests of the U. S.?	Yes. Specified in project agreement.
4. FAA Sec. 636 (i). Is financing not permitted to be used, without waiver, for purchase, long-term lease, or exchange of motor vehicle manufactured outside the U. S. or guaranty of such transaction?	N/A
5. Will arrangements preclude use of financing:	
a. FAA Sec. 114. to pay for performance of abortions or to motivate or coerce persons to practice abortions?	N/A
b. FAA Sec. 620 (g). to compensate owners for expropriated nationalized property?	N/A

c. FAA Sec. 660. to finance police training or other law enforcement assistance, except for narcotics programs?	N/A
d. FAA Sec. 662. for CIA activities?	N/A
e. App. Sec. 103. to pay pensions, etc., for military personnel?	N/A
f. App. Sec. 106. to pay U. N. assessments?	N/A
g. App. Sec. 107. to carry out provisions of FAA Sections 209 (d) and 251 (h)? (transfer to multilateral organization for lending).	N/A
h. App. Sec. 501. to be used for publicity or propaganda purposes within U. S. not authorized by Congress?	N/A

LIBERIA - COUNTRY CHECKLIST

Listed below are, first, statutory criteria applicable generally to FAA funds, and then criteria applicable to individual fund sources: Development Assistance and Security Supporting Assistance funds.

A. GENERAL CRITERIA FOR COUNTRY

1. FAA Sec. 116. Can it be demonstrated that contemplated assistance will directly benefit the needy? If not, has the Department of State determined that this government has engaged in consistent pattern of gross violations of internationally-recognized human rights?

   No. Only indirectly. This is a selected development project under FAA Section 106, involving upgrading priority navigational safety aids at principal airports, most of which are located in rural areas and surrounded by the very poor who are principally engaged in agricultural production and petty marketing. The Department has not made any determination of that nature.

2. FAA Sec. 481. Has it been determined that the government of recipient country has failed to take adequate steps to prevent narcotics drugs and other controlled substances (as defined by the Comprehensive Drug Abuse Prevention and Control Act of 1970) produced or processed, in whole or in part, in such country, or transported through such country, from being sold illegally within the jurisdiction of such country to U.S. Government personnel or their dependents, or from entering the U.S. unlawfully?

   No.

3. FAA Sec. 620(a). Does recipient country furnish assistance to Cuba or fail to take appropriate steps to prevent ships or aircraft under its flag from carrying cargoes to or from Cuba?

   No. Ships or aircraft under Liberian flag do not carry cargo to or from Cuba.

4.	FAA Sec. 620(b). If assistance is to a government, has the Secretary of State determined that it is not controlled by the international Communist movement?	Yes.
5.	FAA Sec. 620(c). If assistance is to government, is the government liable as debtor or unconditional guarantor on any debt to a U.S. citizen for goods or services furnished or ordered where (a) such citizen has exhausted available legal remedies and (b) debt is not denied or contested by such government?	No such case in host country.
6.	FAA Sec. 620(e) (1). If assistance is to a government, has it (including government agencies or subdivisions) taken any action which has the effect of nationalizing, expropriating, or otherwise seizing ownership or control of property of U.S. citizens or entities beneficially owned by them without taking steps to discharge its obligations toward such citizens or entities?	No such case in host country.
7.	FAA Sec. 620(f). App. Sec. 108. Is recipient country a Communist country? Will assistance be provided to the Democratic Republic of Vietnam (North Vietnam), South Vietnam, Cambodia or Laos?	No.
8.	FAA Sec. 620(j). Is recipient country in any way involved in (a) subversion of, or military aggression against the United States or any country receiving U.S. assistance, or (b) the planning of such subversion or aggression?	No.

9. FAA Sec. 620(j). Has the country permitted, or failed to take adequate measures to prevent the damage or destruction by mob action, of U.S. property?	No.
10. FAA Sec. 620(l). If the country has failed to institute the investment guaranty program for the specific risks of expropriation, inconvertibility or confiscation, has the AID Administrator within the past year considered denying assistance to such government for this reason?	Liberia has an Investment Guaranty Agreement with the U.S.
11. FAA Sec. 620(o); Fishermen's Protective Act, Sec. 5. If country has seized, or imposed any penalty or sanction against any U.S. fishing activities in international waters.	No
a. has any deduction required by Fishermen's Protective Act been made?	No.
b. has complete denial of assistance been considered by AID Administrator?	No
12. FAA Sec. 620(q); App. Sec. 504. (a) Is the government of the recipient country in default on interests or principal of any AID loan to the country? (b) Is country in default exceeding one year on interest or principal on U.S. loan under program for which App. Act appropriates funds, unless debt was earlier disputed, or appropriate steps taken to cure default?	(a) No. (b) No.

13.	FAA Sec. 620(s). What percentage of country budget is for military expenditures? How much of foreign exchange resources spent on military equipment? How much spent for the purchase of sophisticated weapons systems? (Consideration of these points is to be coordinated with the Bureau for Program and Policy Coordination, Regional Coordinators and Military Assistance Staff (PPC/RC).	3.7% of budget is for military expenditures. The U.S. dollar is legal tender in Liberia so all military expenditures can be considered both domestic resources and foreign exchange. Liberia is not a purchaser of sophisticated weapons.
14.	FAA Sec. 620(t). Has the country severed diplomatic relations with the United States? If so, have they been resumed and have new bilateral assistance agreements been negotiated and entered into since such resumption?	No.
15.	FAA Sec. 620 (u). What is the payment status of the country's U.N. obligations? If the country is in arrears, were such arrearages taken into account by the AID Administrator in determining the current AID Operational Year Budget?	Liberia is not in arrears in U.N. obligations.
16.	FAA Sec. 620A. Has the country granted sanctuary from prosecution to any individual or group which has committed an act of international terrorism?	No case to dat
17.	FAA Sec. 666. Does the country object on basis of race, religion, national origin or sex, to the presence of any officer or employee of the U.S. there to carry out economic development program under FAA?	No case to date
18.	FAA Sec. 669. Has the country delivered or received nuclear reprocessing or enrichment equipment, materials or technology without specified arrangements on safeguards, etc.?	No.

19. FAA Sec. 901. Has the country denied its citizens the right or opportunity to emigrate? — No.

B. FUNDING CRITERIA FOR COUNTRY

1. Development Assistance Country Criteria

a. FAA Sec. 102(c), (d). Have criteria been established, and taken into account, to assess commitment and progress of country in effectively involving the poor in development, on such indexes as: (1) small-farm labor intensive agriculture, (2) reduced infant mortality, (3) population growth, (4) equality of income distribution, and (5) unemployment. — Yes, Liberia's Four Year Development Plan focuses on agriculture, health and education delivery to the poor.

b. FAA Sec. 201(b)(5), (7) & (8); Sec. 208; 211(a)(4), (7). Describe extent to which country is:

(1) Making appropriate efforts to increase production and improve means for food storage and distribution. — The GOL is seeking self-sufficiency in rice production.

(2) Creating a favorable climate for foreign and domestic private enterprise and investment. — The GOL provides a favorable climate for both foreign and national enterprise and investment through their "open door" policy.

(3) Increasing the public's role in the development process. — The GOL promotes self-help as well as government development projects.

(4)a. Allocating available budgetary resources to development. — Twenty-five percent of GOL budget is for development projects.

(b) Diverting such resources for unnecessary military expenditure and intervention in affairs of other free and independent nations. — No.

(5) Making economic, social and political reforms such as tax collection improvements and changes in land tenure arrangements, and making progress toward respect for the rule of law, freedom of expression and of the press, and recognizing the importance of individual freedom, initiative, and private enterprise. — The GOL has become increasingly aware of the need for efficient tax collection, eradication of corruption and social development. There is freedom of press and encouragement of private enterprise reflecting Liberia's doctrine of "humanitarian capitalism".

(6) Otherwise responding to the vital economic, political and social concerns of its people, and demonstrating a clear determination to take effective self-help measures. — The GOL's "total involvement" policy calls for the association of all citizens with the national development process.

c. FAA Sec. 201(b), 211(a). Is the country among the 20 countries in which development assistance loans may be made in this fiscal year, or among the 40 in which development assistance grants (other than for self-help projects) may be made. — Yes.

d. FAA Sec. 115. Will country be furnished, in same fiscal year, either security supporting assistance, or Middle East Peace funds? If so, is assistance for population programs, humanitarian aid through international organizations, or regional programs? — No such assistance is contemplated.

2. Security Supporting Assistance Country Criteria — N/A

a. FAA Sec. 502B. Has the country engaged in a consistent pattern of gross violations of internationally recognized human rights? Is program in accordance with policy of this section?

b. FAA Sec. 531. Is the assistance to be furnished to a friendly country, organization, or body eligible to receive assistance?

c. FAA Sec. 609. If commodities are to be granted so that sale proceeds will accrue to the recipient country, have Special Account (counterpart) arrangements been made?

ID 1020-2011-721

ANNEX II

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Project Title & Number: Liberia: Improved Navigational Aids at Principal Airports (669-0159)

Life of Project: From FY 79 to FY 80
Total U. S. Funding 440,000
Date Prepared: 26 January 1979

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Program or Sector Goal: The broader objective to which this project contributes: Increased safe access by air to domestic and international markets.	**Measures of Goal Achievement:** -Increased customer and aircraft personnel confidence in navaids reliability at RIA and domestic airports. -Increased passenger and cargo service demand -Increased avoidance of aircraft hazards. -Increased avoidance of damage/loss to life and property.	-Customer interviews -RIA and Domestic Airport Agency reports -IATA, ICAO and U.S.FAA reports -Aircraft crew interviews	**Assumptions for achieving goal targets:** -GOL will continue to utilize RIA and five principal domestic airports to serve air traffic throughout the useful life of the navaids/Communication equipment furnished under the project.
Project Purpose: Upgrade and improve priority navigational aids at RIA, Spriggs-Payne, Zwedru (Tchien), Harper, Greenville and Voinjama airports.	**Conditions that will indicate purpose has been achieved:** End of project status. -DME functioning at 99.9% reliability (RIA) -Remote Monitor/Control System functioning at 99.9% reliability (RIA) -ILS functioning at 99.9% reliability (RIA) -ATC Recorder System functioning at 99.9% reliability. -VOR functioning at 99.9% reliability (Cont'd on p. 2)	-Inspections by USAID, GOL and prime contractor. -ICAO (International Civil Aviation Organization) standards.	**Assumptions for achieving purpose:** -GOL will provide the necessary budgetary support to the principal airports inorder to ensure adequate utilization and maintenance of project commodities -Navaids/Communications technicians will be sufficiently motivated to make effective use of their skills/training.
Outputs: -New DME installed at RIA -New VOR installed at RIA -Remote Control Monitoring System for DME/VOR installed at RIA -Navaids/Communications Technicans trained -ATC recorder system installed at RIA -ILS renovated, reserve spares inventoried and stored. -Rotating airport beacon installed at Spriggs-Payne. (Cont'd on P. 2)	**Magnitude of Outputs:** -Dual DME installed by June, 1979 at RIA -One VOR installed at RIA by June 1979 -One Remote Control Monitoring System installed at RIA by June 1979. -Three Navaids/Communications Technicans trained by June 1979 -One 20 ATC Channel receiver system installed at RIA by June 1979 -ILS Components and spares parts. -Two VHF Base Station Transceivers, and Two FSK Transceiver/recording Kits (Cont'd on p. 2)	-Carrier Airway bills -Site Inspections -Contractors' invoices and certificates	**Assumptions for achieving outputs:** -All inputs furnished in a timely manner. -Navaids/Communications Technicians available for training when required.
Inputs: US $ (000) USAID: $440 -DME 100 -ILS Spares 70 -VHF/FM Transceivers 30 -20 Channel Recorder system 30 -Remote Monitoring/Control System 20 -Rotating Airport Beacon 5 -HDBS 160 -Training 10 -Contingencies 15 TOTAL 440 (Cont'd on p. 2)	**Implementation Target (Type and Quantity)** -One Dual DME -Manufacturer's and Technical Experts List of ILS Spares -Two pairs of VHF/FM Transceivers -One 20 - Channel ATC Recorder -One Remote Monitoring Control System for DME/VOR -One Rotating Airport Beacon -3P/M of Training.	-Vendors and Contractor's records -Airway Bills -Site Inspection	**Assumptions for providing inputs:** -Obligations made in a timely manner.

AID 1020-20 (1-72)

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Life of Project:
From FY 79 to FY 80
Total U. S. Funding 440,000
Date Prepared: 26 January, 1979

Project Title & Number: Liberia: Improved Navigational Aids at Principal Airports (669-0159)

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Program or Sector Goal: The broader objective to which this project contributes:	Measures of Goal Achievement:		Assumptions for achieving goal targets:
Project Purpose:	Conditions that will indicate purpose has been achieved: End of project status. -VHF radio link between Spriggs-Payne/RIA functioning at 99.9% reliability. -NDB at principal airports operating at 99.9% reliability. -Creditable, navaids/communications technicans functioning at acceptable level -Spare parts/accessories inventory (Cont'd on p. 3)		Assumptions for achieving purpose:
Outputs: -NDBs installed at RIA, Spriggs-Payne, Zwedru, Voinjama, Harper and Greenville -VHF Radio Link installed between Spriggs-Payne/RIA ATC towers. -Preventative Maintenance Program adequately staffed and equipped.	Magnitude of Outputs: -Six NDBs and accessories -One Rotating Airport Beacon -Ten percent increase in existing RIA technical preventative maintenance staff.		Assumptions for achieving outputs:
Inputs: GOL: VOR 110 Preventative Maintenance Program 50 TOTAL 160	Implementation Target (Type and Quantity)		Assumptions for providing inputs:

ID 1020-28 (1-72)

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Life of Project:
From FY 79 to FY 80
Total U. S. Funding 440,000
Date Prepared: 26 January 1979

Project Title & Number: Liberia: Improved Navigational Aids at Principal Airports (669-0159)

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Program or Sector Goal: The broader objective to which this project contributes:	Measures of Goal Achievement:		Assumptions for achieving goal targets:
Project Purpose:	Conditions that will indicate purpose has been achieved: End of project status. and storage system operating at an acceptable level. -Creditable preventative maintenance program operating at acceptable level at all principal airports.		Assumptions for achieving purpose:
Outputs:	Magnitude of Outputs:		Assumptions for achieving outputs.
Inputs:	Implementation Target (Type and Quantity)		Assumptions for providing inputs: