

A.I.D. EVALUATION SUMMARY - PART I

PD-ABB-366 37370

1. BEFORE FILLING OUT THIS FORM, READ THE ATTACHED INSTRUCTIONS.
2. USE LETTER QUALITY TYPE, NOT "DOT MATRIX" TYPE.

IDENTIFICATION DATA

A. Reporting A.I.D. Unit: Mission or AID/W Office <u>USAID/MALAWI</u> (ES# _____)		B. Was Evaluation Scheduled In Current FY Annual Evaluation Plan? Yes <input type="checkbox"/> Slipped <input checked="" type="checkbox"/> Ad Hoc <input type="checkbox"/> Evaluation Plan Submission Date: FY <u>89</u> Q <u>3</u>	C. Evaluation Timing Interim <input checked="" type="checkbox"/> Final <input type="checkbox"/> Ex Post <input type="checkbox"/> Other <input type="checkbox"/>
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D. Activity or Activities Evaluated (List the following information for project(s) or program(s) evaluated; if not applicable, list title and date of the evaluation report.)

Project No.	Project /Program Title	First PROAG or Equivalent (FY)	Most Recent PACD (Mo/Yr)	Planned LOP Cost (000)	Amount Obligated to Date (000)
690-0237	Malawi Northern Corridor Project Southern Africa Regional	7/24/86	6/91	19,128	19,128

ACTIONS

E. Action Decisions Approved By Mission or AID/W Office Director	Name of Officer Responsible for Action	Date Action to be Completed
Action(s) Required 1. USAID/Malawi should process source/origin waiver for procurement of construction material from code 935.	P.D.O. McCloud	Sept. 1989
2. Maintenance of port facilities should be planned properly so that proper system is in place at completion of construction.	MOTC and Malawi Railways	Sept. 1990
3. USAID/Malawi should assist with GOM review of existing legislation concerning transport of hazardous materials on Lake Malawi.	P.D.O. McCloud and REDSO/ESA Regional Environmental officer	June 1990
4. USAID/Malawi should monitor closely remaining procurement actions, in particular contractor compliance with source/origin regulations.	P.D.O. McCloud	Ongoing
5. Lake Service tariffs should be reviewed, and where possible set to cover recurrent and future capital costs for port/shipping facilities.	MOTC and Malawi Railways	Oct. 1990
6. GOM should organize promotion of Northern Corridor Project route to stimulate its use.	MOTC and MCCL	Dec. 1990

(Attach extra sheet if necessary)

APPROVALS

F. Date Of Mission Or AID/W Office Review Of Evaluation: _____ (Month) _____ (Day) _____ (Year)

G. Approvals of Evaluation Summary And Action Decisions:

Name (Typed)	Project/Program Officer	Representative of Borrower/Grantee	Evaluation Officer	Mission or AID/W Office Director
	David McCloud	T. M. Kaunda	Indira Biswas	Carol Peasley
Signature	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>
Date	7/18/90	12-7-90	7/15/90	7/18/90

ABSTRACT

H. Evaluation Abstract (Do not exceed the space provided)

The project aims to improve Malawi's access to the coastal port of Dar-es-Salaam by providing, in conjunction with other donors, a comprehensive Northern Transport Corridor (NTC) through Malawi and Tanzania, along with the necessary linkages between road, lake, and rail transit systems. The Project is being implemented by the Malawi Government's Ministry of Transport and Communication (MOTC) and the Ministry of Works (MOW), with necessary input from Malawi Railways. This mid-term evaluation was conducted by a team consisting of the following members: USAID/Malawi Project Development Officer, REDSO/ESA Regional Engineer, USAID/Harare Regional Transport Economist, and REDSO/ESA Regional Commodities Management Officer. Findings and conclusions were based on a review of project documents and visits to project sites. The purpose of the evaluation was to assess progress toward project corrective action, and reassess financial and economic considerations raised in the Project Paper Supplement prepared in 1988.

The major findings and conclusions are:

- The purpose of the project remains valid and is achievable within the timeframe for the Project.
- Some delays in procurement are occurring but these will not impede achievement of project activities. A.I.D. financed construction work is generally on target and up to acceptable standards.
- The economic and financial viability of the NTC project depend on a number of conditions, the specifics of which can not be determined at this time with any reasonable level of accuracy. These conditions include: the opening of the Nacala line, the tariff rates to be charged along the corridor, and the acceptance of the corridor by shippers.

The evaluators noted the following lessons:

- The modified FAR method of implementing project constructions should be selected with caution, and on a case basis, as it permits only limited monitoring and control by USAID.
- To avoid procurement problems associated with host country contracting, the Mission must see that all A.I.D. regulations are understood by the host country agencies involved prior to the initiation of procurement action. One way of ensuring this is to provide some short-term technical assistance on A.I.D. procurement regulations at the outset of project implementation.

C O S T S

I. Evaluation Costs

1. Evaluation Team		Contract Number OR TDY Person Days	Contract Cost OR TDY Cost (U.S. \$)	Source of Funds
Name	Affiliation			
David McCloud	USAID/Malawi	12	-	-
John Peevey	REDSO/ESA/RIMO	12	1780	OE (REDSO)
John Chaika	USAID/Malawi	20	-	-
Benjamin Mutiti	USAID/Harare Regional Transport Economist	12	1780	OE (REDSO)
Iqbal Chaudhry	REDSO/ESA Regional Engineer	12	1780	OE (REDSO)
Mr. Tembo	GOM	12	-	-
2. Mission/Office Professional Staff Person-Days (Estimate) <u>20</u>		3. Borrower/Grantee Professional Staff Person-Days (Estimate) <u>12</u>		

A.I.D. EVALUATION SUMMARY - PART II

SUMMARY

J. Summary of Evaluation Findings, Conclusions and Recommendations (Try not to exceed the three (3) pages provided)

Address the following items:

- | | |
|--|--|
| <ul style="list-style-type: none"> • Purpose of evaluation and methodology used • Purpose of activity(ies) evaluated • Findings and conclusions (relate to questions) | <ul style="list-style-type: none"> • Principal recommendations • Lessons learned |
|--|--|

Mission or Office:

USAID/MALAWI

Date This Summary Prepared:

06/20/90

Title And Date Of Full Evaluation Report:

Mid-term Evaluation of the Northern Corridor Project (Southern Africa Regional

1. Purpose of the Activity

In order to reduce Malawi's dependence on southern routes through the Republic of South Africa for transport of surface cargo, the project aims to improve Malawi's access to the coastal port of Dar-es-Salaam by providing, in conjunction with other donors, a comprehensive Northern Transport Corridor through Malawi and Tanzania along with necessary linkages between road, lake, and rail transit systems. Five specific outputs are associated with the A.I.D. project along with the necessary linkages between road, lake, and rail transit systems: 1) upgraded facilities at the port of Chilumba, including construction of a jetty, installation of a gantry crane and forklifts, hard concrete container storage area and access road; 2) upgraded facilities at the port of Chipoka including installation of gantry crane, forklifts, workshop and access road; 3) upgraded facilities for ship repair and maintenance at Monkey Bay, including provision for a new floating platform for berthing of two ships, machine shop and workshop; 4) equipped Malawi Cargo Centers at the port of Dar-es-Salaam and at the transshipment point at Mbeya, 5) fuel carrying capacity along the corridor (railway fuel wagons and tank containers).

2. Purpose of the Evaluation and Methodology Used

This midterm evaluation is intended to assess progress toward project completion, to indicate to project management areas which may require intervention and corrective action, and to reassess financial and economic considerations raised in the project Paper Supplement prepared in 1988. During the course of the evaluation, all field sites (except Dar es Salaam and Mbeya) were visited, all major project participants were interviewed, and documentation was reviewed.

3. Findings and Conclusions

The project purpose is achievable within the current timeframe for the project.

- Planned procurement is well underway. Gantry cranes for Chipoka and Chilumba should be delivered by August 1990. Fuel tank wagons and fuel tank containers should be delivered by August, 1990. Gantry cranes for Mbeya and Dar-es-Salaam should be on site by June 1991.
- The outputs of the A.I.D.-financed construction components have been verified and are generally on target, although the installation of some equipment will occur later than the completion of works.

Three major issues were raised by the evaluation. The first concerns the procurement of materials made by one contractor from Geographic Code 935 sources in the absence of a waiver for this procurement. This situation arose largely because GOM did not inform contractors about source/origin requirements. In response to a recommendation made in the evaluation, the Mission finalized a waiver which was signed on September 19, 1989. The evaluation also recommended that the Mission issue a PIL outlining commodity procurement procedures. This document was approved and forwarded to the Ministry of Works on November 8, 1989.

Secondly, the following economic and financial issues originally raised in the 1988 Project Paper Supplement remain unresolved:

- Malawi Railways may encounter financial difficulties during the next few years which in the absence of corrective action are likely to devolve to the GOM.
- Cost savings on the Lake Malawi route may fall short of expectations.
- Large projected increases in northern corridor traffic, at least on the Lake route, may fail to materialize (perhaps because of a resumption of trade through Mozambique). It is unclear whether the GOM will be able to sustain the necessary recurrent expenditure required for the operation of project facilities.

It is important to note that although the Project's economic viability may be questioned, there has always been an acceptable political rationale for the Northern Transport Corridor Project, i.e., Malawi's desire to reduce its dependence on southern routes through the Republic of South Africa for transport of surface cargo. Given the uncertainty of reliable routes through Mozambique being reopened, the Northern Corridor route is considered the most viable alternative.

Malawi Railways' inability to handle serious accidental spills of dangerous cargo was the third issue raised by the evaluation. There is no facility for the collection and disposal of oil spills (minor or major), nor are there adequate fire fighting facilities. To address the former issue, an environmental officer from REDSO/ESA is scheduled to assess relevant legislation during the second quarter of FY90. The GOM will have to take the lead in resolving the issue of inadequate firefighting equipment.

4. Principal Recommendations

a. Construction

- (1) The GOM should commence planning for maintenance training without further delay. In addition, there should be an assessment made of the available equipment for maintenance, and a determination made about what should be procured for this purpose.
- (2) The GOM should review existing legislation related to transport of hazardous substances on Lake Malawi in accordance with the environmental impact determination made earlier by the USAID environmental officer and included in the Project Paper.

b. Procurement

- (1) USAID/Malawi should continue to maintain mission oversight of the procurement process. The process is not complete until all equipment has been delivered and installed, and suppliers paid.

- (2) USAID/Malawi should ensure that the Mission's Controller and the GOM are in agreement regarding the payment provisions of all procurement contracts, and should provide the GOM all necessary A.I.D. documentation that must be submitted by suppliers prior to payment.
- (3) USAID/Malawi should monitor GOM's certification of the Lifting Equipment's compliance with A.I.D. componentry rule, specifically in connection with the gantry cranes for Chipoka and Chilumba.

C. Economic and Financial Viability

- (1) Malawi Railways should determine recurrent costs of Project facilities, and use these as inputs to setting tariffs. Tariffs should be set to cover at least the operating costs plus replacement costs of capital infrastructure and equipment. However, if the project is viewed as an "insurance policy" and the setting of tariffs in this fashion results in underutilized facility, some form of subsidy may have to be considered to make the corridor competitive. This in effect would be an admission that the project is not viable on a purely economic basis.
- (2) The GOM should review the overall management of the corridor route, including promotion of the route and relations with private shippers and haulers, and establish some form of promotional board if appropriate.
- (3) Malawi Railways should extend its new cargo tracking system, now in its prototype stage, to include the Lake Services and the Tanzania portion of the corridor as soon as possible, so as to make the corridor as reliable as possible.

5. Lessons Learned

In addition to the two procurement-related lessons noted in the abstract of this summary, the following lesson was gleaned:

For a USAID-financed infrastructure project involving substantial engineering design and construction (as is the case in the USAID-financed component of the NTC Project), the services of a consulting design engineer should be financed by USAID rather than the host country government, to ensure that the engineer is conversant with A.I.D. regulations and accountable to A.I.D.

ATTACHMENTS

K. Attachments (List attachments submitted with this Evaluation Summary; always attach copy of full evaluation report, even if one was submitted earlier; attach studies, surveys, etc., from "on-going" evaluation, if relevant to the evaluation report.)

Full Evaluation Report

COMMENTS

L. Comments By Mission, AID/W Office and Borrower/Grantee On Full Report

The Mission concurs with the evaluation's principle recommendations. Specifically, the Mission understands and agrees that:

- (1) It is the GOM's responsibility to plan for maintenance of sites.
(The GOM has assured the Mission that it will fulfill this responsibility.)
- (2) The GOM should review existing legislation related to transport of hazardous substances.
(USAID is willing to assist the GOM with this task by providing the services of A.I.D.'s regional environmental officer.)
- (3) There is need for greater communication between USAID and GOM regarding contract provisions.

0307C

EVALUATION REPORT

MALAWI NORTHERN CORRIDOR PROJECT
(USAID Southern Africa Regional Project No. 690-0237)

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LIST OF ACRONYMS

A.I.D.	Agency for International Development
AID/W	Agency for International Development, Washington D.C. office
CBD	Commerce Business Daily
EDF	Economic Development Fund
FAR	Fixed Amount Reimbursement
GOM	Government of the Republic of Malawi
HC	Host Country
IDA	International Development Agency
KFW	Kreditanstalt fur Wiederaufbau
LOP	Life of Project
MCC	Malawi Cargo Center
MK	Malawi Kwacha
MOTC	Ministry of Transportation and Communications
MOWS	Ministry of Works and Supplies
MR	Malawi Railways
NTC	Northern Transport Corridor
ODA	Overseas Development Administration
PACD	Project Assistance Completion Date
PDO	Project Development Officer
PIL	Project Implementation Letter
PP	Project Paper
RCMO	Regional Commodities Management Office
REDSO/ESA	Regional Economic Development Services Office for East and Southern Africa
RFP	Request for Proposals
RLA	Regional Legal Officer
US	United States
USAID	United States Agency for International Development

I. EXECUTIVE SUMMARY

A. Project Data

Project Number: 690-0237
Title: Malawi Northern Corridor Project Southern Africa
Regional)
Cost: \$19,128,000 (including funding increase, 1/88)
Life of Project: 5 years (including PACD extension, 1/88)
PACD: June 30, 1991

B Background

The Southern Africa Regional Malawi Northern Corridor Project is a multi-donor activity involving AID, the World Bank (IDA), the British Overseas Development Administration (ODA), the European Development Fund (EDF), Kreditanstalt fur Wiederaufbau (KFW), and Holland. The overall project is estimated to cost approximately \$114,000,000. On the Government of Malawi (GOM) side, the Ministry of Transport and Communications (MOTC) has overall responsibility for project implementation, while the Ministry of Works and Supplies (MOWS) has specific responsibility for the construction and procurement activities.

A project amendment was approved in February, 1988, and included the following: (a) increase in project funding by \$8,628,000, to a total of \$19,128,000, and (b) extension of the PACD by one year and nine months, to June 30, 1991, to make a total five year life of project (LOP). The increased costs were due to the fact that the design engineering firm significantly underestimated the complexity and costs of the project. Further, a less competitive and more costly construction environment has developed in Malawi since the Project Paper was written. Project delays were due to the need for the consultant to modify preliminary designs, and the unexpected need to find an alternative site for the Malawi Cargo Center at Dar es Salaam, which caused a delay in the Malawi Government's ability to meet Conditions Precedent.

C. Project Objectives and Outputs

The goal of this Project is to provide Malawi with a more reliable cost effective option for international transport. The purpose is to improve Malawi's access to the coastal port of Dar-es-Salaam by providing, in conjunction with other donors, a comprehensive northern transport corridor through Malawi and Tanzania, along with the necessary linkages with road, lake and rail transit systems. This alternative transportation route is necessary given the high cost of the present route through Durban (RSA) and the long-term uncertainty of the Durban route because of political factors, and given the medium term uncertainty over the Beira and Nacala routes.

The major A.I.D.-funded project outputs are:

- upgraded dry goods and fuel facilities at the Lake Malawi ports of Chipoka and Chilumba;
- upgraded ship repair and maintenance facilities at the Lake Malawi port of Monkey Bay;
- selected movable equipment for the Malawi Cargo Centers at Dar-es-Salaam and Mbeya; and
- the provision of fuel tanktainers and railway tankers.

D. Evaluation Purpose, Study Methods and Team Composition

This midterm evaluation is intended to assess progress toward project completion, to indicate to project management areas which may require intervention and corrective action, and to reassess financial and economic considerations raised in the Project Paper Supplement prepared in 1988. During the course of the evaluation, all field sites (except Dar es Salaam and Mbeya) were visited, all major project participants were interviewed, and documentation was reviewed. The team's fieldwork was conducted from May 1 - 12, 1989. The team consisted of the following members: David E. McCloud, Team Leader and USAID/Malawi Project Development Officer; Iqbal Chaudhry, REDSO/ESA Regional Engineer; Benjamin Mutiti, USAID/Harare Regional Transport Economist; and John Peevey, REDSO/ESA Regional Commodities Management Officer. The team was also assisted by representatives of the Ministry of Transport and Communications, Malawi Railways, and Lahmeyer International (consulting engineers).

E. Summary of Evaluation Findings and Conclusions

1. General assessment

Given information available at this time, both the goal and purpose of the Project remain valid, and are achievable within the current timeframe for the Project. While there are some delays to project implementation, primarily in procurement, these are likely neither to impede completion of the overall multi-donor Northern Transport Corridor (NTC) Project, nor to require a Project Assistance Completion Date (PACD) extension of the USAID Project. However, the economic and financial viability of the NTC Project depends on a number of conditions, the specifics of which can not at this time be determined with any reasonable level of accuracy. These conditions include: the opening of the Nacala line, the tariff rates to be charged along the corridors, and the acceptance of the corridor by shippers.

2. Procurement activities

The planned procurement is well underway, and given the complexity and size of the A.I.D.-financed procurements it is to everyone's credit that considerable progress has been made toward completion of these project components. Some delays are occurring, but these will not impede achievement of project objectives nor are they expected to extend beyond the PACD. A summary of major procurement items follows:

- Slipway winches for Monkey Bay are expected to be on site and installed by September/October 1989.
- Generator sets for Chipoka and Chilumba, for which a letter of intent is just being issued, are expected to be delivered in November, 1989.
- Gantry cranes for Chipoka and Chilumba, for which contractual arrangements are just being finalized, should be delivered by June 1990.
- Fuel tank wagons and fuel tank containers, for which a RFP has been issued and solicitations are due June 30, 1989, should be delivered by August, 1990.
- Gantry cranes for Mbeya and Dar es Salaam, for which the RFP is to be issued in May, should be on site sometime between October 1990 and June 1991.

3. Construction activities

The outputs of the A.I.D.-financed construction components have been verified and are generally on target, with slight delays at Chipoka and Monkey Bay. The quality of the AID financed construction work is up to acceptable standards.

Expected civil works completion for each site are as follows:

- Chilumba, October 1989
- Chipoka, August 1989
- Monkey Bay, December, 1989

However, the installation of some equipment may be later than the completion of the civil works. Also, there are significant delays in the completion of other donor construction activities, in particular the dry goods and fuel facilities at Mbeya and Dar es Salaam, and the Ibanda - Uyole (Tanzania) road segment. However, it is expected that all components will be completed prior to the overall NTC Project expected completion date of December, 1991.

One issue is that substantial procurement of construction materials has been made by at least one contractor from Geographic Code 935 sources in the absence of a waiver for this procurement. Although the source/origin requirements were included in both the Grant Agreement and in the relevant project implementation letters (PILs), this information apparently was not passed to the contractors. A draft waiver prepared some time ago was never cleared by RLA due to "lack of specificity." This has yet to be rectified, but should be as soon as possible. A second issue is that Malawi Railways has no capability to handle serious accidental spills of dangerous cargoes which may occur on the lake. In addition, at one depot, Chipoka, there is no facility for collection and disposal of oil spills (minor or major), nor are there adequate fire fighting facilities. This second issue requires the attention of the donor community and the GOM. Finally, the off-shore accounts managed by the Government of Malawi (GOM) and established to handle foreign exchange payments to and for the construction contractors have not been managed fully in accordance with U.S. Treasury regulations. USAID/Malawi

Controller has attempted to have the GOM liquidate balances and replenish accounts on a monthly basis as required by U.S. Treasury regulations, but these procedures have not been followed. USAID/Malawi should issue a PIL to the GOM reminding them of the regulations.

4. Economic/financial assessment

The following issues, originally raised in the 1988 Project Paper Supplement, continue to be unresolved:

- 1) The project has significant budgeting implications for the GOM, and it is unclear whether the GOM will be able to sustain in particular the necessary recurrent expenditure.
- 2) Malawi Railways may encounter financial difficulties during the next few years which, in the absence of corrective action, are likely to devolve on the GOM.
- 3) Cost savings on the Lake Malawi route may fall short of expectations.
- 4) Large projected increases in northern corridor traffic, at least on the Lake route, may fail to materialize (perhaps because of a resumption of trade through Mozambique).

Although the Project's economic viability may be questioned, it is important to note that there has always been an acceptable political rationale for the Northern Transport Corridor Project. Therefore, in an analytical sense, a level of costs above strictly economic benefits may be acceptable, but the resulting gap should be well understood in particular in financial terms.

F. Summary of Recommendations

1. Recommendations

a. Construction

(1) The GOM should commence planning for maintenance training without further delay. This involves identifying appropriate candidates, arranging their enrollment for training, and providing the necessary funds. In addition, there should be an assessment made of the available equipment for maintenance, and a determination made about what should be procured for this purpose.

(2) Lahmeyer International should improve their monthly progress reporting for Monkey Bay and Chilumba and their procedures of transmitting technical instructions to the contractors for Monkey Bay and Chipoka.

(3) With regard to procurement for the civil works, USAID/Malawi should locate the draft waiver prepared earlier, determine and add the required additional information and communicate with its Regional Legal, Commodity and Engineering

Officers on the most acceptable procedure to accord approval to this waiver now.

(4) For some time, USAID/Malawi has required the services of a professional engineer (preferably a direct hire) to help manage the Mission's infrastructure projects. If an appropriate engineer cannot be readily identified or cannot be justified because of the short remaining life of the Northern Corridor Project, a USAID Regional Engineering Officer must continue to be available to make regular visits to provide technical oversight and necessary certifications.

(5) USAID/Malawi should approach the design engineer GITEC, through the GOM, with a request to clarify adequacy of their design of lake shore facilities with regard to seismic effects.

(6) The GOM should review existing legislation related to transport of hazardous substances through the Lake Malawi, in accordance with the environmental impact determination made earlier by the USAID environmental officer and included in the Project Paper.

b. Procurement

(1) USAID/Malawi should continue to maintain mission oversight of the procurement process. The process is not complete until all equipment has been delivered and installed, and suppliers paid.

(2) USAID/Malawi should ensure that the mission's Controller and the GOM (and its representative, the consulting engineer) are on board regarding the payment provisions of all procurement contracts and should provide the GOM all necessary AID documentation that must be submitted by suppliers prior to payment.

(3) USAID/Malawi should monitor GOM's certification of Lifting Equipment's compliance with AID's componentry rule specifically in connection with the gantry cranes for Chipoka and Chilumba.

c. Economic and financial viability

(1) Malawi Railways should determine recurrent costs of Project facilities, and use these as inputs to setting tariffs. Tariffs should be set to cover at least the operating costs plus replacement costs of capital infrastructure and equipment. However, if the project is viewed as an "insurance policy" and the setting of tariffs in this fashion results in an underutilized facility, some form of subsidy may have to be considered to make the corridor competitive. This in effect would be an admission that the project is not viable on a purely economic basis.

(2) The GOM should review the basis for road tariffs, and fees should be adjusted if necessary to more accurately reflect the cost of providing road construction and maintenance services.

(3) The GOM should review the overall management of the corridor route, including promotion of the route and relations with private shippers and hauliers, and establish some form of promotional board if appropriate.

(4) Malawi Railways should extend its new cargo tracking system, now in its prototype stage to include the Lake Services and the Tanzania portion of the corridor as soon as possible, so as to make the corridor as reliable as possible.

G. Lessons Learned

a. For any USAID-financed infrastructure project involving substantial engineering design and construction (as is the case in the USAID-financed component of the NTC Project), the consulting engineer selected should be conversant with A.I.D. regulations.

b. The modified FAR method of implementing project construction should be selected with caution and on a case by case basis as it permits only limited monitoring and control by USAID regarding legitimacy of costs incurred and compliance with procurement regulations.

c. Underlying the decision to do host country contracting, rather than direct contracting for all A.I.D.-financed procurements for this project was the belief that the host country (HC) is fully aware of A.I.D. procurement regulations. There have been some procurement problems, and as a result undue pressure has been placed on the mission to assume responsibility for matters that it was assumed would be handled by others. While AID direct contracting is no panacea and going the HC route was probably the correct one, missions must see that all AID regulations are understood by the host country agencies involved prior to the initiation of procurement action. One solution to this problem is to provide some short-term technical assistance on A.I.D. procurement regulations at the outset of project implementation.

II. CONSTRUCTION ACTIVITIES: FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

A. Findings

1. Introduction

This project is being implemented by the Malawi Government's Ministry of Transport and Ministry of Public Works, with necessary input from the Malawi Railways. The project engineering and design was done by a German consulting engineering firm, GITEC, and the construction management is

being done by a consortium led by a German consulting engineering firm, Lahmeyer International.

Based on the evaluation of its engineering components, the goal of the Project remains valid, and the Project purpose is viable and achievable, although some other donor components, e.g. construction of facilities at Dar es Salaam and Mbeya and some road construction, appear to be up to 12 months behind schedule. The outputs of the USAID-funded construction components have been verified and are close to target. The quality of the USAID-funded construction work is of acceptable standards, however some modifications should be made in Lahmeyer's monthly report presentation and in their procedures for technical instructions to contractors.

The following individual components are from three to six months behind schedule: generator buildings at Chilumba and Chipoka; crane rails and cable trenches at Chilumba and Chipoka; dry goods storage sheds at Chipoka (rolling steel doors awaited); new tank yard at Chipoka; electrical works; and dredging of rock in the area of new quay wall. However, although the above components are behind schedule at this time, none of them seems to be critical, and it is estimated that entire construction will be completed on or within about two months of the scheduled dates of October 1989 at Chilumba, November 1989 at Monkey Bay, and June 1989 at Chipoka. Although the civil works will be completed close to schedule, there will be a delay in the delivery of some offshore procurement items, e.g. the gantry cranes for Chilumba and Chipoka and the diesel generators for Chipoka. For details on the impact of procurement delays, reference should be made to the Procurement Section of this evaluation report. It may be pointed out here that most of the project components financed by other donors are suffering longer delays and they are likely to be completed after the USAID PACD of June 30, 1990.

2. Lake Facility at Chilumba Port

The principal project works at this facility include: the construction of fuel handling facilities, dry goods facilities, the crane and harbor works, the ancillary buildings, yard work, supply of gantry cranes and diesel generators. The general construction contractor is W&C French who is directly executing the civil works and has let electrical works to a sub-contractor Belfour Kilpatrick, Int. The original amount of construction contract was MK 9,218,139 but cost overruns of MK 664,000 are estimated due to a number of work items either exceeding the provisions of bill of quantities or unforeseen earlier by the design engineer GITEC. The contract was awarded on March 4, 1988 with a completion date of October 20, 1989.

The general status of completion of major activities with particular attention to significant delays has been assessed as follows:

-- Crane and Harbor Works: The dredging of sandy material and weathered rock is complete. A hardrock outcrop near the jetty requires removal of 740 cubic meters of material. This work has not been started yet and is behind schedule by six months. However it is not critical. Quay wall precast concrete units fabrication is

complete and placing is on schedule except In-site CAP for which form work and resteel was being erected. Crane rails for the gantry crane are scheduled to arrive on 15 July '89 and the foundation work for the crane rails is on schedule.

-- Dry Goods Facilities: Most of the components are either complete or on schedule, except that the generator building has been delayed five months due to a hold on the foundation design pending selection of the generator manufacturer, and work on the passenger waiting shelter is about four months behind schedule.

— Fuel Facilities: Most of the work is almost complete, except an oil separator is to be added in this area.

— Mechanical Work: Almost all of the materials are on site and erection of the petrochemical system is on schedule.

— Electrical Work: This work is about three months behind schedule as only the ring grounding for the workshop has been done and no material was on site.

3. Lake Facility at Chipoka

The principal project works at the facility include; the construction of crane and harbor works, dry goods facility, fuel handling facility, the ancillary buildings and yard work. It also includes the supply of gantry cranes, and diesel generators. On this site, apart from the new construction, a number of existing structures are being rehabilitated and expanded as integral parts of the facility.

The general construction contractor is Wade Adams Co. who is directly executing the civil works and has let the electrical work to Belfour Kilpatrick Int. as a subcontractor. The original amount of construction contract was MK 5,819,713. However, cost overruns of MK 248,000 are estimated due to a number of work items either exceeding the provisions of bill of quantities or unforeseen by the design engineer GITEC. The construction contract was awarded on February 6 1988 with a completion date of 30 June 1989. Most of the work is proceeding satisfactorily and on schedule. It should be noted that on the 10th March 1989, an earthquake occurred in this area causing havoc in the surrounding districts including some damage to the project buildings which developed cracks. Informal information places the epicenter of the earthquake in Chitala a town about 50 KM NW of project site and the intensity of tremor was 6.3 on the richter scale.

The general status of completion of major activities with particular attention to significant delays in the critical ones was assessed as follows:

-- Dry Goods Facilities: Most of this work is either complete or on schedule. The sliding doors for both goods sheds have been delayed six months. The work on the generator building was initially completed 40% but it has since been demolished because the building as initially designed by GITEC was found to be too small to accommodate the generators being purchased. The existing dry goods shed in the station yard needs much more rehabilitation and renovation than provided for in the plans. There are holes in the corrugated metal sheeting of side walls, structural cracks, corrosion, salt-damage,

rust, bent and broken braces and damaged sky lights etc. A variation order is needed for additional works to restore the building to usable standards.

-- Crane and Harbor Works: Most of this work is either complete or progressing on schedule, except that the installation of crane rails will be done in June-July on delivery of rails.

-- Fuel Facilities: All of this work is on schedule.

-- Electrical Works: According to work program there is an overall seven month delay in the execution of electrical works.

-- Mechanical Works: All of this work is on schedule, that except the installation of new tanks and firefighting equipment has not started because the materials have not yet been delivered.

4. Ship Yard Facility at Monkey Bay

The principal project works at this facility include: the access dam, access bridge, access ramp, pontoon, floating dock, slipway and cradles, machine shop, workshop passenger complex, roads, water supply drainage, firefighting systems and control offices. It also includes the supply slipway of winches.

The general construction contractor is CILCON Ltd. who is directly executing the civil and mechanical works and has sublet the electrical work to Belfour Kilpatrick Int. The original amount of construction contract was MK 6,043,956 however cost overruns of MK 335,600 are estimated due to a number of work items either exceeding the provisions of bill of quantities or unforeseen by the design engineer GITEC. The construction contract was awarded on February 1, 1988 with a completion date of 15 November 1989. Contract for the supply of winches is expected to be awarded in May 1989 to Harnishfeger Co. of the U.S. for US\$ 245,000. Most of the work items are proceeding satisfactorily and are on schedule as detailed below.

The general status of completion of major activities with particular attention to significant delays in the critical ones was assessed as follows:

-- Harbor Works: The existing access dam was shifted a few meters west to a new position to provide clearance between the jetty and the new off-shore section of the slipway. Work on the assembly and installation of the access bridge and access ramp is scheduled to be completed by November 89. The work on the fabrication of floating pontoon is in progress and about 70% complete per schedule. The work on the onshore section of the slipway comprised repairs to railing and minor concreting. This is almost complete. The offshore section is in the early stages where rail tracks are being installed by the erection of temporary steel sheet pile coffer dams. This work is about a month behind schedule. The winch cradles are scheduled for construction by November 89 - to be followed by installation of winches.

-- Buildings: The machine shop foundation and steel framing is 100% complete, including the installation of overhead crane. The roof slab and walling is 60% complete. The work shop foundation and steel framing is 100% complete, while roofing slab and walling is 85% complete. In the passenger complex the work is 100% complete except

for a final coat of paint which was decided to be deferred until before handover to Malawi Railways at the end of contract. Other ancillary works are on schedule.

-- Civic Works: Earth works and pavements for storage and traffic areas are about 95% complete.

-- Mechanical Works: These are so far concentrated on the fabrication of pontoon.

-- Electrical Work: On temporary facilities this is completed, and for external permanent facilities is scheduled during the coming months.

5. Construction Management by Lahmeyer International

Procedures and controls introduced by the consultant to insure quality and conformance to specifications are generally adequate. Contractor's detail drawings for reinforcing steel are approved as necessary, and formworks, embedded items and pour preparations are inspected and approved at appropriate steps of construction. Soil samples are taken and tested, and concrete cylinders are tested for 7 and 28 days crushing strength. 100% test results showed the concrete strength exceeding that specified and slump tests were within standards. Technical instructions are communicated to the contractor in writing and regular monthly meetings are held to discuss program and resolve issues. Monthly progress reports are produced.

However, the following few deficiencies in the Lahmeyer's construction management operations were noted and should be rectified. At Monkey Bay, the resident engineer's technical instructions to the contractor for clarifications, additions, suppressions or amendments of the construction plans were transmitted in all cases in brief descriptions without engineering sketches. This practice leaves ambiguity and room for possible contractor claims in future. Also for Monkey Bay, the monthly progress report does not furnish a complete and clear picture. This is due to lack of consistent categorization of work items, mismatch between bar chart and narrative sections, and duplication and mixup of reporting under the sections titled "Summary" and "Project Activities." For Chilumba, the monthly report, although better, has similar deficiencies as for Monkey Bay. On the positive side, the technical information transmitted to contractor for the most part was done adequately and professionally in the form of sketches as well as letters as needed. However, it is suggested that the engineer not use scrap paper for this purpose. For Chipoka, the design changes transmitted to the contractor were also mostly without engineering sketches (only one recent sketch was on file). The quality of monthly progress report is excellent in organization, categorization, quantifications and explanation.

6. Project Management by USAID

USAID Malawi on its part has been managing the A.I.D.-funded components of this project in accordance with its responsibilities under A.I.D. regulations. To perform its functions, USAID/Malawi assigned a project development officer (PDO) as its project manager a Malawian national as project assistant. Since both the PDO/Project Manager and the Project Assistant are not engineers, USAID/Malawi has used the services of its

regional engineering officer from Harare, Zimbabwe who supported the mission in the management of engineering components of this project through periodic visits to Malawi. Other technical support from legal and procurement specialists has been obtained from REDSO/ESA, A.I.D.'s regional office in Nairobi, Kenya.

7. Project Implementation by the Government of Malawi

The Ministry of Transport and Communications and the Ministry of Public Works and Supplies of the GOM are the implementing agencies. Both the construction and the procurement are being done by host country contracts. The MOWS is primarily responsible for the management of the construction and procurement contracts while the MOTC provides overall coordination within and outside the government. MOWS has on its staff qualified engineers managing the construction contracts. A World Bank funded project coordinator, a position currently vacant, has provided providing technical assistance to the GOM in day-to-day project implementation matters. A steering committee composed of representatives of all donors is providing inter-donor coordination. Malawi Railways, being the end user of the project, also is liaising with the ministries in project implementation.

8. Project Paper (and/or Supplement) Omissions

The following points are raised as those which were not adequately addressed in the original Project Paper:

a. Training of Malawian staff for operation and maintenance: Neither the USAID financed component nor the umbrella project has made any budgetary provisions for the training of local technicians, e.g. operators, mechanics, electricians, welders, plumbers, riggers, divers and other necessary tradesmen for the operation and maintenance of the project after its completion and hand-over to the GOM. IDA funds of \$320,000 have been budgeted for staff training, but these funds are reserved for use by two candidates for advanced degrees and some 35 others for short academic courses.

b. Recurrent costs: The Project design did not adequately address the need for meeting the recurrent costs of project-funded facilities. This issue was raised during the evaluation, but little information was available. This is discussed in more detail in the report section on the economic/financial analysis.

c. Procurement of unauthorized construction materials: The original PP design included a waiver in the amount of \$101,000 for the procurement of fuel pumping equipment from countries in geographic code 935. When the PP Supplement was prepared, an additional procurement waiver was drafted to permit the procurement of certain construction materials from code 935 countries. This draft waiver was forwarded to the Regional Legal Office (RLA) in Nairobi for approval. Due to lack of adequate details on specific construction materials needed, the RLA withheld approval of this waiver, and the PP Supplement was approved without it. The withholding of the waiver approval was apparently forgotten. The construction contractor was not advised of the code 941

restrictions, and purchased the needed material and equipment (valued at approximately \$1.5 million) from Code 935 countries. This issue needs to be resolved to conform to USAID regulations.

B. Conclusions

1. Commissioning of the Project

Despite delays with individual components, civil works will be completed close to schedule. Procurement of major equipment, however, has taken longer than planned, and this will delay final commissioning of project sites in particular at Chilumba and Chipoka, as well as at Dar es Salaam and Mbeya. However, all necessary procurement actions are in progress.

2. Maintenance Training

Soon after the project is completed and handed over to the GOM, there will be immediate need to have in place, an organization, equipped with trained staff and adequate equipment, to operate and maintain the facilities. The project infrastructure will have absorbed not only the \$19 million from USAID, but also over \$100 million from other donors. If not well maintained, the infrastructure not only will operate inefficiently, but also will start deteriorating. The project provides \$320,000 from IDA funds for staff training to finance two candidates for MS degrees and 35 candidates for short theoretical courses in management, economics and financial analysis. However, there is no provision for hands-on practical training to produce technicians, e.g. mechanics, electricians, equipment operators, welders, divers, instrument men and miscellaneous trades. This deficiency should be addressed as soon as possible.

3. Recurrent Costs

The operations and maintenance of the project will require regular and substantive budget allocations. These will include: costs related to salaries and fringe benefits of staff; consumable materials e.g. fuels, oils, lubricants, paints, welding rods, oxygen and cement; rents and utilities; and the amortization of equipment. The A.I.D. project design briefly suggests that the revenues generated on lake service facilities will be used to cover expenses and depreciation. This suggestion may be valid but requires action now by detailed analysis and policy dialogue. This is discussed further in the economic and financial analysis assessment.

4. Quality of Construction Work

Based on his inspection of the construction works at Chilumba, Chipoka and Monkey Bay, discussions with the respective Resident Engineers and review of their files and other project documents, the USAID Regional Engineering Officer determined that the construction work is proceeding in accordance with plans and specifications and the quality of work is up to acceptable standards. Credit for this successful and quality work goes to all parties involved, i.e. contractors, consultants, MOWS, USAID/Malawi, and the Regional Engineering Officer from USAID/Zimbabwe

who provided continuous technical advice and oversight on behalf of the Mission.

There is, however, a need to improve the format and contents of the monthly program report by Lahmeyer International for the activities at Monkey Bay and Chilumba. Likewise there is need to improve the standards and procedures of transmitting technical instructions to the contractors by the Resident Engineers at Chipoka and Monkey Bay.

5. Source origin and shelf item procurement

USAID disburses project funds through letters of commitment for major offshore procurements, and through advances to the GOM under modified FAR method for payments to the construction contractors. USAID/Malawi has communicated to the GOM, through PILs, the procurement regulations to observe. It is recognized that Handbook 11 regulations are not entirely applicable in FAR method of contracting. The relevant PILs so far issued do not provide any mechanism for USAID to verify compliance with source/origin requirements, nor do they provide the necessary authority for the USAID controller to determine eligibility of certain procurements for reimbursement to the GOM. The only recourse available under the present conditions is to disallow reimbursement or make appropriate deductions at the time of final payment, since the current periodic payments by USAID to GOM are simply advances which cannot be liquidated under modified FAR until final payment is due at 100% completion of construction. The concern is that any attempt to verify compliance with procurement regulations at the end of the Project will be too little and too late.

6. Additional waiver for construction materials from code 935 countries

As discussed in the above Findings section, USAID/Malawi is obliged to have on file an approved waiver to legitimize disbursement of U.S. Government funds for construction material procured by the contractor from Europe and South Africa for use at Monkey Bay.

7. Engineering services

USAID/Malawi does not have an engineer on its own staff. The mission has been monitoring the construction components of the Project through periodic visits by its Regional Engineering Officer from Harare, Zimbabwe. That engineer is now under transfer to another mission. USAID/Malawi cannot effectively manage its construction and other transport sector projects without the services of a qualified and experienced civil engineer.

8. Seismic effects

A.I.D. regulations require that for U.S. Government funded construction projects, the design engineer must take into account the dynamic stresses introduced by expected seismic activity. The A.I.D.-funded component of Northern Corridor Project is subject to USAID seismic regulations. There should be a technical review of safety factors built into the structural

design and a certification of the adequacy of the strength of structures. This concern is particularly valid now that an earthquake tremor of intensity 6.3 was experienced near Chipoka on March 10 1989, resulting in cracks in some of the Project structures.

9 Pollution due to accidents

Ships carrying diesel, petrol, paraffin jet fuel and possibly other chemicals, will be traversing the Malawi lake in increasing numbers as a result of the project. In case of accidents and possible oil spills, Malawi Railways has no facilities to handle cleanup operations. The USAID Environmental Officer had determined in his initial environmental examination that there would be little or no significant impact on the lake environment. Nevertheless he had advised that GOM be requested to review existing legislation to ensure that restrictions on transport of hazardous substances (especially pesticides, concentrates, toxic chemicals etc) will apply to lake traffic and can be enforced.

10. Preliminary engineering

The IDA funded consulting engineering firm, GITEC from Germany, was employed to engineer the USAID-funded components of the Northern Corridor Project. GITEC did a satisfactory job but a few difficulties and problems were experienced. For example, GITEC underestimated certain components of the job, and did not foresee a number of features required to complete the facilities. The need to change GITEC's preliminary design resulted in some project implementation delays.

C. Recommendations

In order to resolve the various issues raised above, the following recommendations are made.

1. The GOM should commence planning for maintenance training without further delay. This involves identifying appropriate candidates, arranging their enrollment for training, and providing the necessary funds. In addition, there should be an assessment made of the available equipment for maintenance, and a determination made about what should be procured for this purpose.

2. Lahmeyer International should improve their monthly progress reporting for Monkey Bay and Chilumba and their procedures of transmitting technical instructions to the contractors for Monkey Bay and Chipoka.

3. With regard to procurement for the civil works, USAID/Malawi should locate the draft waiver prepared earlier, determine and add the required additional information and communicate with its Regional Legal, Commodity and Engineering Officers on the most acceptable procedure to accord approval to this waiver now.

4. For some time, USAID/Malawi has required the services of a professional engineer (preferably a direct hire) to help manage the Mission's infrastructure projects. If an appropriate engineer cannot be

readily identified or cannot be justified because of the short remaining life of the Northern Corridor Project, a USAID Regional Engineering officer must continue to be available to make regular visits to provide technical oversight and necessary certifications.

5. USAID/Malawi should approach the design engineer GITEC, through the GOM, with a request to clarify adequacy of their design of lake shore facilities with regard to seismic effects.

6. The GOM should review existing legislation related to transport of hazardous substances through the Lake Malawi, in accordance with the environmental impact determination made earlier by the USAID environmental officer and included in the Project Paper.

D. Lessons Learned

1 For any A.I.D.-financed infrastructure project involving substantial engineering design and construction (as is the case in the USAID-financed component of the NTC Project), the consulting engineer selected should be conversant with A.I.D. regulations.

2. The modified FAR method of implementing project construction should be selected with caution and on a case by case basis as it permits only limited monitoring and control by USAID regarding legitimacy of costs incurred and compliance with procurement regulations.

III. PROCUREMENT ACTIVITIES: SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

A. Introduction

As the first of two formal evaluations of the Malawi Northern Corridor Project, it was intended that this evaluation would occur at "roughly the mid-point of the project, when all construction contracts are in operation and procurement is well underway." Based on the evaluation team's assessment of the procurement at this stage, there is no question that it is indeed well underway. Because of the complexity and size of the procurements financed by AID under this project, it is to everyone's credit--USAID/Malawi, the Government of Malawi, the consulting engineers, Lahmeyer International, and AID's regional offices in Harare and Nairobi--that the formative (and most difficult) stages of most of these procurements are completed.

It is important to recognize, however, that the procurement process is a slow and arduous one. There are still a number of steps that will have to be completed before all of the equipment has been delivered and installed. However, despite the problems that are bound to arise along the way, because of the thorough manner in which these procurements have been handled there is every reason to be hopeful that all of the equipment will be delivered and installed well before the PACD (except,

perhaps, the gantry cranes for Dar es Salaam and Mbeya). That said, the delivery schedule for some equipment as set out in the PP Supplement (page 16) is probably not going to be met.

B. Individual Procurement Actions

Discussed below are the five separate procurement actions funded by AID.

1 Slipway winches for Monkey Bay

If all goes according to plan the slipway winches will be on site and installed by September/October 1989. This is based on the contract being finalized by mid-May 1989 with delivery/installation to be completed within six months of contract award. Despite being later than originally envisaged, this will not prove a major problem for the repair facility at Monkey Bay as the winches are needed in connection with the final erection work on the new cargo vessel (to be supplied by KfW) which, as of the time of this evaluation, is still at least eight to ten months away from delivery.

2. Generator sets for Chipoka and Chilumba

Diesel generators were overlooked in the original project paper but were subsequently added in the PP supplement. The RFP, which was advertised in November 1988 (in the same complete manner as the RFP for winches), is for a total of ten generators--five each for Chipoka and Chilumba.

Ten offers were received by the January 20, 1989 offer deadline. Evaluation of these offers proved more difficult than expected because (as explained in the Tender Evaluation Report) "certain shortcomings of the RFP" resulted in confusion on the part of the offerors concerning the client's requirements. Eventually these ambiguities were rectified and the evaluators recommended that the contract be awarded to the Malawi-based firm, Brown & Clapperton Group, for \$341,700. (After clarifications and revisions, this amount was increased to \$393,418.) The generators are manufactured in the U.S. by Onan Corp (with Cummins engines). A letter of intent was expected to go out by mid-May which, with delivery not to exceed six months, presumes arrival at both both Chipoka and Chilumba no later than November 15, 1989.

3. Gantry cranes for Chipoka and Chilumba

The procurement of gantry cranes has proven the most difficult procurement to date. Along with problems concerning specifications and costing, it was to be expected that a procurement running into several million dollars would engender strong views from many quarters regarding the best way in which to proceed. The award for the supply of two gantry cranes, one each for Chipoka and Chilumba, was made in April of this year to Lifting Equipment in Zimbabwe. As a Zimbabwe company, this firm is eligible to receive the contract. However, due to the nature of the equipment to be provided, much of the componentry will be coming from elsewhere (primarily Western Europe). Because of AID's componentry rule, which was cited in the RFP, Lifting Equipment must demonstrate to

everyone's satisfaction that it can indeed meet this requirement. Delivery and installation of the cranes at both Chipoka and Chilumba must be completed within twelve months of contract award. Assuming all contractual issues are resolved by June, the cranes should be operational by June, 1990.

4. Fuel Tank Wagons and Fuel Tank Containers

The RFP for fuel tank wagons and fuel tank containers for Malawi Railways was advertised in the the U.S. in the AID Financed Export Opportunities Bulletin (Bulletin) and the Commerce Business Daily (CBD), and in Malawi, at the end of March, 1989. Prospective suppliers in neighboring Zimbabwe were also informed of the solicitation. The offer deadline is June 30, 1989. This solicitation is being conducted as a two-step RFP. As explained in the solicitation document the process involves the following steps:

First the Purchaser will determine what technical proposals are fully responsive to the request for proposals. Clarification(s) may be requested of any Offeror(s) by the Purchaser if the Purchaser deems such clarification(s) to be necessary in order to make a thorough evaluation of the equipment offered. The Purchaser will then open the Price Offer envelopes of the offeror(s) whose technical proposals have been found to be fully responsive. The Purchaser will then, subject to AID approval and the availability of funds, make a contract award(s) to the lowest priced fully responsive technical acceptance offer(s).

The Ministry of Works as well as the consulting engineers have expressed certain concerns about employing the two-step process. Two concerns in particular were raised. One, that the two envelope system may well result in some, 'if not many', of the offerors failing to adhere to this requirement. The question has arisen, should they then be deemed non-responsive? And two, that evaluating each offer as two distinct actions--price and technical--will prove impractical. MOWS has noted that any clarifications, of a material nature, sought with the offeror after his technical proposals are opened, will inevitably affect his price offer, and presumably the offeror would intimate these changes to the consultant undertaking the evaluation. As this situation may apply to several offerors under consideration, it may render the intention of evaluating the offers without cognisance of price as valueless.

In addressing these concerns, REDSO/RCMO noted that the evaluators are expected to "confine their 'negotiations' to technical questions which clarify the original offers. No 'changes' which would possibly result in increases or decreases to the as yet unopened price quotation of the offeror to whom the questions are directed are permitted.'

Assuming contract award within sixty days of the offer deadline (i.e. not later than August 30, 1989) and delivery (per the RFP) not to exceed twelve months, the tank wagons and tank containers can be expected September 1990.

5. Gantry cranes for Mbeya and Dar es Salaam

The RFP for the gantry cranes for Mbeya and Dar es Salaam was issued in May. In view of the considerable civil works (the contracts for which were only awarded in April) to be completed at both sites before installation can proceed, the urgency of their delivery is less pressing when compared with Chipoka and Chilumba. If the civil works are completed within eighteen months, as is called for, and delivery of the cranes occurs about the time this work is completed (although ideally well before), the cranes could be operational before October 1990. (The probability is that the cranes will be installed in 1991, before the June PACD.)

C. REVISED SCHEDULE FOR THE A.I.D.-FINANCED PROCUREMENTS

<u>Item</u>	<u>PP Supplement</u>	<u>Evaluation Estimate</u>
Slipway winches (Monkey Bay)	January 1989	Sept/Oct 1989
Generators (Chipoka & Chilumba)	July 1989	November 1989
Gantry cranes (Chipoka & Chilumba)	July 1989	June 1990
Fuel tank wagons & tank containers	January 1989	September 1990
Gantry cranes (Mbeya & Dar)	October 1990	Oct. '90 - June '91

D. Conclusions

Starting from the premise that the Northern Corridor Project is a very complex multi-donor effort of which procurement is but one component, it is clear that progress with regard to A.I.D.-financed procurements since the PP Supplement (January 1988) has been very satisfactory. Perhaps certain equipment is not delivered and installed per some of the projections (above), but in the ensuing months commodities will start arriving. That is due to the considerable work done since January 1988, and before.

The RFPs issued to date have included all of the mandatory AID terms and conditions along with very complete specifications. They were advertised per AID Handbook guidelines and distributed to interested parties in the U.S. through AID/W (SER/OP/COMS). AID's source and origin requirements were clearly stated and the evaluation panel took pains to ensure that only eligible offerors were evaluated. Extensive regional assistance was provided with these matters, although overall coordination was handled by USAID/Malawi.

In sum, the rigorous application of appropriate procurement procedures has ensured that, on the one hand, the beneficiaries (Government of Malawi) will receive that equipment requested of AID, while on the other, the U.S. Government (as payee) has only contracted for its "minimum

needs" (i.e. not paid excessive prices for these commodities).

E. Recommendations

With regard to future actions associated with these procurements, the following recommendations are made:

a. USAID/Malawi should continue to maintain mission oversight of the procurement process. The process is not complete until all equipment has been delivered and installed, and suppliers paid.

b. USAID/Malawi should ensure that the mission's Controller and the GOM (and its representative, the consulting engineer) are on board regarding the payment provisions of all procurement contracts and should provide the GOM all necessary AID documentation that must be submitted by suppliers prior to payment.

c. USAID/Malawi should monitor GOM's certification of Lifting Equipment's compliance with AID's componentry rule specifically in connection with the gantry cranes for Chipoka and Chilumba.

F. Lessons Learned

Underlying the decision to do host country contracting, rather than direct contracting for all A.I.D.-financed procurements for this project was the belief that the HC is fully aware of A.I.D. procurement regulations. There have been some procurement problems, and as a result undue pressure has been placed on the mission to assume responsibility for matters that it was assumed would be handled by others. While AID direct contracting is no panacea and going the HC route was probably the correct one, missions must see that all AID regulations are understood by the host country agencies involved prior to the initiation of procurement action. One solution to this problem is to provide some short-term technical assistance on A.I.D. procurement regulations at the outset of project implementation.

IV. ECONOMIC AND FINANCIAL ASSESSMENT

A. Issues Identified in Project Paper Supplement

When a project paper supplement was prepared to document the addition of \$8.628 mil. to this project's life of project (LOP) funding, a revised economic and financial analysis was conducted to assess the impact of the increased project cost on the project's economic and financial viability. While this analysis resulted in a positive internal rate of return (21%), a number of issues were raised. These were as follows:

(1) The project has significant budgeting implications for the GOM, and it is unclear whether the GOM will be able to sustain in particular the necessary recurrent expenditure.

(2) Malawi Railways may encounter financial difficulties during the next few years which, in the absence of corrective action, are likely to devolve on the GOM.

(3) Cost savings on the Lake Malawi route may fall short of expectations.

(4) Large projected increases in northern corridor traffic, at least on the Lake route, may fail to materialize (perhaps because of a resumption of trade through Mozambique).

Each of these remains an issue at the time of this evaluation.

B. Discussion of Issues

The budgeting implications of the project continue to be unclear, both in terms of their magnitude and in terms of responsibility. The evaluation team could locate no projected recurrent cost estimates, and in the absence of this kind of information budgeting implications can not be assessed adequately. The project includes a substantial amount of construction and capital equipment, all of which will require maintenance and/or replacement. Along most of the corridor the facilities are operated by Malawi Railways (MR). Because adequate data (or projections) do not exist, it can not be said whether MR will earn sufficient revenue from its operations even to cover its costs. If MR's costs are not met, two options would be available: either of its operations would have to subsidize the Lake facilities, or the GOM would have to provide support. Either way, there could be financial difficulties

The management of Malawi Railways, mindful of the deterioration of their revenue base caused by the decline of traffic over the years 1979-87 (see Table 1), continue to express concern about the impact of their traffic should Nacala reopen. (Of course, Nacala reopening would increase business, but not on the Northern Corridor route.) Costs associated with the Northern Corridor route could be covered by tariffs, but this may be at the expense of pricing themselves out of the market. MR's operating budget for 1988/89 and 1989/90 (see Table 2) forecasts a surplus for the main railway services, but not for the Lake Services. The consolidated accounts show a net loss. The Lake cargo services now make a profit because of tramping.

Currently, the quoted tariffs between Blantyre and Dar es Salaam for road transporters are less than those for the railway, as indicated below:

Exports:	All road	US\$ 1950
	Malawi Railways	2164
Imports:	All road	US\$ 1615 - 1700
	Malawi Railways	1750

It is important not only that MR sets its tariff in a financially and economically sound way, but also that the GOM sees that road tariffs are set in an equally financially and economically sound way. Road taxes,

TABLE 1

Lake Service Financial Performance								
Volume of Traffic	1979	1980	1981	1982/83	1983/84	1984/85	1985/86	1986/87
Cargo Service:								
Tonnage (1000)	35.4	31.2	29.4	40.3	39.2	33.2	36.9	44.4
Net Tons/km (1000)	12434	10691	9695	13807	9143	12148	12511	14735
Passenger Service:								
Passengers (1000)	104.9	105.1	132.7	182	191.2	187.9	203	198
Passenger km (1000)	16801	16155	18334	23105	23197	21289	23492	21625
Financial Data (MK 1000)								
Revenues:								
Cargo	1216	1351	1159	1824	1236	1482	1517	1966
Passenger/parcels	229	221	312	495	489	456	584	641
Other	172	351	344	452	772	871	1160	794
TOTAL	1617	1923	1815	2771	2497	2809	3261	3401
Working Expenditures	1291	1713	2009	2914	2819	3017	3582	3655
Working Income	326	210	-194	-143	-322	-208	-321	-254
Depreciation	-37	-37	-207	-255	-243	-300	-300	-300
Operating Income	289	173	-401	-398	-565	-508	-621	-554

Source: Malawi Railways

Notes: 1982/83 is a 15 month period
 Depreciation is estimated for 1984/85 through 1986/87

Source: Project Paper Supplement, 1988

TABLE 2

MIAMI RAILWAYS LIMITED
(Including Inks service)

OPERATING EXPENSE FOR
1900/09 AND 1909/10
(Without Mcola Traffic)

1900/09				1909/10		
PAID K'000	LAKE K'000	TOTAL K'000		PAID K'000	LAKE K'000	TOTAL K'000
			<u>REVENUE</u>			
12,064	1,003	14,747	Goods	19,101	3,266	22,367
4,452	079	5,331	Passengers and parcels	5,102	1,156	6,250
1,396	50	1,454	Trafficundry receipts	1,629	42	1,671
<u>2,406</u>	<u>754</u>	<u>3,240</u>	Other	<u>1,354</u>	<u>535</u>	<u>1,809</u>
21,198	3,574	24,772	TOTAL REVENUE	27,186	4,999	32,185
=====	=====	=====		=====	=====	=====
			<u>EXPENDITURE</u>			
			<u>Direct Costs</u>			
7,973	073	0,046	Salaries wages and allowances	10,761	1,372	12,133
6,293	2,191	0,404	Mineral fuel (Locom/Vehicles)	6,547	2,709	9,256
1,913	472	2,305	Repairs and maintenance	2,442	715	3,157
<u>001</u>	<u>570</u>	<u>1,451</u>	Other	<u>995</u>	<u>738</u>	<u>1,733</u>
17,060	4,106	21,166	TOTAL	20,745	5,534	26,279
=====	=====	=====		=====	=====	=====
			<u>Indirect costs</u>			
799	100	799	Personnel - social	1,043	248	1,291
469	70	547	Personnel - indirect	677	100	777
<u>703</u>	<u>72</u>	<u>055</u>	Auxiliary vehicle costs	<u>743</u>	<u>102</u>	<u>845</u>
2,051	250	2,301	TOTAL	2,463	450	2,913
=====	=====	=====		=====	=====	=====
			<u>Overheads</u>			
1,697	104	1,001	Accommodation	1,753	93	1,846
755	100	643	Administration	929	222	1,151
<u>77</u>	<u>-</u>	<u>77</u>	Other	<u>04</u>	<u>-</u>	<u>84</u>
2,529	292	2,721	TOTAL	2,766	315	3,001
=====	=====	=====		=====	=====	=====
21,640	4,640	26,280	TOTAL EXPENDITURE	25,974	6,299	32,273
=====	=====	=====		=====	=====	=====
(442)	(1,074)	(1,516)	Operating surplus/(deficit)	1,212	(1,300)	(08)
<u>1,375</u>	<u>479</u>	<u>1,054</u>	Add: Fuel rebate	<u>1,430</u>	<u>592</u>	<u>2,022</u>
933	(595)	338	Net operating surplus/(loss)	2,642	(708)	1,934
=====	=====	=====		=====	=====	=====
		(3,310)	Depreciation			(3,300)
		<u>(540)</u>	Interest on Bank overdraft			<u>(500)</u>
		(3,850)	Profit/(loss) for the year			<u>(1,946)</u>
		=====				=====

for example, should bear some relationship to road construction and maintenance costs. Hidden subsidies which distort tariff levels can result in tariffs for comparable services having to be set at uneconomically low levels in order to be competitive.

Attracting the level of traffic necessary to achieve economic viability for this project is dependent on a number of factors. Included are the relative costs of the various routes, such as the rail northern corridor route, the road northern corridor route, the routes to Nacala and Beira, and the route to Durban. Will there be sufficient cost savings through use of the rail northern corridor route to attract a high volume of traffic? Again, as with the projected recurrent data, we have only conjecture. The Nacala route would be cheaper, but unlikely to be open in the near future. Southern routes now may be more expensive, but those tariffs may be reduced as competition grows. The road northern corridor route will benefit by improved road conditions to Uyole, but will continue to rely on an unimproved Tanzam Highway. However, road shipments require no transshipment, and it will be in the truckers' interest to set rates as competitively as possible at least to retain their current level of traffic. One cost factor that must be considered in this regard is that foreign truckers receive payment in foreign exchange, which can be sold in parallel markets outside of Malawi, in effect increasing profits. These truckers could reduce rates to become more competitive by making more efficient use of their foreign exchange payments.

During discussions the evaluation team had with many of those involved with this project, it became apparent that the project's economic viability always has been uncertain, despite the optimistic internal rates of return which have been calculated at various times. It has been suggested that if the northern corridor lake/road/rail route can carry about one-third of Malawi's trade over a five year period, then the project's rate of return barely would be positive. With a lower level of traffic, the return would become negative. However, it should be noted that there should be indirect benefits gained by northern Malawi from the Project inputs given the increased availability of transportation alternatives.

An important point, however, is that this project can not be evaluated strictly in economic terms. Political factors, in particular the interest in establishing a safe alternate route to the sea, always have been important considerations in this project. The economic (and financial) cost of the project may be justifiable on political grounds, i.e. it is an acceptable cost of achieving some flexibility in transportation routes. It is the evaluation team's opinion that having undertaken the project for those reasons is certainly a valid position. Where there continues to be concern, however, is identifying more accurately what that cost may be. In the absence of better data (which may be only estimated in any case), meaningful cost and revenue projections are not possible.

What would be most useful from a practical standpoint is a financial analysis of the project which indicates the level of recurrent expenditure which will be necessary, on an annual basis, to maintain the

facilities and to replenish capital stock. This would be a forward-thinking exercise, one which should be of great assistance to both the GOM and MR for purposes of financial planning. Less useful from a practical standpoint, but nonetheless an exercise which has some utility, would be an up-dated economic analysis which indicates the nature of the rate of return expected from the project under different scenarios (using sensitivity analysis). If the return is negative, the cost of undertaking the project for political and security reasons will be better known.

C. Recommendations

1. Malawi Railways should determine recurrent costs of Project facilities, and use these as inputs to setting tariffs. Tariffs should be set to cover at least the operating costs plus replacement costs of capital infrastructure and equipment. However, if the project is viewed as an "insurance policy" and the setting of tariffs in this fashion results in an underutilized facility, some form of subsidy may have to be considered to make the corridor competitive. This in effect would be an admission that the project is not viable on a purely economic basis.

2. The GOM shall review the basis for road tariffs, and fees shall be adjusted if necessary to more accurately reflect the cost of providing road services.

3. Construction and maintenance the GOM shall review the overall management of the corridor route should be determined, including promotion of the route and relations with private shippers and hauliers, and establish some form of promotional board if appropriate.

4. Malawi Railways should extend its cargo tracking system, now in its prototype stage to include the Lake Services and the Tanzania portion of the corridor as soon as possible, so as to make the corridor as reliable as possible.

V. SUMMARY OF PROGRESS OF OTHER DONOR ACTIVITIES

The following is a brief summary of other major donor activities:

A. Roads

-- The Karonga-Songwe-Ibanda road (53km funded by EDF) is six months behind schedule.

-- The Ibanda-Uyole Road (98km funded by Holland) is facing funding crises due to tendered prices exceeding the engineer's estimate and the donor commitments. If started now, this road may require 2 1/2 years to complete.

-- The Salima-Chipoka-Balaka road: This road funded by KfW (Salima-Jct. M18-Chipoka, 65.5km) and by IDA (Jct. M18-Balaka, 82km) was

tendered and contract let in August 1988 for completion in two years. No construction activity was noticed on site Salima-Chipoka during field trip by the evaluation team. However, reportedly the contractor has since mobilized and imported his construction equipment from another project overseas.

B. MCC and Fuel Handling Facilities

Contracts were signed in April 1989 for the construction of dry goods facilities (financed by ODA) and the fuel facilities (financed by KfW) in an 18 month period. Commencement of construction of fuel facilities is likely to be delayed until September 1989 due to funding implications created by tendered prices exceeding the engineer's estimates. The MCCs are therefore likely to be completed by March 1991.

C. Cargo Vessel

KfW has recently committed formally to finance the supply of the cargo vessel which is tentatively scheduled for delivery around June 1991.

D Technical Assistance

The IDA funded NTC Project Coordinator resigned with effect from February, 1989. Recently it has been suggested that rather than replacing that individual, project coordination be handled by MOTC in conjunction with the MCC general manager, who should be appointed shortly. An individual recently was selected as Lake Service Coordinator, and should be taking his position in July.

VI. OUTSTANDING ISSUE: MBEYA - CHILUMBA LINK

The means of transporting goods between the two transshipment points of Mbeya and Chilumba remains undecided. A private trucking firm now provides this service, but is operating at capacity. Malawi Railways would like to operate its own fleet on this route, but it is unclear whether this option would be as efficient as contracting the work to a private transport firm which has (or can obtain) the capacity. The evaluation team did not conduct an assessment of this issue, but does recommend that it be carefully considered by all parties concerned, and that some resolution be found which is both cost effective and reliable. Given the need for the northern corridor route to gain and hold the confidence of shippers, reliability is particularly important. In principle the team sees no reason why the operations of this transportation service can not be in the hands of private sector transport firms, perhaps on contract to Malawi Railways or the Malawi Cargo Center.

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UNCLASSIFIED
AID 07/17/90
D:CAPEASLEY
CONT:RBAMIN:JK
NONE
AID-3 AMB DCM

AMEMBASSY LILONGWE
AMEMBASSY NAIROBI, IMMEDIATE
SECSTATE WASHDC, PRIORITY

AIDAC

NAIROBI FOR RFMC (BARASA)
SECSTATE FOR AID/PFM/FM/FC; AID/AFR/DP/PAB;
AND AID/AFR/SA

E.O. 12356: N/A
SUBJECT: REOB/REOB NOTIFICATIONS

REF: (A) NAIROBI 19539, (B) LILONGWE 3578,
- (C) LILONGWE 3639

1. PLEASE NOTE THAT DEOB AMOUNT FOR PROJECT 612-0219 SHOULD BE DOLS. 91,598.00 AND NOT DOLS. 338,058.79 AS REPORTED ON REFTEL. MISSION REGRETS THAT THE AMOUNT TO BE DEOBLIGATED WAS INADVERTANTLY OMITTED IN TRANSMISSION OF REF (B). HOWEVER, THE JV AND CODE-SHEETS SENT ON 7/10/90 SHOW CORRECT AMOUNT OF DOLS. 91,598.00.
 2. PLEASE CORRECT THE DEOB AMOUNT AND CONFIRM IT IMMEDIATELY REPEAT IMMEDIATELY TO AID/W AND THE MISSION.
 3. REGRET FOR INCONVENIENCE.
 4. PLEASE ALSO CONFIRM BY IMMEDIATE CABLE THE DEOBS REQUESTED IN REF (C).
- TRAIL##

OCAP
RBA