MARS User Guide
The Match Process
# Match Process

Document Revision 2.0

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Match Process Overview</td>
<td>2</td>
</tr>
<tr>
<td>Getting Started</td>
<td>2</td>
</tr>
<tr>
<td>Match Process Diagram</td>
<td>5</td>
</tr>
<tr>
<td>Running the Match</td>
<td>11</td>
</tr>
<tr>
<td>Correcting Match Errors</td>
<td>13</td>
</tr>
<tr>
<td>Match Error Report Parameter Form</td>
<td>13</td>
</tr>
<tr>
<td>Match Process</td>
<td>14</td>
</tr>
<tr>
<td>Process 1 - Verification</td>
<td>14</td>
</tr>
<tr>
<td>Process 2 - Automatic Obligation</td>
<td>14</td>
</tr>
<tr>
<td>Process 3 - Automatic Match</td>
<td>14</td>
</tr>
<tr>
<td>Verifying Matched records</td>
<td>16</td>
</tr>
<tr>
<td>Manual Commitment Match Adjustments</td>
<td>16</td>
</tr>
<tr>
<td>Getting Started</td>
<td>17</td>
</tr>
<tr>
<td>Manual Match/Action Taken Log - Matching Error Listing Form</td>
<td>17</td>
</tr>
<tr>
<td>Field Definitions on the Manual Match/Action Taken Log</td>
<td>18</td>
</tr>
<tr>
<td>Step 1: Enter Selection Criteria</td>
<td>18</td>
</tr>
<tr>
<td>Step 2 Choose Additional Selection Parameters</td>
<td>21</td>
</tr>
<tr>
<td>Step 3: Show commitments for Selected CAMS Transactions</td>
<td>21</td>
</tr>
<tr>
<td>Step 4: Match Selected Commitment</td>
<td>24</td>
</tr>
<tr>
<td>Un-Match CBS Transactions</td>
<td>25</td>
</tr>
<tr>
<td>Ignore CBS Records</td>
<td>27</td>
</tr>
<tr>
<td>Getting Started</td>
<td>27</td>
</tr>
<tr>
<td>Match Unprocessed CBS Records</td>
<td>29</td>
</tr>
</tbody>
</table>
Match Process Overview
The "Match" is an automated process that matches CBS data with MARS commitment data. Following are the steps involved in the Match process:

Parameter Setup - Establish parameters that will determine how CBS transactions will be matched to MARS commitment records.

Run Automatic Match and Obligation – Every day the match is be run for all new CBS transactions.

Verification - The system will validate the data that is downloaded from CBS and ignore specific transactions.

Automatic Obligation Process – The system will automatically create a new commitment record or update an existing commitment record if the transaction matches the Automatic Obligation parameter.

Automatic Match Process – The system will search for a commitment. If a commitment is found that matches the parameter criteria, the commitment amount is increased and the remaining commitment amount is decreased.

Manual Match – If no match is found, the transactions are displayed in a General Match Error Report. The user must reconcile the transaction by creating a new commitment or manually match the CBS obligation to an existing commitment.

Getting Started
At the beginning of the fiscal year, each MARS FMC Administrator is responsible for establishing and populating the initial match parameter tables. The parameter tables are completed before the system becomes operational. Once the parameter tables have been established, it is best not to change them for the remaining fiscal year. Keeping consistent parameters will prevent mixed data in the files. On a daily basis the match will be run and automatically update MARS with the most current CBS Trans data.

Match Process
Every day the CBS data will automatically be downloaded so that the match can be run for all new CBS transactions. The match routine can be run at any time by the individual match analysts.

For every CBS download:

The Match is run.
The FAST Report Table is refreshed.
Travel Commitments are generated.
Auto Ob Commitments are generated.

The Match routine runs on current fiscal year documents. All zero dollar amount records are ignored during the Match routine and can be viewed in the AP_Trans table through the Browse feature. Prior Year records are not processed through the Match, but are available in the Forms and Reports.

The following diagram shows the relationship between the MARS and CBS data and what fields are common to both and what fields are unique to the MARS system.

**Relationship Diagram**

![Relationship between MARS and CBS Data Diagram](image)
Differences Between MARS and CBS Records

Fields Common to Commitments and CBS

- FMC
- FY
- Document Type / Item Type
- Organization Code
- Project / Task Code
- Object Class

Fields Unique to Commitments

- Description
- Name/COTR
- Remarks
- Requisition Number
- Commitment Amount
- Vendor
- CBS amount
- Pipeline

Fields Unique to CBS

- Undelivered Orders
- Accounts Payable (unpaid Accrued)
- Disbursements (Paid Accrued)
- Receipts

Correcting the Errors

The Automatic Match/Obligation process will work only to the level of the parameters entered and the level of effort put forth to correct the match errors. It is highly recommended that this process be completed as soon as the data becomes available to minimize the volume of data that must be processed. The match is a multi-step process. The user must initiate the Match process as well as correct any errors that may have occurred (MARS and/or CBS errors).

Once the Automatic Obligation/Match is executed and reconciliation is not made, records in the CBS transaction files are rejected and placed in a Match Error Report. The user will then have to perform some analysis on the transactions to identify the correct course of action to reconcile the unmatched transactions.
The Match Process performs the following processes in Step 1:

- Flag and ignore all records that have Zero amounts.

- Only records for the current Fiscal year (as defined in the Parameter table).

- Process all records previously rejected because of any error and try to process it again.

- Validate the Org/Project/Task at the 10 digit level where the Org/Project/Task is on the OPT table and is not deactivated.

- If no record is found at the 10 digit level and the 7 digit level flag is set it will then check the Org/Project/Task at the 7 digit level plus a 'P00' task. Org/Project/Task must be on the OPT table and not deactivated.

- Validate the Org/Project/Task using the Match Org/Project/Task translation table at the 10 digit level. Org/Project/Task must be on the OPT table and not deactivated.
• If no record is found at the 10 digit level and the 7 digit level flag is set it will then check the translated Org/Project/Task at the 7 digit level plus a 'P00' task. Org/Project/Task must be on the OPT table and not deactivated.

• Validate all Object classes using the object class table.

• Ignore duplicate records that total zero. Basically this is the process that will exclude invalid commitments and the CBS correction. These records are not included in the counts on the processing screen so you may not be able to reconcile against your error report.

• Users with access can use the Ignore CBS transactions process to back out ignored records or include additional records.

**Corrective Actions**

Use the *Ignored Zeroed out CBS Trans Report* to view the Ignored records.

Use the *Match Error Report* to view invalid org/project/tasks or objects.
Step 2 – Automatic Obligation Process

The Match Process performs the following processes in Step 2:

(A) Records will be selected for Automatic Obligation by the Org/Task as found on the Automatic Obligation by Org/Task table.

If a CBS record is found, the process will check if a record has already been added to the ODCMAS table. It will first select records at the 10 digit level. If no record is found and the 7 digit level flag is set it will then look for records at the 7 digit level plus a 'P00' task. If one exists, the process will increment the commitment and obligation amount by the CBS amount. If one does not exist it will create one.

Org/Task must be on the Task table and not deactivated.

The same process will repeat using the Match ORG/TASK translation table.
(B) Records will be selected for Automatic Obligation by Document/Item Type as found on the Automatic Obligation by Doc/Item type table.

If a CBS record is found, the process will check if a record has already been added to the ODCMAS table. It will first select records at the 10 digit level. If no record is found and the 7 digit level flag is set it will then look for records at the 7 digit level plus a 'P00' task. If one exists, the process will increment the commitment and obligation amount by the CBS amount. If one does not exist it will create one.

Org/Project/Task must be on the OPT table and not deactivated.

The same process will repeat using the Match translation table.

(C) Records will be selected for Automatic Obligation by Org Code/Document Number as found on the Automatic Obligation by Org Code/Document Number table.

If a CBS record is found, the process will check if a record has already been added to the ODCMAS table. It will first select records at the 10 digit level. If no record is found and the 7 digit level flag is set it will then look for records at the 7 digit level plus a 'P00' task. If one exists, the process will increment the commitment and obligation amount by the CBS amount. If one does not exist it will create one.

Org/Project/Task must be on the OPT table and not deactivated.

The same process will repeat using the Match translation table.
Step 3 - The Automatic Match Process

The Match Process performs the following processes in Step 3:

- All records that did not match or error out in the previous two sections will be selected for the last step.

- The process will attempt to find a match using the accounting information fields (FY, Org, Project, Task, Object Class, and Affected Document Number).

- It will first select records at the 10 digit project/task level. If no record is found and the 7 digit task level flag is set it will then look for records at the 7 digit level plus a 'P00' task. If an exact match is found then the obligation amount will be incremented by the CBS amount.
The same process will repeat using the Match ORG/PROJECT/TASK translation table.

If the parameters have been set up to use the range option it will validate that the transaction amount does not exceed the Commitment amount by the range specified. If the match is not using the range, then the process will match not matter what the total CBS amount is.

If more than one commitment record is found for the accounting information it will try to match on the actual CBS amount. If no range is used then an ambiguous match will occur.

If a record does not get matched at this point it will be marked as an unmatched processed record.

After the process is completed check to see if any records are in error or did not match. If so you will need to correct these. Please refer to the Correcting Match errors page.
## Running the Match

User performs the following steps to run the Match:

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>To run the Match process, select the &quot;Automatic Match and Obligations&quot; process from the MARS match menu.</td>
</tr>
</tbody>
</table>
2. To run the match, select the proper Fiscal Year from the *Choose A Fiscal Year* drop down box.

![Match Process window](image)

3. Click the *Execute Process* button.

4. The message "*Processing Match Please be patient*" will appear while the process is running in the *Processing Status* box,

   **REMEMBER:** Do NOT stop the match routine once the processing begins. If for any reason the system is shut down or turned off, the process can be resubmitted.

5. When the match is finished, the message "*Match Completed*" will appear in the processing status box.

6. Either click *Close* to exit or click the *Match Status* to display a summary of the transactions.
Correcting Match Errors

To view your Match Errors run the **Match Error Report**. This report will display all of the CBS transactions that did not reconcile with the processes listed described in the Match Process below. The following screen print shows the **Match Error Report** parameter screen and the report:

**Match Error Report Parameter Form**

**Match Error Report** *(1)*

Shows cumulative records that rejected from the match program & the reason why the record did not match. The report will help the user correct errors in CBS and/or FRS. The Match process will run automatically on a daily basis. Once run all rejected records will display in this report.

You can limit the data returned to any or all of the following criteria:

- **2007** Fiscal Year
- All Fund Code Fiscal Year
- **Organization Code** *(SQL wildcard not allowed for Organization Codes 4 - 7. Single number OK)*
- **Object Code** *(SQL wildcard not allowed. Single number OK)*
- **Object Class** *(SQL wildcard OK)*
- **Document Type** *(SQL wildcard OK)*
- **Item Type** *(SQL wildcard OK)*

**[an error occurred while processing this directive] Error Codes**

CBS transactions from [ ] to [ ] (mm-dd-yyyy) format

**Match Error Report**

| NATIONAL MARINE FISHERIES SERVICE |
| MARS Pre Production Server |
| Match Errors Report |

<table>
<thead>
<tr>
<th>Fiscal Year: 2007</th>
<th>Fund Code Fiscal Year: 2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charges</td>
<td>Project</td>
</tr>
<tr>
<td>12-11-0000-01</td>
<td>Project Code</td>
</tr>
<tr>
<td>Transfer Code</td>
<td>Document Type</td>
</tr>
<tr>
<td>User</td>
<td>Net Amount</td>
</tr>
</tbody>
</table>

**Report Totals:**
Match Process

The match process executes the following three processes:

Process 1 - Verification

This process compares the CBS record against the MARS ORG/Project/Task Table to verify if the CBS Org/Project/Task combinations have been defined in your OPT Table.

This process also verifies that the object class being downloaded from CBS is a valid object class. The valid object classes are in the range from 10-00-00-00 to 43-99-00-00 and 95-XX-00-00.

Invalid Document Type/Item Types will be displayed if they have not been defined in the MARS Document Type/Item Type tables.

Missing Affected Document Number. If a transaction does not have an Affected Document Number, it will be flagged on the error report.

Process 2 - Automatic Obligation

Based on the FMC's parameter set up, there are four methods that can be used to mark transactions so that they will be automatically obligated from CBS to MARS:

- Document Types/Item Types,
- Organization Codes / Projects and Tasks,
- Organization Codes / Affected Document Numbers
- Organization Codes, Document Type/Item Types

Process 3 - Automatic Match

Based on the FMC's parameter set up, certain Document Types are matched against commitments that have been entered into MARS by the users. Commitments are matched based on the following criteria:

- FY,
- Org1 through Org7,
- Project Code,
- Task Code,
- Object1 through Object4,
- Affected Reference Number
If there are multiple matches, the Match process will try to match on the dollar amounts if the criteria are exact and unique.

If, during the match process, a CBS record is not matched to a commitment, the user can perform a manual match using the *Manual Commitment Match / Action Taken Log form*.

**Corrective Actions for Unmatched Records**

CBS records in error may also be corrected by submitting a cost adjustment to Finance. Refer to the Finance Handbook or your MARS Line Office/FMC Administrator on how to prepare a cost adjustment. If a cost adjustment is submitted and processed through CBS, at a later time the record in question will be zeroed out and ignored by the match. This process will take place as long as the invalid record remains marked as an error and another record is downloaded from CBS with the exact accounting information. The sum of these 2 records will equal zero.

<table>
<thead>
<tr>
<th>Error Type</th>
<th>Corrective Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>X = Commitment found with Remaining Commitment = 0</td>
<td>Add additional funds to commitment amount&lt;br&gt;Add new commitment</td>
</tr>
<tr>
<td>A = Ambiguous - Multiple Commitments</td>
<td>The reason ambiguous errors occur is because the match found multiple records with the same Org, Project, Task, Affected Reference number, Document Type, Item Type, Object class, Fiscal Year and commitment amounts.&lt;br&gt;Manually match the appropriate commitment record to CBS.&lt;br&gt;Change commitment amount to equal CBS amount and rerun match or manually match</td>
</tr>
<tr>
<td>P - No commitment found</td>
<td><strong>Add a commitment</strong>&lt;br&gt;Check fields for Org, Project, Task, Affected Reference number, Document Type, Item Type, Object class, and Fiscal Year.</td>
</tr>
<tr>
<td>R = Out of range</td>
<td>Check commitment dollar amount&lt;br&gt;<strong>Commitment Error</strong>&lt;br&gt;- change error in MARS.&lt;br&gt;<strong>CBS error</strong>&lt;br&gt;- submit cost adjustment to Finance or manually match</td>
</tr>
<tr>
<td>- = Total CBS amount less than 0</td>
<td>Manually match</td>
</tr>
</tbody>
</table>
### E = Undefined Org/Task

<table>
<thead>
<tr>
<th>Condition</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>If the org/project/task is valid on the transaction</td>
<td>Add an org/project/task combination to the Org/Project/Task table.</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>If not valid, submit cost adjustment to Finance to fix the</td>
<td></td>
</tr>
<tr>
<td>accounting code.</td>
<td></td>
</tr>
</tbody>
</table>

## Verifying Matched records

To view all records that have been automatically matched to an Org and Project/Task, run the [Detailed FRS report](#). This report provides a detailed listing of all commitments and their associated CBS records that total to the Obligation. You may also use the CBS Obligations options within the FRS application to view CBS data that has been matched to a Commitment.

## Manual Commitment Match Adjustments

When all of the match processes have been executed and the CBS transaction still has not created a commitment or matched to a commitment, the [Manual Commitment Match](#) module allows a user to reconcile any unmatched transactions by manually matching a CBS obligation to an existing commitment.

### Manual Commitment Match Adjustments / Action Taken Log
Getting Started

To access the Manual Commitment Match / Action Taken Log forms, select Match from the MARS Main menu then select Manual Commitment Match / Action Taken Log from the submenu. Users should execute the Run Automatic Match and Obligation Process before performing the manual match to ensure the Match Error Report reflects the latest data.

Manual Match/Action Taken Log - Matching Error Listing Form

The purpose of this form is to allow the user to view the unmatched CBS transactions. The following outlines the steps a user needs to perform to match a CBS transaction.

Step 1: Enter Selection Criteria – This step allows the user to enter query data to display all, or a subset, of the data residing in the Error Match Report.

Step 2: Choose Additional Selection Parameters – This step allows a user to further refine the rejects by selecting additional match parameters so that the CBS transaction can be matched as closely as possible. This step can be executed multiple times using the different match criteria.

Step 3: Show commitments for Selected CAMS Transactions – This function executes the query and displays all possible rejects that match the criteria entered in Step 2.

Optional Step: Enter Comment for Selected CAMS Transactions – This step allows a user to enter a comment on the CBS transaction before it is matched to a commitment for future reference.
Management Analysis and Report System Users Guide

Step 4: Match Selected Commitment – This matches the CBS transaction to the commitment. When the match is made in this module, the match is not an “exact” match but meets the minimum requirements in the MARS system.

Un-match Transaction – This function is to correct any CBS transaction that was incorrectly matched to a commitment. This functional button is located on the Matched CBS Transaction Form under the Commitment Form.

Field Definitions on the Manual Match/Action Taken Log

Step 1: Enter Selection Criteria

Additional fields are available to view with the scroll bar.
### Item | Description
--- | ---
**FCFY** | Identifies the fiscal year in which the document was obligated.
**Organization Code** | The 7-level field that uniquely identifies an organization to which the expenditure has been charged in CBS.
**Project / Task** | The accounting code that has been charged in CBS
**Doc Type** | A code assigned to the obligating document that identifies the type of transaction it is in CBS.
**Item** | A code assigned to the obligating document that identifies the type of transaction it is in CBS.
**Affected Ref #** | The Affected Reference Number is derived from the Source Reference Number that is entered in the Core Financial System (CFS) of CBS.
**Object Class** | Identifies the category of item or services that have been purchased on the obligation.
**CAMS $** | The amount that obligated on the particular transaction.
**PPA** | Identifies that the project is a Program, Project and Activity, which restricts the way the transaction can be manually matched.
**Error Description** | System assigns error code indicating the reason the transaction did not match.
Management Analysis and Report System Users Guide

Trans #  The number assigned when the CBS record is processed through the Match.

CAMS Desc  A description associated to the transaction.

**Detail Descriptions of the Steps Needed to Perform the Manual Match**

**Step 1: Enter Selection Criteria**

Once the criteria have been entered and the query has been executed, a list of transactions will display that need to be reconciled.
Step 2 Choose Additional Selection Parameters

The Manual Match is performed when there is not an exact match between a commitment record and a CBS record. The first Manual Match window will display the same records as found in the Match Error Report. Enter your selection parameters into the first record on the window, and then execute your query by pressing the Execute Query button on the top of the form.

The records displayed are CBS transactions that have not matched (reconciled) due to the error indicated to the right (use scroll bar to view). The user has the capability to match any CBS Transaction within their FMC to any Commitment depending on the FMC security restrictions. The user may select an individual CBS Transaction and press the Show Commitments button to display available Commitments to Match. The system requires a transaction to match, at a minimum, on the following items:

- Program 3 Code (Line Item)
- Org 2 Code
- Object 1 Code
- If the Project is a PPA, then the match criteria will be required at the Project level.

Each FMC may also choose to match on any, or all, of the following:

- Org 3 – 7 codes,
- Document type/Item Type
- Affected Reference Number

Step 3: Show commitments for Selected CAMS Transactions

The following examples illustrate that Step 2 and Step 3 can be done multiple times to assist the user in locating a commitment.

In this example all Additional Selection Parameters have been checked for the selected CBS Transaction.
Management Analysis and Report System Users Guide

The result is that no match is found on the Commitment Records Available for Matching Form.

In the next example all Additional Selection Parameters have been checked, except for Affected Reference #, for the selected CBS transaction:

Step 2: Choose Additional Selection Parameters

Match on: [ ] Doc Type [ ] Item Type [ ] Org Code [ ] Affected Reference #

Again, the result is no match is found on the Commitment Records Available for Matching Form.
In the next example the only Additional Selection Parameters that have been checked are DOC Type and Org Code, for the selected CBS transaction.

The result is one match is found on the Commitment Records Available for Matching Form.

As shown above the system will display all available matches. Any combination of the Choose Additional Selection Parameters can be checked to display different combinations, so that a user can determine if there is a commitment that would be a suitable match for the CBS transaction.

Optional Step: Enter Comment for Selected CAMS Transactions – This step allows a user to enter a comment on the CBS transaction before it is matched to a commitment. Since the match is not an exact match, this gives the user an opportunity to explain the reason the match is being made to that commitment for future reference.
Step 4: Match Selected Commitment

If the query results in multiple rows of commitments, select the desired row and then click **Match Selected Commitment** button to match the CBS transaction to a commitment. The Manual match process will make an adjustment to your commitment record and remove the record from the Match Error Listing. The system will allow you to match on any dollar amount. No Range is used in the Manual Match Process. This record will show up on your Commitment detail as a Manual Match Adjustment.

The system will display the message “Record Matched to Commitment and removed from Error Listing.”
**Un-Match CBS Transactions**

This function is to correct any CBS transaction that was incorrectly matched to a commitment. This *Un-Match Transaction* button is located on the *Matched CBS Transaction Form* under the *Commitment Form*. If a commitment record must be unmatched from the CBS transaction, the user can perform the following steps to manually un-match the record.

1. Navigate to the *Commitment Form*.
2. Click *CBS Obligations* button.
3. Locate the CBS record to be unmatched.
4. Click *Un-Match Transaction*.
5. The process will unlink the transaction from the Commitment and reduce the CBS amount on the Commitment record by the amount found on the CBS transaction.
Another record may be unlinked from the same Commitment.

6. The Remaining Commitment amount will increase by the amount of the transaction and the CBS amount to decrease by the amount of the transaction.

Step 1: Request to Unmatch Transaction

Step 2: Confirm Transaction

Step 3: Displays Result of Transaction
Ignore CBS Records

Manual Method

The Ignore CBS records process will allow you to exclude CBS records from the match process and the error report. If these records are marked as ignored they cannot be matched and will not display in any reports. To ignore or exclude any CBS transactions, first perform a query to display any desired records. Then check the Ignore Check box on the selected record and press the Save button. This form will display all previously ignored records as well as any record that is available to be ignored.

Getting Started

To access the Ignore CBS Records form, select it from the MARS Main menu.
The **Manual Ignore CAMS Non Labor Transactions form** will open in the query mode with the following message “Your Ignored Record Total Must be Within $1.00. All Records Displayed Are current FY Records. Ignored Records Must Also Have the Same FCFY, FMC, Project Code and Major Object Class. Please Enter These On the Query Screen Before You Query.”

As displayed in the message, the required fields must be entered in the query before the system will allow the user to execute the query. The required fields are:

- Fund
- FCFY
- FMC
- Project Code
- Major Object Class

If the required fields are not entered, the system will display the following message:
Once all of the required fields are entered and the query is executed, the following screen will display with transactions that meet the criteria.

Check each record to be ignored. Once all records are **Selected**, click **Selected** icon to save the record. The total of all **Selected** records should not exceed $1.00. The Ignored records will be excluded from all MARS processes and reports.

**Match Unprocessed CBS Records**

If a valid record was not automatically obligated or matched it will be flagged as a processed record that had no commitment record to match against. These records will be displayed in the **General Error Report** as records with errors of **No Commitment found**. The user has two choices to fix these records:

1. Add a commitment record manually. Refer to Adding Commitments,

   or

2. Select the record(s) from the **Create Commitments** option to create a commitment automatically. Refer to **Create Commitments** in the **Commitments** module.