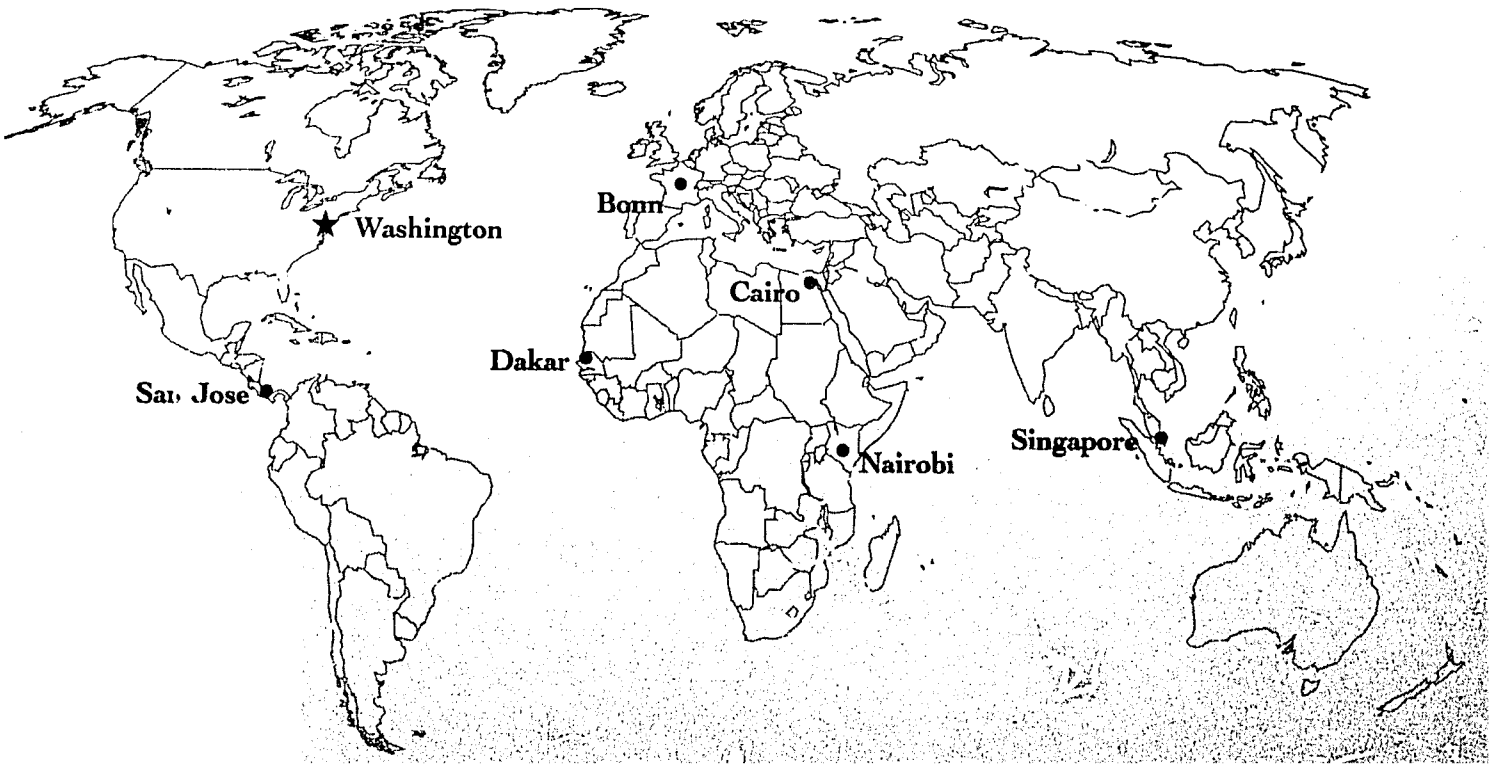
PD-ABJ-978

Programs and Systems Audits

AUDIT OF THE QUALITY OF MACS DATA AT USAID/NICARAGUA

Report No. 9-532-95-003
November 23, 1994



INSPECTOR GENERAL

U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT

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INTERNATIONAL
DEVELOPMENT

November 23, 1994

MEMORANDUM FOR DIRECTOR USAID/Nicaragua, George Carner

FROM: IG/A/PSA, Toby L. Jarman

SUBJECT: Audit of the Quality of MACS Data at USAID/Nicaragua (Audit Report No. 9-524-95-003)

This memorandum is our report of the audit of the quality of Mission Accounting and Control System (MACS) data at USAID/Nicaragua. We considered your comments on the draft report and have included them as an appendix to this report (see Appendix II). Based on your comments and actions the recommendations are considered closed upon issuance of the report.

I appreciate the cooperation and courtesy extended to my staff during the audit.

Introduction

Realizing that USAID must operate with increasingly scarce funds, the Agency is undertaking a new and aggressive effort to change the way data and information are managed. Such an effort is critical to our future; in the modern workplace, be it business or government, a high-quality, reliable information system is no longer a luxury—it is a necessity.

To ensure that the data in the entire USAID system is of high quality—and therefore useful to managers concerned about project status and pipelines reports—the Office of Information Resource Management (IRM) is undertaking a major initiative. They are centralizing data collection and improving the management of information by creating a data warehouse (see page 2 and Appendix V), a repository for data from all Agency systems. One of the first steps in bringing data to this warehouse is the Project Information and Pipeline Evaluation (PIPE) initiative. The PIPE initiative is a joint IRM and Financial Management project that will combine MACS data from the missions and financial data from USAID/Washington, allowing all Agency managers timely and comprehensive information on USAID projects worldwide.

Accordingly, for this system to succeed, the MACS data from all of the missions must be of the highest quality. Therefore, in support of IRM's work, the Office of Audit is conducting a series of audits designed to evaluate the quality of data in the MACS files which is central to the Agency's work. An important part of the effort is this audit of USAID/Nicaragua data.

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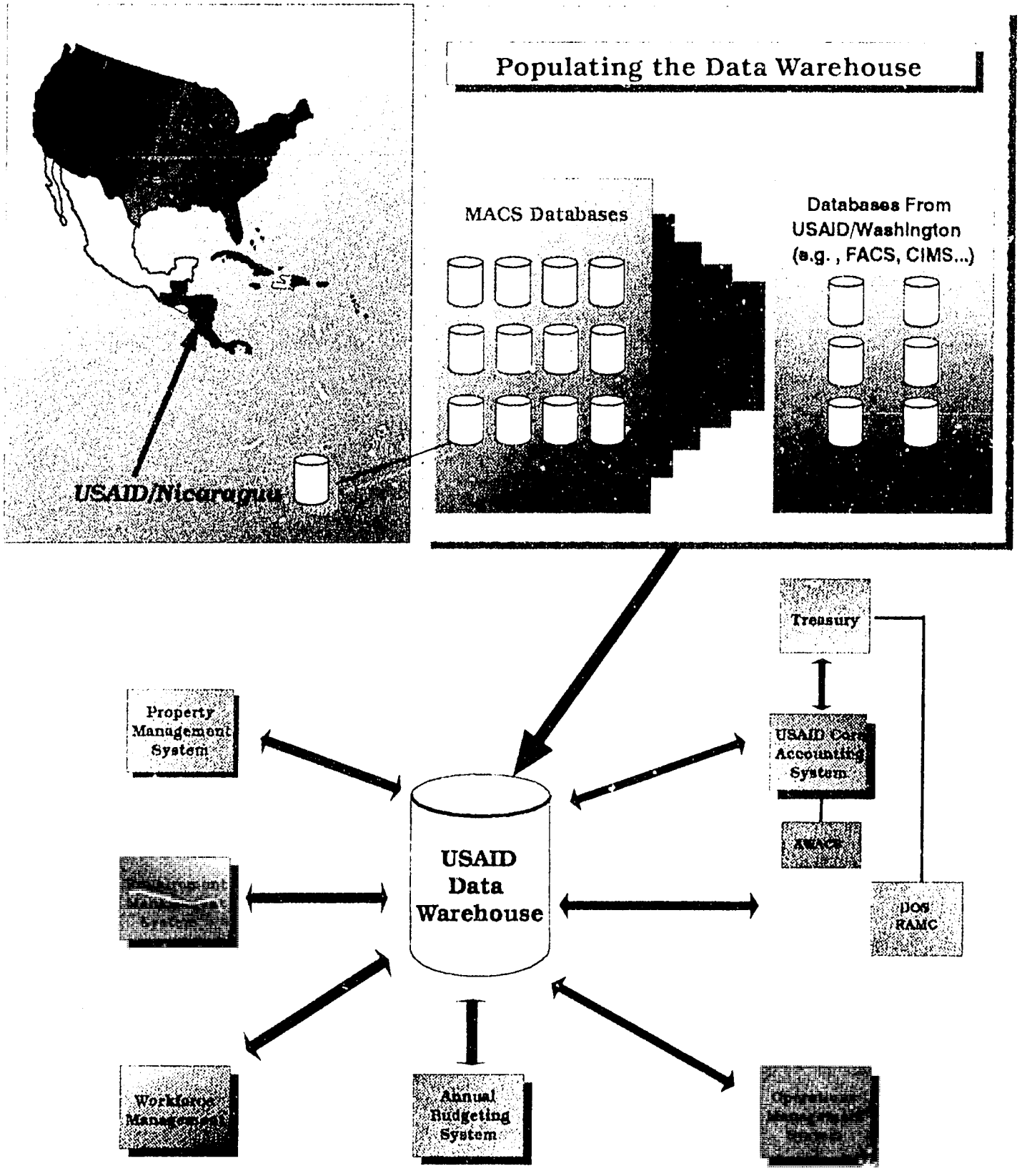

Data From USAID's Legacy Systems

Audit Objective

The audit was designed to answer the following question:

- Is the data in USAID/Nicaragua's Mission Accounting and Control System (MACS) accurate?

Audit Findings

USAID/Nicaragua's MACS data was accurate in 26 of the 32 data elements reviewed; however, the other 6 data elements contained substantial errors.

RESULTS OF OUR REVIEW

MACS Files	Data Elements Reviewed	Elements With Substantial Errors *	Elements With No Substantial Errors *
Budget Allowance Transaction	3	0	3
Reservation/Obligation Transaction	4	0	4
Commitment Transaction	8	1	7
Disbursement Transaction	10	1	9
Project Information Master	7	4	3
Total	**32**	**6**	**26**

(Error rates of less than 5% were considered accurate for reporting purposes. Error rates for each of these elements can be found in Appendix III.)*

The six substantial errors were caused by three different problems:

1. project information memo accounts not updated;
2. commitment end dates not entered correctly; and
3. local currency amounts for FSN payroll not posted.

Since USAID managers worldwide will rely on information in the Agency's data warehouse for making decisions on where and how to allocate scarce resources, it is critical that the data coming from each mission's MACS be accurate and complete. Therefore, the efforts of USAID/Nicaragua to ensure the integrity of data in MACS, will contribute to the Agency's overall goal of providing accurate and timely information on all USAID project activity worldwide.

During the audit, USAID/Nicaragua's Office of Finance (OFIN) took immediate action to correct the problems identified in this report. These actions included correcting errors and providing training to personnel. An analysis of each problem area and recommendations to correct the problems are discussed in detail below.

1. Project Information Memo Accounts Not Updated

General Accounting Office Internal Control Standards require all transactions to be documented by written evidence. In addition, the standard requires that documentation be available and easily accessible for examination.

MACS User's Guide procedures detail the need to:

- verify 17 data elements; including the Project Number, Agreement Date, Authorization Date, and Project Assistance Completion Date (PACD); when entering information into the system; and

- periodically review the data elements and adjust them as required.

We reviewed all 49 of the Mission's Project Information Master (PIM) records and tested seven data elements in each record. Four of the elements contained substantial errors, with error rates from 8.16 to 14.28 percent.

Most of these errors occurred in "memo" records, commonly referred to as memo accounts. Of the 49 records in the PIM file 35 were official accounting station records of USAID/Nicaragua (the Mission) and 14 were memo accounts for which the Mission is not the official accounting station. The table below details the errors detected in the project information file and categorizes these errors into those occurring in official records and those occurring in memo accounts.

PROJECT INFORMATION MASTER FILE				
			ERRORS	
MACS DATA ELEMENT	TOTAL RECORDS	TOTAL ERRORS	OFFICIAL RECORDS	MEMO ACCOUNTS
Project Assistance Completion Date	49	4	2	2
Authorized Amount	49	4	1	3
Agreement Date	49	4	1	3
Terminal Disbursement Date	49	7	4	3
Life of Project (Years)	49	2	2	0

USAID/Nicaragua was opened in 1990; however, the accounting function did not commence until October 1991. Prior to September 1991 the accounting function was handled by USAID/Honduras. USAID/Washington also was responsible for much of the accounting information for activities in Nicaragua prior to September 1991.

USAID/Nicaragua needed to maintain a complete (or as complete as possible) record of USAID assistance to the country of Nicaragua. To achieve this goal OFIN opened memo accounts to record current information of activities in Nicaragua for which the Mission was not the official accounting station. Documents used by OFIN to enter project information into project information memo accounts did not always contain all the project data required by MACS. Because the information in the memo accounts are for informational purposes, and not for the official accounting records, OFIN did not scrutinize this information to the same degree as information related to their official records.

Although most the errors identified in the project information file as part of this audit are contained in memo accounts, inaccurate information is nevertheless recorded in a corporate data base.

Only one of the elements in the official records of the PIM file contained a significant error rate. There were four errors in the terminal disbursement date element which normally is not more than nine months after the PACD. We could not determine a cause for these errors, nor could Mission personnel. As a result of these errors MACS contains inaccurate information.

Recommendation No. 1: **We recommend that the Director, USAID/Nicaragua:**

1.1 correct the Project Information Master file to ensure the information is accurate; and

1.2 train personnel in the proper method of updating information in the Project Information Master file.

2. Commitment End Dates Not Entered Correctly

The commitment end date identifies the expected date for the completion of goods or services related to a procurement action.

The Commitment Transaction file (MXCOT) contained eight errors - all in the commitment end date element.

We could not ascertain the specific reason why these errors occurred and have assumed that they were caused by human error. USAID/Nicaragua has placed a significant emphasis on training since the Mission opened. An analysis of the errors showed that one commitment end date was in 1991, four in 1992, two in 1993 and one in 1994. This information implies that OFIN staff currently possesses a proper understanding of this transaction.

In addition, USAID/Nicaragua has developed a comprehensive Financial Management Internal Control Assessment (FMICA) review which includes a MACS data integrity assessment. Beginning in Fiscal Year 1994 OFIN will analyze 100 percent of active commitments. Although we did not perform an audit of this review, we did review the process and conducted limited testing. The FMICA review is a continuing process throughout the year. At the time of our MACS data integrity audit, OFIN personnel were in the process of reviewing all commitments contained in the commitment transaction file. This review identified errors which will be adjusted after management review.

The commitment end dates are used as part of 1311 deobligation reviews conducted by OFIN. Incorrect commitment end dates could have the potential to allow for an inaccurate report of valid obligations at year end.

Recommendation No. 2: **We recommend that the Director, USAID/Nicaragua correct the commitment end date errors identified in the Commitment Transaction file.**

3. Local Currency Amount for FSN Payroll Not Posted

The Disbursement file (MXDIT) contained ten errors in the actual disbursed amount element. The actual disbursed amount identifies the amount of the disbursement in the currency used for payment. Of the ten errors noted in this element, eight related to disbursements for the Foreign Service National (FSN) payroll which is made in Cordobas, the currency of Nicaragua. The FSN payroll is processed by the Regional Administrative Management Center (RAMC) in Mexico City. The FSN payroll is charged to a U.S. dollar appropriation and is paid in local currency. RAMC and MACS have program differences; for example, RAMC rounds amounts down to the lowest cent and MACS rounds up. This programming difference would cause a substantial number of differences but of a minuscule dollar amount. In order to reconcile these differences the Mission would have to prepare numerous adjusting journal vouchers each pay period.

Rather than expend limited personnel resources to reconcile minuscule dollar amounts, OFIN entered an amount of "0.00" into this field in order to avoid the preparation of journal vouchers to balance the amounts with RAMC. We understand the basis for this action. Consequently, at this time we do not have a recommendation to address this problem area. We intend to communicate this issue to FM in Washington (M/FM/FO, MACS Coordinator) and discuss the implications to the agency corporate database.

MANAGEMENT COMMENTS AND OUR EVALUATION

USAID/Nicaragua agreed with the report's recommendations. Based on Mission comments and corrective actions taken during the audit, we consider all recommendations to be closed upon report issuance.

Although the Mission agreed with the recommendations, they felt that a different method of calculating the error rates should be used. The Mission is of the opinion that errors in non-official accounting records and errors resulting from postings made by the FSN Payroll System should not be counted as errors. The exclusion of these errors would have reduced the error rate in five data elements. At this time the Agency has not designed its corporate database and therefore no determination has been made on how non-official MACS records will be handled. Until this determination has been made, it is essential that all MACS information be accurate. The Missions action of removing the non-official records from their MACS system has corrected this problem. Although we counted the errors caused by

the FSN Payroll System, we did not make a recommendation to address this problem area. We intend to communicate this issue to FM in Washington so that they can determine it's impact on the Agency's corporate database.

Along with their comments to this report, the Mission included a detailed assessment guide for reviewing the integrity of their MACS data. The purpose of the assessment guide is to provide assurance that USAID/Nicaragua's MACS data is accurate. We commend the Mission for this effort and their commitment to data integrity. Because of the large size of the Mission's assessment guide, we have not included it with this report.

SCOPE AND METHODOLOGY

Scope

The Office of Programs and Systems Audits audited the quality of data maintained in MACS files of USAID/Nicaragua in accordance with generally accepted government auditing standards. The audit was performed from August 2, 1994 through August 19, 1994 at USAID/Nicaragua. The auditors reviewed 5 files and 32 data elements (17.9 and 4.2 percent respectively) from a universe of 28 MACS Transaction/Master files and 757 data elements. If the error rate was substantial (above 5 percent) for any of the data elements, we also evaluated the cause and made the appropriate recommendations.

Methodology

After consulting with financial management officials in Washington, D.C., we identified the MACS files and key data elements that we would review for each file. We analyzed Fiscal Year 1992 and 1993 data from 5 of the 28 MACS Transaction/Master files[1]:

- Budget Allowance Transaction
- Reservation/Obligation Transaction
- Commitment Transaction
- Disbursement Transaction
- Project Information Master

We selected a statistical sample for four of the data files that would provide a confidence level of 90 percent and a precision level of plus or minus 4 percent and an expected rate of occurrence not over 5 percent. We reviewed 100 percent of the records in the Project Information Master file.

For each data element reviewed (dollar amounts, dates, document numbers, etc.), we determined whether the data in MACS was supported by information from a source document(s). Based on the results of these determinations, we calculated error rates for each data element and assessed whether the error rate was substantial. An error rate of 5 percent or greater was considered substantial. Data elements with an error rate of less than 5 percent were considered accurate for reporting purposes. We statistically projected the number of errors in the MACS file. These projections indicate the total number of errors estimated for each data element based on the errors found in the statistical sample.

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[1] A complete listing of MACS Transaction/Master files can be found in Appendix IV.

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MEMORANDUM

DATE: October 18, 1994

TO: Toby L. Jarman, IG/A/PSA

FROM: George Carner, Director

SUBJECT: Draft Audit Report of the Quality of MACS Data at USAID/Nicaragua

The Mission would like to extend its appreciation for the professionalism and cooperation provided by the audit team during their field work. The goal of ensuring the highest quality of data in the MACS files is shared by USAID/Nicaragua; therefore, we are grateful for your valued assistance in this area. Mission management is pleased with the positive results and will continue to strive for excellence in accounting for all assistance activities for which it has official accounting responsibility.

The Mission would like to take advantage of the opportunity to respond specifically to the findings and recommendations stated in the subject draft report. This is done to further ensure accurate and complete reporting which will hopefully result in a clearer understanding of the audit findings being reported.

A. PROJECT INFORMATION MEMO ACCOUNTS NOT UPDATED

Of the 49 records reviewed in the PIM file 35 represented project activity for which USAID/Nicaragua was the official accounting station. Based on the testing of these 35 records, there were 4 incorrect dates noted in the Terminal Disbursing Date element, 2 incorrect dates noted in each of the PACD and Life of Project elements; and only 1 error noted in each of the Authorized Amount and Agreement Date elements. USAID/Nicaragua concurred with these findings and took immediate action to correct those errors and presented evidence of such to the audit team before their departure from post. Moreover, appropriate training was provided to the applicable Office of Finance staff regarding the processing of information in the PIM file.

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With respect to errors reported relating to data contained in the PIM file for which USAID/Nicaragua is not the official accounting station (i.e. MEMO accounting), the Mission appreciates the fact that the audit report makes a distinction between "official" and "non-official" accounting records (Schedule on pg. 5). This differentiation is an important one to make as the Mission is charged with the responsibility of ensuring the data integrity of all activities for which it has been designated as the official accounting station. Because of the difficulty in obtaining timely information from Washington and due to the numerous Congressional inquiries regarding the value of assistance provided to Nicaragua, a need developed at Post to track assistance activities for which AID/W was and still is the official accounting station. The most efficient and cost effective mechanism for tracking such activity was to perform memo accounting in the MACS PIM file vice establishing a tracking system outside of MACS. At times, judgments had to be made as to inputing certain information into the PIM record, either because complete information could not be obtained, or due to the nature of the activities involved. Of the 49 records reviewed during the audit, 14 were memo accounts established for this purpose only. Because no clear support existed at Post for data reported in certain elements, errors in dates and amounts related to these Memo accounts are being reflected in your draft report. The Mission does not recognize these findings as errors of "official" accounting data. However, as a result of such findings, all memo accounts were deleted from MACS. Although more labor intensive and costly, any future tracking of non-official accounting activities will be performed outside of MACS.

The commingling of data for a given transaction taken from an official data base and from non-official sources will result in compromising data integrity. Therefore, any future consolidation of accounting data into a Data Warehouse, as is currently envisioned with the new AWACS design, should be based only on data drawn from accounting stations that have been officially designated as being responsible for accounting for such data.

Please refer to attachment 1 for a summary of PIM results relating to official accounting data, non-official accounting data and consolidated data. In addition to making a distinction in the audit report on page 5 between "official" and "non-official" accounting data, it is felt that the same should be done in your final report for the summary schedule on page 3 and with the statistical reporting in Appendix III.

Therefore, based on the actions taken by the Mission with respect to the findings in the PIM file, the Mission requests that the resulting recommendation be closed upon issuance of the final audit report.

B.COMMITMENT END DATES NOT ENTERED CORRECTLY

The only reportable error in the Commitment File relates to the Commitment End Dates. Because the Office of Finance had already begun a comprehensive MACS data assessment of its own as part of the annual FM/ICA (See Attachment III), several of these errors were already detected. Clearly a system is in place to ensure that all errors in this element will be identified and corrected, not only those detected in the audit sample. The Mission concurred with this finding and took immediate action by correcting the commitment end dates. Therefore, Mission requests that this recommendation be closed upon issuance of the final report.

C.LOCAL CURRENCY AMOUNTS FOR FSN PAYROLL NOT POSTED

Of the 10 errors noted in your draft report in the Actual Disbursed Amount element contained in the Disbursement Transaction file 8 were related to the way in which FSN payroll activity is posted into MACS. Because the way in which FSN payroll activity is posted into MACS is deemed proper, the Mission feels that only 2 not 10 errors resulted from audit testing in this element. The sample criteria states that error rates below 5% were considered accurate for reporting purposes (Appendix III of draft audit report). Therefore, because 2 errors results in an error rate below 5%, the error rate reflected in Appendix III should report zero not 8.33%. The impact on the projected errors to the universe is enormous. Simply by excluding a class of transactions (i.e. FSN payroll postings into MACS) that is viewed by Mission Management as being processed correctly, the projected error rate to the Mission's universe of 17,940 items in the Actual Disbursed Amount element would result in zero errors vice the 1,495 currently being reported in Appendix III of the draft audit report (See Attachment II). A brief explanation of the FSN payroll posting process into MACS is provided below.

RAMC Mexico processes our FSN payroll. The Post, therefore, needed a mechanism to post FSN payroll activity into MACS. There are essentially two ways of doing this. The first method is the way in which the Mission has chosen to perform this task. Upon receipt of the RAMC payroll report (Comprehensive Payroll), the Post prepares a 1034 voucher which is processed via MACSTRAX. The 1034 is prepared in dollars based on the RAMC payroll report. In this way we reconcile exactly to RAMC with respect to the appropriation charges, resulting in no 1221 reconciling items. The downside of this method is that the amount of the payroll disbursement in the currency used for payment is not posted to the Actual Disbursed Amount element. This is why the above finding states that, "local currency amounts for FSN payroll not posted." The second possibility is the processing of a local currency 1034 voucher. The advantage of this method is that the payroll disbursement in the currency used for payment would be

reflected in the Actual Disbursed Amount element. However, the disadvantage of this method is the numerous differences that would result between RAMC and the Mission in the dollar amounts charged to the appropriation funding the payroll. This is due to the way in which two different kinds of software (i.e. MACSTRAX and RAMC Mexico's payroll software) performs the same calculation of computing dollar equivalents for local currency payroll charges. For example, one software will round up when the other is programmed to round down. The amount of personnel time required to identify and correct these insignificant differences between MACSTRAX and RAMC for approximately 100 FSN contracts every pay period is simply not good stewardship of scarce government resources. Based on cost/benefit and the fact that the most efficient mechanism for posting payroll activity into MACS is by processing a 1034 voucher via MACSTRAX, we have decided on the first method.

In summary, if only official accounting data is considered within the scope of the audit and FSN payroll postings are removed from consideration, only 4 of the 32 elements tested would be regarded as having reportable errors (Commitment End Dates; PACD; Terminal Disbursement Dates; Life of Project) vice the 6 reported in the summary schedule on page 3 of the draft audit report. The Mission appreciates your consideration of the comments made above and requests that the two recommendations made in the draft audit report be closed upon issuance of the final report. The Office of Finance staff have worked hard to preserve the quality of MACS data as evidenced in the results of this audit and in the ongoing comprehensive assessement work carried out as part of our annual FM/ICA (See Attachment III). USAID/Nicaragua reiterates its commitment to excellence in the accounting of all assistance provided to Nicaragua for which it has responsibility.

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ATTACHMENT I

MACS DATA INTEGRITY ASSESSMENT
USAID/NICARAGUA
6/30/94

PROJECT INFORMATION MASTER FILE					
ELEMENTS	UNIVERSE	NUMBER IN SAMPLE	ERRORS IN SAMPLE	ERROR RATE	ERRORS IN UNIVERSE
I. USAID/NICARAGUA (Official Accounting Data)					
PACD	35	35	2	5.71%	2
Authorized Amount	35	35	1	2.86%	1
Agreement Date	35	35	1	2.86%	1
Terminal Disb. Date	35	35	4	11.43%	4
Host Country Contribution	35	35	0	0.00%	None
Project Number	35	35	0	0.00%	None
Life of Project (In Years)	35	35	2	5.71%	2
II. USAID/NICARAGUA (Tracking of Non-Official Accounting Data)					
PACD	14	14	2	14.28%	2
Authorized Amount	14	14	3	21.43%	3
Agreement Date	14	14	3	21.43%	3
Terminal Disb. Date	14	14	3	21.43%	3
Host Country Contribution	14	14	0	0.00%	None
Project Number	14	14	0	0.00%	None
Life of Project (In Years)	14	14	0	0.00%	0
III. USAID/NICARAGUA (Consolidated Data as reflected in Audit Report)					
PACD	49	49	4	8.16%	4
Authorized Amount	49	49	4	8.16%	4
Agreement Date	49	49	4	8.16%	4
Terminal Disb. Date	49	49	7	14.28%	7
Host Country Contribution	49	49	0	0.00%	None
Project Number	49	49	0	0.00%	None
Life of Project (In Years)	49	49	2	4.08%	2

I. Reporting Official Accounting Data only.
II. Reporting Non-Official Accounting Data only.
III. Reporting Both Official and Non-Official Accounting Data.

ATTACHMENT II

MACS DATA INTEGRITY ASSESSMENT
USAID/NICARAGUA
6/30/94

DISBURSEMENT TRANSACTION FILE								
ELEMENTS	UNIVERSE	NUMBER IN SAMPLE	ERRORS IN SAMPLE		ERROR RATE		PROJECTED ERRORS IN UNIV.	
			A	B	A	B	A	B
Obligation Number	17,940	120	0	0	0.00%	0.00%	None	None
Reservation Control Number	17,940	120	0	0	0.00%	0.00%	None	None
Commitment Number	17,940	120	0	0	0.00%	0.00%	None	None
Earmark Control Number	17,940	120	0	0	0.00%	0.00%	None	None
Budget Plan Code	17,940	120	0	0	0.00%	0.00%	None	None
Disbursing Office Code	17,940	120	0	0	0.00%	0.00%	None	None
Federal Outlay Code	17,940	120	1	1	.83%	.83%	*	*
Actual Disbursed Amt.	17,940	120	2	10	1.67%	8.33%	*	1,495
Budget Allow. Disb. Amt.	17,940	120	0	0	0.00%	0.00%	None	None
Transaction Type	17,940	120	0	0	0.00%	0.00%	None	None

* Error rates of less than five percent were considered accurate for reporting purposes.
A FSN payroll transactions not counted as an error.
B FSN payroll transactions counted as an error.

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USAID/Nicaragua
MACS FILES AND ELEMENTS REVIEWED

MACS FILES/ELEMENT	UNIVERSE	NUMBER IN SAMPLE	ERRORS IN SAMPLE	ERROR RATE	PROJECTED ERRORS IN UNIVERSE
BUDGET ALLOWANCE TRANSACTION					
Budget Plan Code	292	64	0	0.00%	None
Transaction Amount	292	64	0	0.00%	None
Project Number	292	64	0	0.00%	None
RESERVATION/OBLIGATION TRANSACTION FILE					
Obligation Number	7,982	80	0	0.00%	None
Reservation Control Number	7,982	80	0	0.00%	None
Budget Plan Code	7,982	80	0	0.00%	None
Transaction Amount	7,282	80	0	0.00%	None
COMMITMENT TRANSACTION FILE					
Commitment Document Number	1,204	76	0	0.00%	None
Earmark Control Number	1,204	76	0	0.00%	None
Call Forward Date	1,204	76	0	0.00%	None
Training Months	1,204	76	0	0.00%	None
Budget Plan Code	1,204	76	0	0.00%	None
Transaction Amount (Mission)	1,204	76	0	0.00%	None
Transaction Amount (AID/W)	1,204	76	0	0.00%	None
Commitment End Date	1,204	76	8	10.53%	127
DISBURSEMENT TRANSACTION FILE					
Obligation Number	17,940	120	0	0.00%	None
Reservation Control Number	17,940	120	0	0.00%	None
Commitment Number	17,940	120	0	0.00%	None
Earmark Control Number	17,940	120	0	0.00%	None
Budget Plan Code	17,940	120	0	0.00%	None
Disbursing Office Code	17,940	120	0	0.00%	None
Federal Outlay Code	17,940	120	1	.83%	*
Actual Disbursed Amount	17,940	120	10	8.33%	1,495
Budget Allow Disbursement Amount	17,940	120	0	0.00%	None
Transaction Type	17,940	120	0	0.00%	None
PROJECT INFORMATION MASTER FILE					
PACD	49	49	4	8.16%	4
Authorized Amount	49	49	4	8.16%	4
Agreement Date	49	49	4	8.16%	4
Terminal Disb. Date	49	49	7	14.28%	7
Host Country Contribution	49	49	0	0.00%	None
Project Number	49	49	0	0.00%	None
Life of Project (In Years)	49	49	2	4.08%	*

*** Error rates of less than 5% were considered accurate for reporting purposes**

MACS TRANSACTION AND MASTER FILES NUMBER OF DATA ELEMENTS	
MACS FILE NAME	**# OF ELEMENTS PER RECORD**
Operating Expense Budget Master	10
Operating Expense Budget Transaction	12
Budget Allowance Master File	13
Budget Allowance Transaction File	12
Reservation Master File	17
Obligation Master File	37
Reservation/Obligation Transaction File	20
Project Information Master File	115
Project Information Transaction File	25
Condition Precedent Transaction File	96
Project Element Master File	13
Project Element Transaction File	12
Direct Reimbursement Authorization (DRA) Master File	16
Direct Reimbursement Authorization (DRA) Transaction File	17
Earmark Master File	20
Earmark Transaction File	19
Commitment Master File	41
Commitment Transaction File	25
Advance Master File	22
Advance Transaction File	30
Planned Expenditures Master File	13
Planned Expenditures Transaction File	15
Accrual Transaction File	18
Prepayment Amortization Transaction File	23
Disbursement Transaction File	28
Interface Disbursement/Advance File	36
Interface Disbursement/Advance Reject File	35
Prepayment Amortization File	17
Totals 28 MACS FILES	**757**

USAID'S INFORMATION MANAGEMENT

This new USAID effort to establish a quality information system is described in the Agency's Information Systems Plan (ISP).[1] A primary goal of this plan is to have corporate data managed at the Agency level rather than "owned" by each individual office.

Using an information engineering methodology, models of the Agency's business processes and data requirements were created. These models were then broken into eight logical Business Areas. Each Business Area represents related functions within the Agency that share similar business processes and data needs. Each of these eight areas will be studied in depth, in a process called Business Area Analysis (BAA).

The BAA provides a greater level of detail on the functions in each area and provides a basis for designing system requirements. Each BAA 1) continues to model the data requirements and business functions, 2) includes this information in the Agency's electronic repository, and 3) reconciles the new models back to the Agency-wide models. This results in a high degree of standardization, stability, and reusability.

Currently five BAA's are being conducted—Core Accounting, Procurement, Budgeting, Human Resources, and Operations. The inter-dependencies of these five business areas are high and will require significant sharing of data. Therefore, to facilitate the systems development work, IRM is planning a data warehouse that will allow movement to a data sharing environment.

Populating this data warehouse will begin with transferring MACS transaction level data into the warehouse. The Core Accounting BAA, which includes the AWACS project, needs a functioning warehouse to provide the most benefit to the Agency.

Smaller initiatives are under way to begin the transition to a corporate database. PIPE (Project Information and Pipeline Evaluation) currently brings in summary MACS and FACS data, to provide project status and pipeline information to Agency managers. In order to make sound decisions, it is important that managers using such information know the quality of the data being used.

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[1] Information Systems Plan, Volume I: Report To Management, February 1993.

APPENDIX VI

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