

DEPARTMENT OF EDUCATION-FSA
FMS INTEGRATION PARTNER
INTERFACE FUNCTIONAL DESIGN



FMS FORM 2000 MONTHLY GL INTERFACE
TRIGGER MODIFICATION
TO 149 – FORM 2000 SYSTEM ENHANCEMENTS

Author: Kim Olszewski
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Subject: FMS Form 2000 Monthly GL Interface Trigger Modification
TO 149 – Form 2000 System Enhancements
Version: 1.0

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----------------------------	---------------------------

TABLE OF CONTENTS

DOCUMENT CHANGE CONTROL	3
APPROVAL	3
SPECIFICATION	4
GENERAL REQUIREMENTS	5
BUSINESS OBJECTIVE:	5
COMPONENT DESCRIPTION:	5
CUSTOM COMPONENT RISKS:	5
AUTHORIZATION:	6
SCHEDULING REQUIREMENTS:	6
VOLUME:	6
FREQUENCY:	6
DEVELOPMENT COMPLEXITY:	6
SECURITY CONCERNS:	6
ASSUMPTIONS:	6
PROCESS FLOW DIAGRAM:	7
DETAILED DESCRIPTION OF NEW/CHANGES TO EXISTING PROGRAM:	8
INPUT PARAMETERS:	9
DATABASE OBJECTS:	9
DEPENDENCIES	10
DEPENDENCIES ON OTHER RICE COMPONENTS:	10
DEPENDENCIES ON OTHER BUSINESS COMPONENTS:	10
DESIGN CONSTRAINTS:	10
PERFORMANCE CONSIDERATIONS:	10
IMPLEMENTATION CONSIDERATIONS:	10
OTHER DEPENDENCIES/SPECIAL CONCERNS:	10
ERROR HANDLING	11
TESTING REQUIREMENTS	11
ISSUES AND ADDITIONAL CONSIDERATIONS	12



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TO 149 – Form 2000 System Enhancements
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----------------------------	---------------------------

Document Change Control

Date	Author	Version	Change Reference
10/20/03	Kim Olszewski	1.0	Initial Creation

Approval

Created By:	Kim Olszewski	312-693-4918	Creation Date: 10/20/03
Project Lead Sign Off:	Joanna Zieba	312-693-3414	Sign Off Date: 11/17/03
FSA Representative Sign Off:	Jay Hurt	202-377-3453	Sign Off Date:



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----------------------------	---------------------------

Specification

Program Name:	FMS Form 2000 Monthly GL Interface Trigger Modification
Functional Design Document ID & Title:	FORM2000_MONTHLY_GL_INT_TRIGGER_MOD_FD.doc
Application:	Form 2000 Monthly
Priority:	High
Estimated Production Date:	April 4, 2004
Other Affected Applications:	FMS GL FMS AP
Comments:	



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General Requirements

Business Objective:

As part of TO 149, the Form 2000 design team has been tasked with modifying the trigger which currently initiates the interface from Form 2000 to the FMS GL (FP Acceptance) to avoid the associated Accounts Payable (AP) transactions from posting to a separate General Ledger (GL) period. The Form 2000 FSA FFEL GA Form 2000 AP/GL Load Interface transfers information from the Form 2000 Monthly and Monthly/Quarterly tables into the AP and GL Applications automatically when an FSA Financial Partners (FP) accepts any Monthly or Monthly/Quarterly reports. It was originally intended that once an invoice was created in Accounts Payables and the associated transactions were sent to the GL, the payment would be processed immediately. However, because of account restraints, this is not possible. There are instances when an invoice is created in a particular GL period and the AP invoice is approved and paid in a subsequent period. This creates GL reconciliation issues between FMS and FMSS.

The main Business objectives of this enhancement is to modify the interface to delay transferring Form 2000 Monthly information to GL until the AP invoice has been approved, thus the GL and AP entries will be in the same accounting period.

Component Description:

In order to meet the needs of the business objective, the following enhancements will be made to the current Form 2000 AP/GL Load Interface process.

- Modify current Form 2000 AP/GL Load Interface to exclude the GL Load for Form 2000 Monthly entries.
- Create a custom GL Interface for Monthly transactions, which will capture approved Form 2000 Monthly invoice data and load corresponding GL account information into the FMS General ledger.

Currently the Form 2000 AP/GL Load Interface executes once an FP accepts a Form 2000 Monthly or Monthly/Quarterly report. The interface currently processes the Monthly data by creating invoices in the Accounts Payable application and additionally loading Monthly form GL data into the FMS General Ledger. The Form 2000 Monthly/Quarterly form data is loaded entirely into the FMS General Ledger. Since the desired outcome is to synchronize the approval of an invoice with the loading of the corresponding Form 2000 Monthly General Ledger data, the Monthly form data will no longer be retrieved and loaded into the FMS General Ledger by the existing Form 2000 AP/GL Load Interface. However, the existing interface will continue to retrieve Form 2000 Monthly Account Payable data and insert invoice information into the Oracle Accounts Payable tables once an FP accepts the Monthly form.

To accommodate the synchronization between the approval of Form 2000 Monthly invoice information and the posting of GL data, a new custom interface will be developed. This interface will process on a nightly basis to identify invoices created by the Form 2000 AP/GL Load Interface that have been approved that business day. The approved invoice information will be used to determine the corresponding records (MR-17 through MR-26) in the Monthly table that will load directly into the FMS General Ledger. This interface will execute following the last scheduled Payables Transfer to GL program. This new interface will utilize the existing Form 2000 AP/GL Load Interface logic for determining the correct account segments to be loaded into the FMS General Ledger. By creating the non-accounting GL transactions immediately following the Payables Transfer to GL, the AP and GL data will be loaded into the same period, and GL posting inconsistencies due to the closing of periods and sweeping of invoices during the Month End process will be eliminated.

Custom Component Risks:

None



		Subject: FMS Form 2000 Monthly GL Interface Trigger Modification
		TO 149 – Form 2000 System Enhancements
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Authorization:

Authorization will be given to the FMS Operations Team to manually cancel scheduled runs or to initiate additional requests, if needed.

Scheduling Requirements:

The interface will be scheduled to run at 10:15PM(EST) on a nightly basis, immediately following the last scheduled Payables Transfer to GL process.

Volume:

Approval of invoices varies on a daily basis. The number of invoices approved daily can range from approximately 0-7. Each approved Form 2000 Monthly invoice consists of 29 records that will be loaded into the FMS General Ledger.

Frequency:

Once nightly.

Development Complexity:

Difficult

Security Concerns:

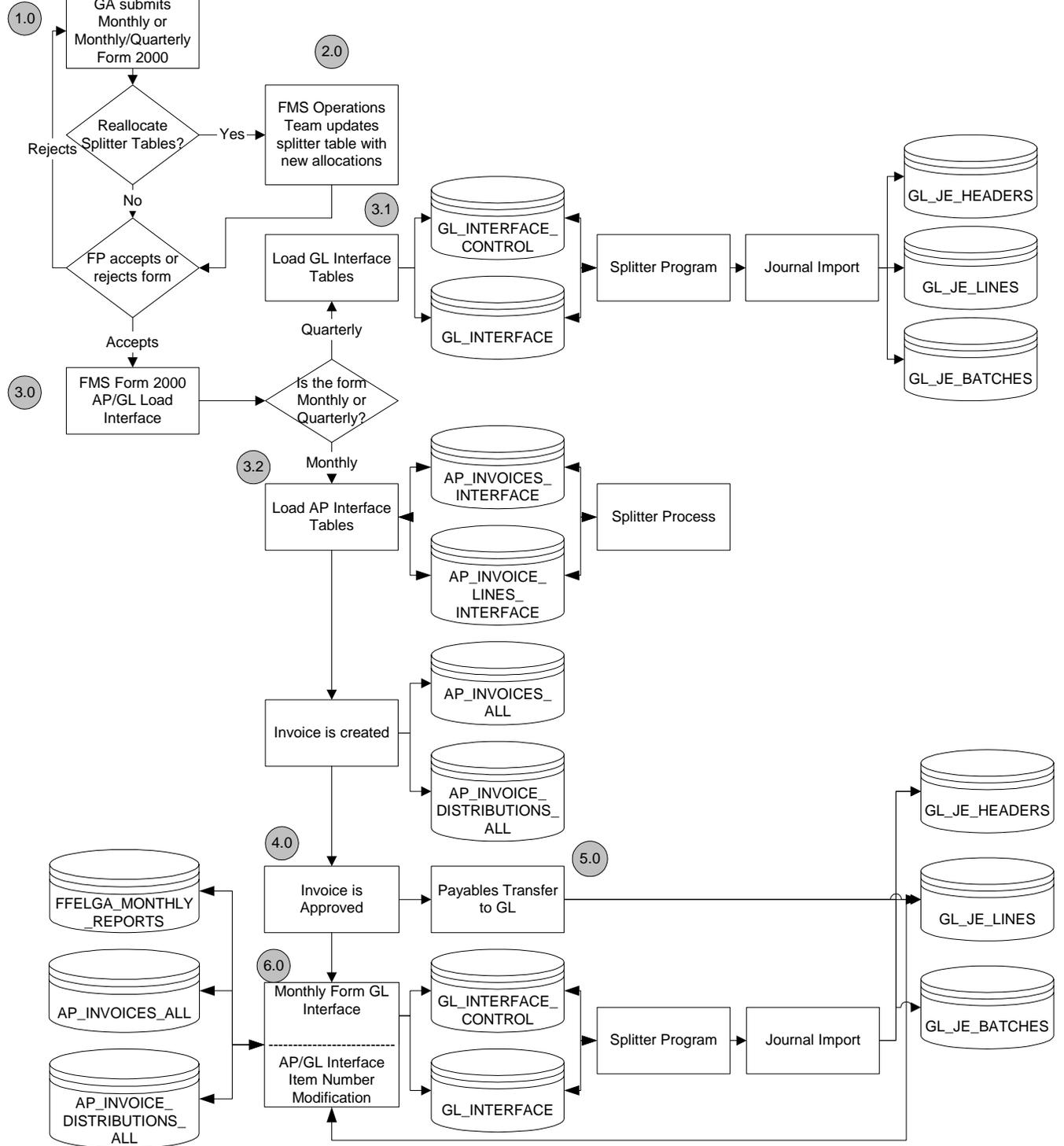
None

Assumptions:

1. A business process change will take place regarding changes to Splitter Allocation tables. This business process change will involve loading the new Splitter Allocations in advance, if pending Forms 2000 Monthly data will span across two GL periods.
2. Budget Services will notify the FMS Operations team and the FP's that Splitter Allocations changes need to be made for the next month. The FPs will delay accepting reports until the new allocations have been loaded into the splitter table. This process change should only occur on a quarterly basis.
3. The FMS Form 2000 Monthly GL Interface will be assigned to the same responsibilities as the FMS Form 2000 AP/GL Load Interface.
4. Maintenance of the new FMS Form 2000 Monthly GL Interface will remain the same as the process currently in place for the FMS Form 2000 AP/GL Load Interface, and will be handled by the FMS Operations Team.
5. Any changes made to an invoice after approval that result in reconciliation errors, will be handled manually by the FMS Operations Team.
6. Any changes made to an invoice number will be restricted to appending characters to the end of the original invoice number. The original invoice number, consisting of the GA Code, Report Type, Month and Year, will always exist as the first 10 characters in the invoice number.
7. Development of the enhancement will be performed using the SQL Navigator development tool.
8. The FMS Operations team will provide the Form 2000 team with the most recent version of the FMS Form 2000 AP/GL Load Interface code.
9. Any GL logic changes applied to the FMS Form 2000 AP/GL Load Interface will also be made simultaneously to the FMS Form 2000 Monthly GL Interface.
10. Attribute8, Attribute9, and Attribute10 on the AP_INVOICES_ALL table are available for use by the FMS Form 2000 Monthly GL Interface.
11. The Payables Transfer to GL process will run on a nightly basis. If any errors occur during the Payables Transfer to GL Process, the FMS Operations Team will manually address any reconciliation issues that arise between the Accounts Payable transactions and the Monthly GL transactions processed by the new Monthly GL Interface.
12. The Payables Transfer to GL process completes within 15 minutes of its scheduled execution.
13. The Form 2000 Annual GL Interface will not change as a result of this enhancement.



Process Flow Diagram:





		Subject: FMS Form 2000 Monthly GL Interface Trigger Modification
		TO 149 – Form 2000 System Enhancements
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Detailed Description of New/Changes to Existing Program:

- 1.0 GA Submits Form 2000 – The GA manager submits the Form 2000 Monthly or Monthly/Quarterly report to be reviewed by the FP. No Changes will be made to this functionality.
- 2.0 Determination of Splitter Reallocation Process Change – A business process change will take place whenever splitter allocations changes need to be made. Budget Services will be responsible for contacting both the FMS Operations Team and the Financial Partners regarding the reallocation of the Splitter tables. At this time, all pending Monthly Form 2000 reports will not be approved. Once the new allocations are loaded into the splitter tables, notice will be given to the Financial Partners that acceptance of the Monthly Form 2000 reports can resume. This process change will decrease the likelihood of the same invoice being distributed to multiple allocations.
- 3.0 FMS Form 2000 AP/GL Load Interface – This existing interface will continue to be initiated when an FP accepts a Monthly Form 2000.
 - 3.1 During the FMS Form 2000 AP/GL Load Interface, records belonging to the Monthly/Quarterly form will continue to load into the General Ledger tables once an FP accepts the form. No changes will be made to this functionality.
 - 3.2 To accommodate changes to Form 2000 Monthly form functionality, the following changes will be made to the FMS Form 2000 AP/GL Load Interface:
 - The interface will be modified so that records MR-17 through MR-26, located in the Monthly Reports database table, will not be extracted and loaded to the FMS GL when an FP accepts a Form 2000 Monthly form. However, the interface will continue to pull data from MR-1 through MR-16 to use during invoice creation.
 - The interface will populate all Form 2000 Monthly invoice records with a designated flag, used to distinguish Monthly form invoices once they are imported into the Oracle AP Production tables. The FMS Form 2000 AP/GL Load Interface code will be modified to populate Attribute8 with an ‘M’ when loading the record information into the Payables Open Interface tables, at the invoice header level. This ‘M’ attribute will then be captured and loaded into the Oracle AP_INVOICES_ALL table. A visible descriptive flexfield will not be created to display this field on the Oracle Applications Invoice Workbench, but rather this attribute value will exist solely as a reference for the custom FMS Form 2000 Monthly GL Interface.
- 4.0 The Financial Partners will use the same process for approving invoices. An FP typically approves an invoice on the same day that the corresponding Form 2000 Monthly form is accepted. However, there are instances when the approval of a Form 2000 Monthly report will be delayed for payment scheduling reasons. Each invoice created by the FMS Form 2000 AP/GL Load Interface is assigned with a NET21 pay term. Therefore, the FP may delay the approval of an invoice until 21 days after the invoice was initially created.
- 5.0 The Oracle Payables Transfer to GL process will continue to execute on a nightly basis, as a series of scheduled requests. The FMS Form 2000 Monthly GL Interface will be scheduled to execute following the final nightly Oracle Payables Transfer to GL process. Since the final Oracle Payables Transfer to GL process completes at approximately 10:00PM EST, the FMS Form 2000 Monthly GL Interface will be scheduled to run at 10:15PM EST.
- 6.0 The FMS Form 2000 Monthly GL Interface is a new interface that will be developed. The purpose of this interface is to create FMS GL journal entries based on Monthly form data corresponding to approved monthly invoices. The interface will be scheduled to execute immediately following the last nightly Oracle Payables Transfer to GL.

Initially, the program will search the Oracle Invoice Production tables to determine which invoices have been approved since the previous interface run. Each invoice created using monthly form data will be marked with an



Subject: FMS Form 2000 Monthly GL Interface Trigger Modification
TO 149 – Form 2000 System Enhancements
Version: 1.0

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----------------------------	---------------------------

'M' in the Attribute8 field on the AP_INVOICES_ALL table. Additionally, Attribute9 on AP_INVOICES_ALL will exist as an interface flag field and Attribute10 will store the interfaced date. After an invoice is approved and the corresponding GL data is loaded into the General Ledger Interface Tables, the invoice interface flag, Attribute9, will be updated to a status of 'Y' and the interfaced date, Attribute10, will be updated with the system date. These interface flags are used to protect the GL data from being extracted more than once from the Form 2000 Monthly table. The FMS Form 2000 Monthly GL Interface will look specifically to extract invoice information for records that have a value of 'M' in Attribute8 and have not been previously interfaced (i.e. Attribute 9 and 10 contain NULL values).

Since an invoice number for monthly data is composed of the GA Code, Report Type, Month, and Year, those values form a unique key for locating the corresponding record on the Monthly Table. Additionally, they will be used as the initial internal parameters for the FMS Form 2000 Monthly GL Interface.

The FMS Form 2000 Monthly GL Interface will utilize code from the existing FMS Form 2000 AP/GL Load Interface. The logic for creating and inserting records into the GL Interface tables will be identical to the logic used by the FMS Form 2000 AP/GL Load Interface. The code will be modified, however, so that only data in MR-17 through MR-26 on the Monthly form will be extracted for validation and inserted into the GL Interface tables. Once the data has been successfully inserted into the GL Interface tables, Attribute9 on AP_INVOICES_ALL will be marked to 'Y', to reflect that the GL information has been interfaced into the GL Interface tables. As with the FMS Form 2000 AP/GL Load Interface, the custom code will initiate the Standard Oracle GL Journal Import, to create the entries in the Oracle General Ledger production tables.

An additional procedure will be added to this custom PL/SQL package, which will populate the item number for GL journal entries created during the Oracle Payables Transfer to GL. The custom program will locate all GL batches created during the Payables Transfer to GL for that business day. For each batch, the program will use invoice information stored within GL journal entries for Form 2000 Monthly data to retrieve item numbers from Payables production tables and insert the item number information into a reference field on that journal entry line. This procedure will execute immediately following the FMS Form 2000 Monthly GL Interface.

Keeping consistent with the FMS Form 2000 AP/GL Load Interface, the FMS Form 2000 Monthly GL Interface will write status messages upon executing each stage of the program to the Oracle Concurrent Manager Log file. The log messages will be used to track errors, if any occur during the interface processing.

Input Parameters:

Parameter Name	Datatype	Default Value	Required (Y/N)	Value Set	Comments

Database Objects:

Database Object Name	Object Type	Oracle Application	Comments
FFELGA_MONTHLY_GL_PKG	PL/SQL Program	Form 2000 FFEL GA	Custom program will be composed primarily of code from the existing package FFELGA_AP_GL_LOAD_PKG. This custom package will also incorporate a procedure for the Item Number modification detailed in the APGL Interface Item Number Modification Functional Design.



		Subject: FMS Form 2000 Monthly GL Interface Trigger Modification
		TO 149 – Form 2000 System Enhancements
Prepared by: Kim Olszewski	Date: October 20, 2003	Version: 1.0

Dependencies

Dependencies on Other RICE Components:

If any logic changes are made to the existing FFELGA_AP_GL_LOAD_PKG, the changes must also be made to the new FFELGA_MONTHLY_GL_PKG, if applicable.

Dependencies on Other Business Components:

This new component will execute immediately following the last scheduled Oracle Payables Transfer to GL within the same business day.

Design Constraints:

None

Performance Considerations:

None

Implementation Considerations:

Budget Services, FMS Operations Team and Financial Partners are aware of the business process change regarding Splitter allocation.

Other Dependencies/Special Concerns:

None



Subject: FMS Form 2000 Monthly GL Interface Trigger Modification
TO 149 – Form 2000 System Enhancements
Version: 1.0

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----------------------------	---------------------------

Error Handling

Potential Errors	Possible Reasons	Solution Strategy
The GL Interface code is not retrieving any approved Monthly form invoices for GL processing.	<ul style="list-style-type: none"> The interface has not been properly installed. The appropriate changes were not made to the existing AP/GL Interface to mark an invoice as a monthly invoice. The existing AP/GL Load Interface was not properly re-installed once changes were made. 	<ul style="list-style-type: none"> Verify the steps in the installation guide and reinstall the interface components. Re-compile the new AP/GL Load Interface code in the production environment.
The GL Interface is not running on a nightly basis.	The interface was not properly scheduled.	Verify the correct scheduling time and re-schedule the interface.
Form 2000 Monthly report items sent directly to FMS GL do not reconcile correctly with FMS AP related items in report.	Oracle Payables Transfer to GL program for Form 200 transactions completes with errors and is not correctly loaded until next business day, causing AP transactions to have a different GL date than the Monthly GL transactions.	FMS Operations Team identifies problem and assists with manual reconciliation between the AP and GL data.
The Form 2000 AP/GL Load Interface creates both FMS AP and FMS GL entries for Form 2000 Monthly data.	<ul style="list-style-type: none"> The FMS Form 2000 AP/GL Load Interface has not been properly re-installed . The correct version of the FMS Form 2000 AP/GL Load Interface was not installed into production. 	Verify the correct version of the interface code and re-install the program, using the steps in the installation guide.

Testing Requirements

Requirements Matrix Reference	Test Condition	Expected Results
6.2	An invoice is identified as an approved invoice, without being previously interfaced.	The GL data is processed and inserted into the GL tables. The invoice is updated with an interfaced flag.
6.2	An invoice, not derived from the Monthly table, has been approved.	The GL Interface does not retrieve the GL data for the invoice.
6.2	An invoice has been previously interfaced.	The invoice is not retrieved by any future GL Interface executions.
6.2	An invoice number has been modified by appending a character to the existing invoice number.	The code is able to determine the correct GA Code/Month/Year from the invoice and complete the GL processing.
6.2	An invoice number has been incorrectly modified with a character prefixing the existing invoice number.	The record fails the GL Interface process and a descriptive error message is written to the log file.
6.1	An FP approves a Monthly Form.	Only AP fields are processed by the existing AP/GL Load Interface, and GL entries are not yet created for the Monthly GL fields.
6.1	An FP approves a Monthly/Quarterly report.	The Monthly/Quarterly data is retrieved and loaded into FMS GL by the FMS Form2000 AP/GL Load Interface.



Subject: FMS Form 2000 Monthly GL Interface Trigger Modification
TO 149 – Form 2000 System Enhancements
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----------------------------	---------------------------

Issues and Additional Considerations

The following Issues were defined during Functional Design:

Issue	Raised By / Date Needed	Resolution/Answer	Resolved By / Date Completed