

CONTINUOUS IMPROVEMENT UPDATE

Date: April 2, 2001 **Team Name:** Counter Encumbrance

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Dates of Meetings: Every Thursday at 3 pm in the Purchasing conference room on the third floor of the Orovitz Building.

List Team Members:

Purchasing:	Susan Montes, Carmen Oliva, Siomara Trujillo, Heidi Tyre
Business Services:	Tim Ramsay
Accounts Payable:	Genevieve Nugent, Diana Yde
Information Technology:	Brett Booz
Controller's Office:	Terry Diaz

Business and Finance Mission Statement: Same as last CI update.

Team Mission Statement: To continuously improve the accuracy and relevance of the University's central financial applications as it relates to purchase encumbrance creation, processing, liquidation and removal, in a manner consistent with the mission of the Business and Finance Division.

Although not specifically identified in the original mission, this team is also pursuing the objective of understanding and documenting the processes; procedures and programming code associated with the interrelationships between the Purchasing, Accounts Payable, and FRS applications.

Connection Between This Team's Mission Statement and the Mission of the Business and Finance Division: Same as last update.

How Will Success Achieving The Mission Be Measured:

The goal of this team is to have accurate and consistent encumbrances displayed in all central financial applications. Complete success would be to:

¹ Diane Cook and Gerry Dana co-sponsored the initiation of this project June 1998.

- a) Have 100% congruence between Purchasing, Accounts Payable and FRS at all times except for out-of-balance encumbrances that are “in process”, i.e. a pending batch or check run will bring the encumbrances back into balance, % congruent by month
- b) Have these encumbrance balances be accurate - % encumbrances with errors by month.
- c) Have gone back and corrected all historical encumbrance balances in the active database - % encumbrances fixed by month.
- d) Develop and maintain application and procedural documentation on each of these systems and their interrelationships - % of documentation reviewed by year.
- e) Train staff and verify established procedures are being followed – audit for conformance.
- f) Measure complaints by month from customers.

Current Status of Team:

1. Project:

The team’s mission has evolved from simply fixing encumbrances to understanding the systems (Purchasing, A/P, and FRS), their interrelationships and the associated processes and procedures. System issues have come up, but processes play a significant role.

One of the most basic issues this team has had to address is how to define the true balance of a purchase order. This is one of the biggest accomplishments of the team. This single definition has either been assumed or avoided by all previous teams and is truly foundational for all future work that will be done in this area. The definition depends to a large degree on what question is being asked. If the question is, “How much money has been spent on this purchase order?” the answer could vary depending on whether you call Purchasing, Accounts Payable or Controller’s Office because each of their respective applications CAN give different, but technically correct answers to this very basic question. The Purchasing application will tell a user how much has been spent on each line of the purchase order. However, it will not tell you if any freight or taxes have been paid against it. In addition, the Purchasing application will not tell you if any credits have been issued which would increase the amount of money left on the purchase order. The purchasing application will not tell you if a journal entry was used to alter an encumbrance in FRS. In addition, the purchasing application will not tell you if a voided check failed to reduce the encumbrance balance. Therefore, this team has had to start from scratch. What do the end users want to see when they look at their financials?” One of the most significant things this team has done is to develop this “true balance” encumbrance formula with great precision. Arriving at this formula was no small achievement because it meant the team has had to test every possible kind of transaction that might affect an encumbrance balance and confirm how it would be displayed in the various applications, Purchasing, A/P and FRS. This process has taken a long time, but in the process, the team members have developed a strong understanding of the interrelationships between Purchasing, A/P, and FRS that previously did not exist.

2. Reason Selected:

Legitimate end user complaints about the inability to know the balance of their accounts because of erroneous and inconsistent purchasing encumbrances. Application and process problems that prevent Purchasing, A/P and Controller’s Office staff from providing users consistent and accurate answers to their encumbrance questions.

3. Situation Analysis:

In June 1998 the Counter Encumbrance Team responsible for this CI update was formed. Although many of the team members had been working very closely with one another for months, the team was formalized at a meeting led by Diane Cook, Aida Diaz-Piedra and Gerry Dana in early June 1998. The team met weekly.

A presentation was made to senior management in October 1998. The most significant accomplishment the team made between June 1998 and October 1998 was the successful destruction of the "returning encumbrance" problem. Certain encumbrances seemed to resurrect themselves after being deleted. This problem, associated with future orders (orders set up in the spring of one fiscal year to commence in the new fiscal year) was finally solved. This accomplishment solved the returning encumbrance problem one and for all.

Between October and December 1998, two significant events occurred. First, the team finally defined the true balance of a purchase order.

The second major accomplishment of the team between October and December 1998 was the promotion of all the DMAS screens that allow users to see this TRUE PO BALANCE.

The team's understanding of the encumbrance continued to grow throughout early 1999, but could not come agree on a paradigm to measure the out-of-balance encumbrance problem. In April 1999, the first out-of-balance measurement tool was developed and continued to go through refinements until July 1999 when the team settled on a baseline to measure the out-of-balance problem.

The team's work has been described on Information Systems Request (ISR) forms to provide IT with a tracking mechanism for all programming changes. The following list describes the ISRs that have been completed, those that are in process, and those issues needing further analysis before an ISR can be completed.

Completed ISRs

1. Management lacks a reliable tool measure the extent of the out-of-balance problem.
 - Tool introduced April 1999.
 - PRMEBJL0 states an accurate quantitative and qualitative out-of-balance picture.
2. Returning Encumbrances
 - On certain types of purchase orders the *requisition* encumbrance would reappear if the PO was changed.
 - Fixed February 1999.
 - No more "random" occurrence of encumbrances.
3. Bad accounts and sub-objects
 - Some purchasing screens did not correctly edit the account and sub-object resulting in no encumbrances for that document.
 - Fixed November 1998.
 - No more unencumbered documents.

4. Missing department information
 - Department information was not required on purchasing documents, so departments did not have a clear picture of all of their purchasing commitments.
 - Fixed November 1998
 - Departments have complete picture of their purchasing activity.
5. Incomplete information in Departmental Purchasing System (DPV)
 - Users had no place to go for PO invoice information or encumbrance balances.
 - Fixed December 1999.
 - Added DMAS screens: View Invoices for a PO, View Encumbrances by Reference, View Invoice Detail. Departments have access to purchasing balance information that previously required Purchasing/AP input.
6. Manual liquidation of encumbrances
 - Many purchasing documents require action from a buyer in order to release an encumbrance.
 - Partial fixes applied December 1998 (PBD050), February 1999 (DPV), and April 1999 (PRMOCJL0).
 - POs with all lines final now automatically liquidated by PBD050. Departmental PO requisitions are automatically liquidated at time of DPO creation. Deleted and Completed documents automatically liquidated by PRMOCJL0. *Other avenues of systematically liquidating satisfied open commitments are being explored.*
7. Journal Entries have the potential of affecting FRS actual and encumbrances but not purchasing.
 - New processes implemented March 1999.
 - New processes keep Purchasing and FRS encumbrances in sync.
8. Have no single point of information to find purchasing users document balance.
 - "True Balance" of purchasing document has been added to View Invoices for a PO DMAS page.

In Process ISRs

1. Documents deleted during year-end window are not liquidated properly.
 - Fix in process.
 - Until this fix is in place, PRMOCJL0 liquidates the deleted documents.
2. Credit memo process only affects Purchasing and FRS actual, not encumbrances.
 - Fix pending.
 - Until this fix is in place, batches built from PRMEBJL0 corrects the encumbrance.
3. Void check process affects only affects FRS actual, not purchasing or encumbrances.
 - Fix pending.

- This is an example of a process that moves in the wrong direction: FRS to Purchasing instead of Purchasing to FRS.

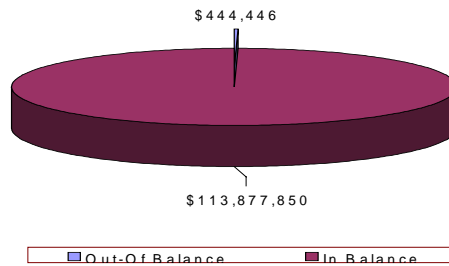
Issues still to be addressed

1. Change Orders
2. Multiple Accounts/Sub-Objects
3. Incidental charges affecting encumbrances (currently be cleaned up after the fact by PRMEBJC0).
4. Remaining balance on finalled lines of active documents (currently be cleaned up after the fact by PRMEBJC0).
5. Timing issues between Purchasing, AP, and FRS.

4. Data Collection:

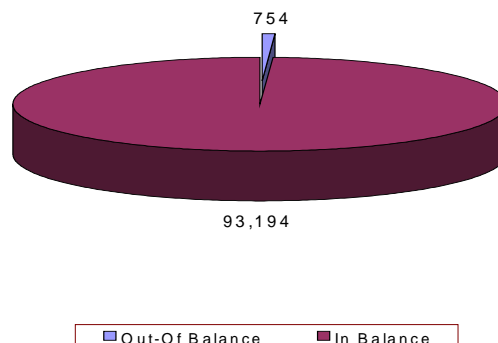
As of February 2001, the two following pie charts describe the number of documents

**Out-Of-Balance Encumbrances (In Dollars)
March 2001**

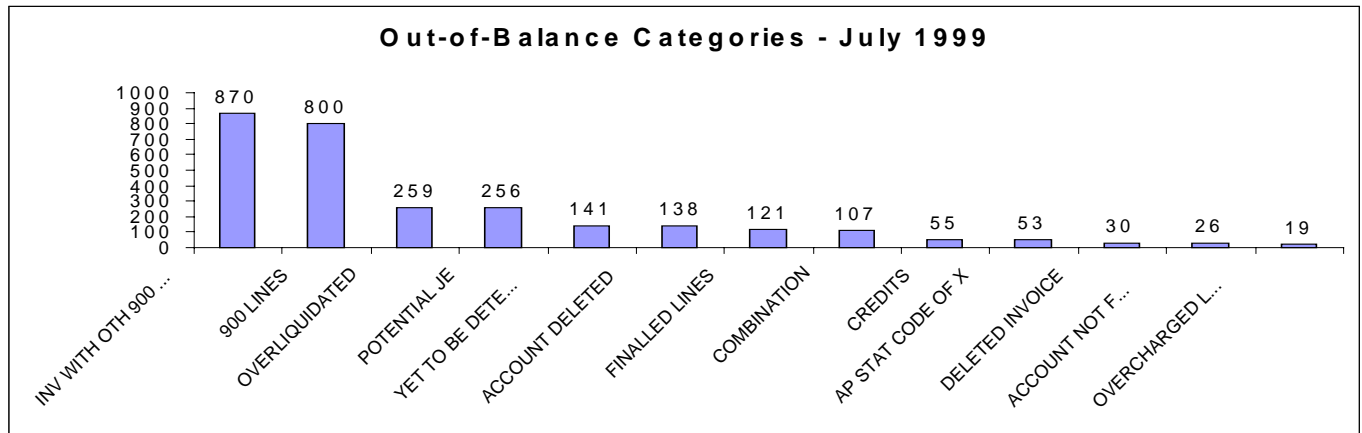


and dollars that are out-of-balance between Purchasing and FRS. These charts even include those documents that are temporarily out-of-balance because they are in process or a batch job has not been run yet which will bring the encumbrance in FRS back into balance with Purchasing.

**Out-Of-Balance Encumbrance Documents
(Number) March 2001**



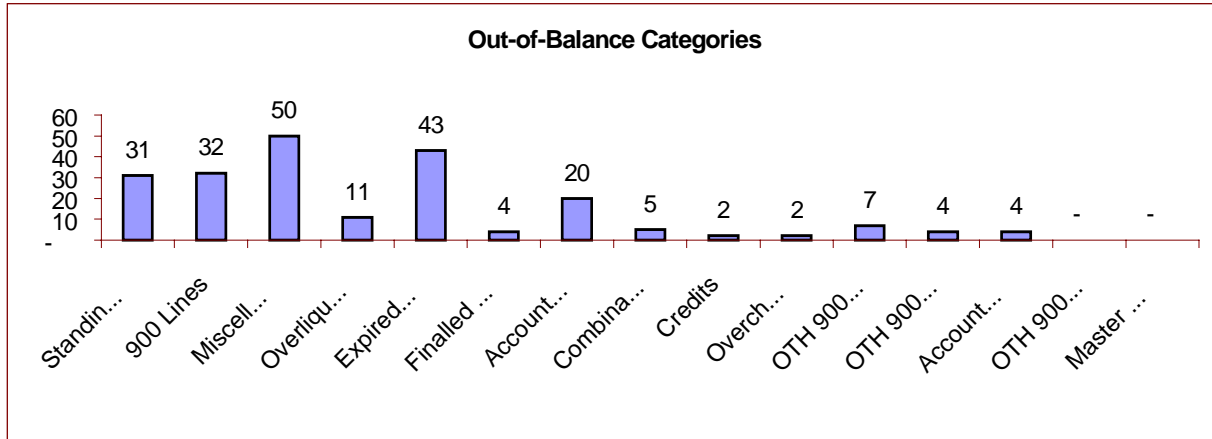
The following data depicts the first complete report of all out-of-balance documents. This was completed in July 1999. Not shown are 85 "In Process" documents and 388 "In Limbo" documents



where a batch is pending.

Reason	# of Documents	Percentage	Purchasing Amount	FRS Amount	Difference
INV WITH OTH 900 LINE	870	30.26%	\$ 1,778,405.12	\$ 1,053,399.58	\$ 725,005.54
900 LINES	800	27.83%	\$ 2,192,987.48	\$ 2,148,902.41	\$ 44,085.07
OVERLIQUIDATED	259	9.01%	\$ 45,196.90	\$ -	\$ 45,196.90
POTENTIAL JE	256	8.90%	\$ 867,136.51	\$ 124,381.46	\$ 742,755.05
YET TO BE DETERMINED	141	4.90%	\$ 1,610,271.79	\$ 2,024,658.62	\$ (414,386.83)
ACCOUNT DELETED	138	4.80%	\$ 40,113.57	\$ -	\$ 40,113.57
FINALLED LINES	121	4.21%	\$ 32,213.45	\$ 42,508.95	\$ (10,295.50)
COMBINATION	107	3.72%	\$ 218,908.91	\$ 205,759.93	\$ 13,148.98
CREDITS	55	1.91%	\$ 156,000.37	\$ 121,447.18	\$ 34,553.19
AP STAT CODE OF X	53	1.84%	\$ 149,728.13	\$ 92,892.17	\$ 56,835.96
DELETED INVOICE	30	1.04%	\$ 27,408.79	\$ 20,348.15	\$ 7,060.64
ACCOUNT NOT FOUND	26	0.90%	\$ 189,738.57	\$ 100.00	\$ 189,638.57
OVERCHARGED LINES	19	0.66%	\$ 3,066.55	\$ 1,531.90	\$ 1,534.65
Totals	2,875	100.00%	\$ 7,311,176.14	\$ 5,835,930.35	\$ 1,475,245.79

Here is the latest update on the total number of OOB documents – March 2001.



Reason	# of Doc	Batch Count	Rema in OOB	%	Purchasing Amount	FRS Amount	Difference
STANDING ORDERS	340	309	31	14.42%	\$4,481,868.09	\$4,557,128.04	\$75,259.95
900 LINES	154	122	32	14.88%	\$241,030.05	\$231,366.58	\$9,663.93
MISCELLANEOUS	75	25	50	23.26%	\$1,695,849.93	\$1,883,217.03	\$187,367.10
OVERLIQUIDATED	53	42	11	5.12%	\$12,118.66	-	\$12,118.66
EXPIRED DOCUMENT	43	-	43	20.00%	\$215,718.70	\$183,931.92	\$31,786.78
FINALED LINES	21	17	4	1.86%	\$21,762.50	\$24,990.92	\$3,228.42
ACCOUNT FROZEN	20	-	20	9.30%	\$139,865.99	\$25,122.19	\$114,743.80
COMBINATION	15	10	5	2.33%	\$40,689.47	\$41,396.32	\$706.85
CREDITS	11	9	2	0.93%	\$166,887.81	\$160,906.09	\$5,981.72
OVERCHARGED LINES	7	5	2	0.93%	\$6,112.75	\$5,941.77	\$170.98
OTH 900 LINES (Unspec.)	7	-	7	3.26%	\$3,900.42	\$2,904.55	\$995.87
OTH 900 LINES (Overage)	4	-	4	1.86%	\$2,378.08	\$2,046.36	\$331.72
ACCOUNT NOT FOUND	4	-	4	1.86%	\$2090.38	-	\$2,090.38
OTH 900 Lines (FRT,TAX)	-	-	-	0.00%	-	-	-
MASTER ORDERS	-	-	-	0.00%	-	-	-
Totals	754	539	215	100.00%	\$7,030,273.29	\$7,118,951.77	\$444,446.16

5. Data Analysis:

6. Recommendation and Improvements:

Sub-teams were created to resolve additional out of balance problems.

Yet to be Determined and Journal Entry Team: The YTBD team was selected to analyze documents with undetermined erroneous encumbrances. These documents had no clear-cut reason as to why they were out of balance. The team met on a weekly basis to analyze the data in various forms such as going into the system and reviewing the issues that created particular out of balance conditions. Sample testing was done in the system to see how the actual process was affecting the out of balance condition.

After extensive analysis, the team recommendation was to create batches that would fix the FRS amount with the purchasing amount. This approach resolved the majority of out of balance documents in this category.

Master Order Team: Although the master orders did not present a significant out-of-balance risk, the team felt it was important to understand and document the process. The objective of the team was to understand and document the processes, procedures and programming code associated with the interrelationships between Purchasing, Accounts Payable and FRS applications. The team accomplished the following:

- Defined Master Order documents as a procurement document issued by the purchasing department in order to facilitate the processing of repetitive, low dollar, high volume order required by multiple users at pre-established terms and conditions.
- Established standards for the creation of these documents and implemented order transaction controls and supplier and department responsibilities to regulate the purchases made under these documents.
- Implemented an audit process to ensure transactions are in compliance with established procedures.
- Documented the process and published the documents on the Purchasing website.

Tolerance Team: Although tolerances don't pose an out-of balance risk, the team was formed to help eliminate the large amounts of invoice rejections due invoice amount differing from purchase order amount. The tolerance system is very complexed and took a long time for the team to understand how it worked. Using historical data on rejected invoices, the team set new tolerances per PO type. This has reduced the volume of rejections.

Expired Documents Team: The purpose of this team was to define what was an expired document and determine when that document could be marked for deletion. There was a procedure in place to run a job once a year that would delete expired standing orders. The team wanted to expand this to delete all orders and do it on a more timely basis so documents would not be out of balance between systems. The team accomplished the following:

- Systematically deleted term documents whose end date has passed.
- Systematically deleted documents whose lines have been finalized.

Batches that have been created to fix out of balance conditions:

PBA501: OTH 900 LINES(FRT,TAX,INS)
PBA502: OTH 900 LINES (OVERAGE)
PBA503: OTH 900 LINES (UNSPECIFIED)
PBA504: 900 LINES EXCLUDING OTH
PBA505: FINALLED LINES
PBA506: CREDITS
PBA507: OVERCHARGED LINES
PBA508: OOB COMBINATION
PBA509: OOB OVERLIQUIDATED
PBA510: OOB MISCELLANEOUS
PBA511: STANDING ORDERS
PBA512: OOB LINE ACCOUNTING
PBA513: OOB HEADER ACCOUNT (% ONLY)
PBRxxx: DOCUMENTS THAT SHOULD NOT BE ENCUMBER

Recommendation: The team recommends bringing the encumbrance team to closure. They will continue to meet on an as needed basis to address system integration problems that may arise during the Ariba implementation.