

United States General Accounting Office Report to the Acting Secretary of the Army

January 1998

# ARMY LOGISTICS SYSTEMS

Opportunities to Improve the Accuracy of the Army's Major Equipment Item System



GAO	United States General Accounting Office Washington, D.C. 20548	
	Accounting and Information Management Division	
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	The Honorable Robert M. Walker The Acting Secretary of the Army	
	Dear Mr. Secretary:	
	As part of our responsibility to audit the consolidated financial statement of the federal government, we are reviewing the accuracy of data in the military services' financial/logistical systems that are used to provide property, plant, and equipment information to the financial statements. The Army uses the Continuing Balance System-Expanded (CBSX) as its central logistics system for reporting the types, quantities, and location of equipment; monitoring the equipment readiness of its warfighting units; and filling equipment shortages in those units scheduled for mobilization In addition, information in this system is used for financial reporting.	
	In the past, we and the Army Audit Agency (AAA) have reported inaccuracies in CBSX data. <sup>1</sup> Inaccurate CBSX data have hampered Army readiness and decision-making by causing equipment distribution delays and affecting efforts to identify major items that require accelerated procurement. For this review, our objectives were to determine (1) the primary causes for the numerous adjustments to correct discrepancies between the Army's CBSX system and its primary property book system, (2) whether the Army's ongoing improvement efforts will correct the causes of these discrepancies, and (3) whether the Army's current method of assessing CBSX accuracy, referred to as the compatibility rate, is adequate.	
Results in Brief	While the Army ensures that CBSX equipment balances accurately reflect the balances in its primary property book system twice a year, the Army does not identify the causes of adjustments made to CBSX balances to correct discrepancies. Our analysis of the causes of CBSX adjustments has	

identified opportunities to correct process weaknesses and computer software problems that would reduce the number of adjustments and, consequently, increase the accuracy of CBSX throughout the year. In particular, the Army does not have an effective process to ensure that equipment transactions from Army units are received by CBSX. Our

<sup>&</sup>lt;sup>1</sup>Financial Management: Army Lacks Accountability and Control Over Equipment (GAO/AIMD-93-31, September 30, 1993), Financial Reporting of Equipment In Transit (AAA audit report AA 96-156, June 17, 1996), and Total Asset Visibility: U.S. Army, Europe and Seventh Army (AAA audit report AA 97-233, June 30, 1997).

statistically projectable sample of adjustments made to CBSX to bring it into agreement with the Army's primary property book system, showed that over 40 percent of the adjustments were due to transactions not received by CBSX. Other reasons for adjustments included software errors and incorrectly posted transactions by CBSX analysts and Army units. The lack of reconciliations performed between CBSX and unit property books, an outdated regulation, and incomplete training also were underlying factors that contributed to differences between CBSX and the primary property book system.

The Army's ongoing efforts to improve CBSX address some of the causes of adjustments such as those related to certain software errors and incorrectly posted transactions. However, these efforts do not fully address property book transactions that were not received by CBSX, the largest cause of adjustments. Without addressing improvements in unit processes to ensure that transactions are received by CBSX in a timely manner, the Army's efforts to improve CBSX will not correct the largest cause of CBSX adjustments.

The Army also does not have an effective mechanism to measure CBSX performance. The Army-wide CBSX compatibility rate, the factor used to measure the extent to which CBSX and property book records agree, is overstated because it does not count all adjustments made to CBSX balances to correct discrepancies. Moreover, the Army does not measure other relevant CBSX characteristics, such as the timeliness of transaction submissions.

### Background

CBSX provides worldwide asset visibility over the Army's reportable equipment items, including the Army's most critical war fighting equipment. The objective of CBSX is to provide accurate, timely, and auditable equipment balances for major items<sup>2</sup> necessary for the direct support of troops, such as armored personnel carriers, battle tanks, helicopters, rifles, and gas masks. Operated and maintained by the Army's Logistics Support Activity (LOGSA), CBSX furnishes the Army with an official inventory figure used to assess the overall preparedness of the force, determine the validity of unit equipment requisitions, distribute/redistribute equipment throughout the Army, and maintain worldwide asset visibility of deployed assets.

<sup>&</sup>lt;sup>2</sup>A major item, such as a main battle tank, is a final combination of parts and materiel ready for its ultimate use. In contrast, a secondary item is a component of a major item, such as a transmission.

As a result, if CBSX equipment balances are overstated, the Army may procure too few items, possibly resulting in reduced readiness. Conversely, if CBSX equipment balances are understated, the Army may procure too many items, potentially creating excess and wasting financial resources that could have been otherwise used to maintain and improve readiness. Moreover, Army planners and logisticians use equipment balances originating from CBSX to redistribute equipment to deploying units and estimate secondary item and other requirements to sustain this equipment. Therefore, if unit equipment balances are misstated, mobilization and deployment planning could be more difficult and inefficient.

CBSX covers over 9,300 National Stock Numbers, which are primarily major items but also include other selected items, such as medical equipment, for which the Army requires worldwide visibility. CBSX seeks to mirror the official accountable records of equipment balances, such as property book records, held by various types of Army activities, including divisions subject to deployment, depots that repair or upgrade equipment, and storage sites. As of September 30, 1996, CBSX contained information on 13.5 million items whose reported value was over \$116 billion. While some of this property is held at wholesale distribution centers, such as depots, the vast majority of these items, valued at about \$94 billion, are maintained at the retail level.<sup>3</sup> Of this retail equipment, about 80 percent, valued at a reported \$75 billion, was accounted for by units that use the Standard Property Book System - Redesign (SPBS-R), an automated property book system, which is maintained by the U.S. Army Information Systems Software Development Center, Fort Lee, Virginia (see figure 1).

<sup>&</sup>lt;sup>3</sup>Retail-level assets are those held by field user-level activities in the Active Army, Army Reserve, and Army National Guard.





Source: Extract of CBSX data from LOGSA's Requisition and Validation System. We did not independently verify this information.

Since CBSX is the Army's centralized equipment asset visibility system, the Army plans to use it as a primary source for supplementary stewardship information, as prescribed by the Statement of Federal Financial Accounting Standard No. 8, Supplementary Stewardship Reporting. Beginning in fiscal year 1998, this standard requires agencies with federal mission property, plant, and equipment to disclose the value and condition of these assets as supplemental stewardship information.<sup>4</sup> The standard specifically includes military weapons as federal mission property, plant, and equipment has been misstated on the

<sup>&</sup>lt;sup>4</sup>The Statement of Federal Financial Accounting Standard No. 8, <u>Supplementary Stewardship</u> <u>Reporting</u> defines federal mission property, plant, and equipment as possessing at least one of the following characteristics related to (1) its use, in that it has no expected nongovernmental uses, is held for use in the event of emergency, war, or natural disaster, or is specifically designed for use in a program for which there is no other program or entity using similar property, plant, and equipment with which to compare costs and (2) its useful life, in that it has an indeterminate or unpredictable useful life or is at a very high risk of being destroyed during use or of premature obsolescence.

Army's financial statements. For example, according to AAA, the Army's fiscal year 1996 financial statements misstated its property, plant, and equipment by a material but unknown amount and major problems with the processes used to report and value military equipment precluded AAA from attesting to the reported value of military equipment.<sup>5</sup>

Army regulations require all activities to maintain accurate property books and ensure that they agree with CBSX. However, past audits by AAA and GAO found that CBSX balances for equipment items fluctuated for reasons that responsible officials could not explain, differed from records maintained by the units possessing equipment, and were substantially inaccurate for equipment in transit between units (see footnote 1). Moreover, a January 1992 Army Materiel Command Lessons Learned report on Operation Desert Storm demonstrated that inaccurate or unreliable CBSX data (1) hampered equipment distribution decisions, resulting in some deployed units receiving equipment in excess of their authorizations while others were short critical equipment, (2) delayed the distribution of major items to units that did not deploy to Southwest Asia, thus diminishing the readiness of those units, and (3) significantly affected efforts to identify major items that required accelerated procurement.

SPBS-R is a stand-alone personal computer system operated independently at over 2,000 Army units. Figure 2 illustrates the three methods units can use to provide SPBS-R data to CBSX: (1) downloading data to diskettes that are hand-carried to another computer, which transmits the data to CBSX, (2) transmitting via modem from the property book computer directly to CBSX, and (3) downloading data to diskettes that are mailed to LOGSA where the data is loaded into CBSX. For submissions provided electronically to CBSX (methods 1 and 2 above), the system transmits a confirmation of receipt that contains the total number of transactions received by CBSX. In addition, listings of transactions that affect unit balances are printed by CBSX and mailed to the units by LOGSA monthly.

<sup>&</sup>lt;sup>5</sup>Army's Principal Financial Statements for Fiscal Years 1996 and 1995: Report on Internal Controls and Compliance With Laws and Regulations (AAA audit report AA 97-145, June 30, 1997).

Figure 2: Methods of Sending SPBS-R Data to CBSX



Figure 3 shows the three types of SPBS-R data units sent to CBSX during the time the adjustments in our review were made: catalog data, transaction data, and validation data.

- <u>Catalog Data</u>: The Army provides units with an updated automated catalog semiannually that designates which supply items in SPBS-R are reportable to CBSX.<sup>6</sup> When a unit runs the catalog update process in SPBS-R, the system generates a listing of the unit's equipment balances for items that have become reportable due to catalog changes. Units are supposed to transmit these balances to CBSX, which, in turn, records the new balances.
- Transaction Data: Units are required to transmit their SPBS-R equipment transactions (such as additions and transfers) to LOGSA at least monthly to update CBSX. If these transactions pass various edits to detect common types of errors, CBSX updates unit asset balances.
- Validation Data: Units transmit SPBS-R balances to CBSX (called validation data) twice a year. As part of the validation process, CBSX compares these SPBS-R balances to CBSX balances, identifies discrepancies, and adjusts the CBSX balances to agree with SPBS-R. CBSX is adjusted to agree with SPBS-R because SPBS-R is the Army's official accountable record.

As also shown in figure 3, in September 1996, after the time frame of the adjustments that we reviewed, SPBS-R was changed to allow units to begin providing SPBS-R unit identifier data to CBSX.<sup>7</sup> Both CBSX and SPBS-R contain unit identifier data, which are used to ensure that unit transactions are posted to the proper accounts. If SPBS-R and CBSX unit identifier data are inconsistent, property book transactions will be either rejected by CBSX or posted to the wrong accounts. In the past, CBSX and SPBS-R unit identifier data have been inconsistent, which has led to differences between the two systems. Consequently, in the new process, CBSX compares the data from the SPBS-R unit file to the unit identifier data in CBSX and provides LOGSA analysts with a report of differences for review.

<sup>&</sup>lt;sup>6</sup>The Army requires CBSX reporting for certain equipment items for which worldwide asset visibility is desired. The Army's Supply Bulletin 700-20, commonly referred to as the catalog, specifies which items are centrally reportable.

<sup>&</sup>lt;sup>7</sup>The unit identifier data include the Unit Identification Code and the Department of Defense Activity Address Code. The Unit Identification Code represents authorized Army units with their individual mission, structure, personnel, and equipment requirements. The Department of Defense Activity Address Codes are used by units for requisitioning, receipt, issue, shipment, and billing of materiel.



Figure 3: Types of SPBS-R Data Sent to CBSX

	After the validation process, LOGSA calculates a compatibility rate, which measures the extent to which CBSX and the unit records agree. <sup>8</sup> According to the CBSX user manual, Army headquarters adopted the compatibility rate as the yardstick to measure the degree of property book officer compliance with CBSX asset reporting requirements.
Scope and Methodology	To determine the primary causes for adjustments to correct discrepancies between CBSX and SPBS-R, we analyzed a statistically projectable sample of 150 adjustments from our sample universe of 32,649 adjustments. The sample was selected to identify common, recurring problems that caused adjustments to CBSX between January 1996 and August 1996 as a result of the validation process. We chose this time period in order to cover a complete validation period, from the time units submitted validation balances until the semiannual CBSX validation process was completed. We excluded adjustments that were made during the conversion of manual property books to SPBS-R because we considered these adjustments as nonrecurring. We also excluded adjustments to non-equipment National Stock Numbers, such as clothing.
	Our analysis consisted of reviewing applicable SPBS-R reports, such as the CBSX Transaction Listing, and CBSX reports, such as the Proof of Shipment report. We also provided documentation to, and discussed the results of our analysis with, applicable property book officers, LOGSA officials, and/or Software Development Center, Fort Lee, officials and reached consensus with these officials about the causes of adjustments. Appendix I identifies the various Army activities that were part of our sample. We also interviewed officials from the Office of the Deputy Chief of Staff for Logistics, LOGSA, and the Army Quartermaster Center and School.
	To determine if the Army's improvement efforts adequately address the causes of CBSX errors, we reviewed and analyzed the Army's plans and related documentation. We also interviewed LOGSA, Software Development Center at Fort Lee, and contractor officials.
	To determine whether the CBSX compatibility rate is an adequate measure of performance, we reviewed LOGSA compatibility reports, which quantify the extent to which CBSX agrees with unit records, analyzed LOGSA's methodology for calculating the rate, and interviewed LOGSA officials.

<sup>&</sup>lt;sup>8</sup>The CBSX compatibility rate is the ratio of the total number of adjusted equipment items to the total number of equipment items on hand, expressed as a percentage. The Army's management goal is for CBSX to maintain 98-percent compatibility with unit records.

	We conducted our review between July 1996 and October 1997 in accordance with generally accepted government auditing standards. We requested comments on a draft of this report from the Secretary of Defense or his designee. On December 18, 1997, the Army's Deputy Chief of Staff for Logistics provided us with written comments, which are discussed in the "Agency Comments and Our Evaluation" section and are reprinted in appendix II.
Causes for Large Unreconciled Differences Between CBSX and SPBS-R	From January 1996 through August 1996, LOGSA made more than 32,000 adjustments to CBSX to bring it into agreement with SPBS-R balances. We reviewed a representative sample of 150 adjustments and identified the causes of 124 of them. The adjustments in our sample covered differences between CBSX and SPBS-R for items such as M-16 rifles, night vision goggles, howitzers, and cargo trucks. As shown in figure 4, the principal causes of adjustments were transactions not received by CBSX, software problems, and erroneous transactions posted by LOGSA or units.



Note: This figure shows 127 causes of the 124 adjustments we identified causes for (3 of these adjustments had 2 causes).

We could not determine the causes for 26 of the adjustments primarily because units had not retained all of the records to establish the audit trail needed to perform the analysis. In most cases, Army regulations did not require units to retain the records needed to determine the underlying causes for these adjustments or the Army's record retention period had expired. For example, the CBSX confirmations of receipt are not required to be retained and the SPBS-R manual requires that one critical SPBS-R report, the listing of transactions reportable to CBSX, be retained for only 60 days after the validation process. Also, in some cases, units did not retain records in accordance with Army regulations. Specifically, units are required to retain the inactive document register (a listing of all archived transactions that were posted to the property book) for 2 years but units could not find these documents in 12 cases. If units do not determine the causes of their adjustments prior to discarding the records needed to

#### Figure 4: Causes of CBSX Adjustments

	assess these causes, the Army is left with little information on specific causes of these adjustments so that corrective actions can be taken to prevent their recurrence. The following sections provide additional detail for each of the causes of
	adjustments identified.
SPBS-R Transactions Not Received by CBSX	Army regulations require that LOGSA and Army Major Commands ensure that units submit complete and accurate data to CBSX. However, our sample of 150 adjustments found that 64 (43 percent) occurred because SPBS-R transactions were not received by CBSX <sup>9</sup> and thus were posted to SPBS-R, but not CBSX, causing discrepancies between CBSX and SPBS-R balances. We could not determine with certainty whether property book officers failed to send their transactions to CBSX or if some other event in the process prevented CBSX from receiving the transactions because neither LOGSA nor the units had effective monitoring processes to ensure that transactions were sent and received in a timely manner. Examples include the following.
	<ul> <li>Army Regulation 710-3, <u>Asset and Transaction Reporting System</u>, requires LOGSA to (1) ensure that activities submit CBSX input data by the date scheduled and that the data are correct and (2) take appropriate follow-up action if data are not accurate or submitted by the scheduled date. However, LOGSA had neither scheduled dates for units to report their CBSX transactions nor kept a log or schedule of expected transmissions. Therefore, without such reporting schedules, LOGSA could not detect when units failed to submit transactions and the major commands lacked appropriate data to measure unit compliance. Moreover, according to LOGSA's analysts, they have not routinely followed up on and corrected rejected transactions. In addition, while LOGSA requested that units submit transactions weekly (exactly when transactions are submitted is left to the discretion of the unit), in practice, we found that reporting frequency varied greatly. Some units reported several times a week while others did not report to CBSX for months.</li> <li>Although LOGSA transmits to units confirmations of receipt that contain the total number of transactions received, neither Army regulations nor their implementing guidance require units to verify the total, investigate</li> </ul>

<sup>&</sup>lt;sup>9</sup>The range of our confidence interval at a 95-percent confidence level is that between 11,705 and 16,230 of the 32,649 CBSX adjustments in our sample universe made during the 8-month period of our review were due to transactions not received by CBSX.

discrepancies, and retain the receipt confirmations.<sup>10</sup> Property Book Officers for several units in our sample told us that while they review and retain for various periods the LOGSA receipt confirmations, they do not always compare these confirmations with their lists of CBSX-reportable transactions to ensure that all data transmitted were received by CBSX. Moreover, in cases where units provided their data to a central collection point which transmitted data to CBSX (see figure 2), the central collection point often did not provide the units with the receipt confirmation. Unless units verify and retain their receipt confirmations, they are unlikely to discover that transactions were not received by CBSX and therefore will not be in a position to take corrective action such as retransmitting the transactions. Also, the SPBS-R report that lists the CBSX-reportable transactions—which units could use to verify the total number of transactions transmitted—does not display a total. Therefore, when large numbers of transactions are sent, verifying the CBSX confirmation totals of transactions received can be onerous because property book officers must manually count the total number of SPBS-R reportable transactions. This can involve hundreds of transactions.

• LOGSA mails to each property book officer monthly reports showing transactions posted to CBSX. LOGSA expects property book officers to review these reports to ensure that their property book transactions were posted to CBSX and to review transactions rejected or questioned by CBSX edit checks. By performing this procedure, the property book officer could detect when reportable transactions were not received by CBSX or other problems that prevented transactions from posting to CBSX. However, many property book officers we interviewed told us that they did not perform this review process. Further, this process can be burdensome. Specifically, (1) these reports contain all transactions submitted throughout the month (which can involve hundreds of transactions) rather than reporting exceptions separately and (2) transactions with errors may not be readily identifiable. Further, the error codes in these reports are difficult to interpret. For example, the report does not define the error-type codes it contains.

#### Software Problems

Thirty-five adjustments (23 percent) in our sample were caused by problems in CBSX or SPBS-R software.<sup>11</sup> Because of these software errors,

<sup>10</sup>When data are electronically transmitted to CBSX, LOGSA returns to the sender a confirmation of receipt showing the number of records received, which the property book officer can compare to the number sent. Only three of the units in our review did not electronically transmit data to CBSX.

<sup>11</sup>The range of our confidence interval at a 95-percent confidence level is that between 5,798 and 9,703 of the 32,649 CBSX adjustments in our sample universe made during the 8-month period of our review were due to software problems.

	CBSX (1) posted incorrect adjustments, (2) posted invalid transactions, or (3) did not post valid transactions. In some of these cases, errors in the validation process itself created inaccurate balances in CBSX that were not corrected until LOGSA conducted its next 6-month validation process. The following were the specific software problems found.
CBSX Validation Process Error	Twenty-one adjustments were caused by a software error in the CBSX validation process which resulted in invalid adjustments being posted to unit balances. The CBSX validation process compares the unit's SPBS-R equipment balances to the unit's adjusted equipment balances in CBSX and changes the CBSX balances to mirror the SPBS-R balances. For validation purposes, the CBSX equipment balance is adjusted to remove transactions received after the unit's validation cutoff date, which is the date when each unit runs the SPBS-R validation process for submission of balance data to LOGSA. This process is necessary to account for timing differences between the dates the units and CBSX ran their respective validation processes.
	However, when a unit's asset balances were reduced to zero in CBSX by transactions subsequent to the unit validation date, the CBSX validation process did not adjust the unit's equipment balances for these transactions. Therefore, in these cases, the unit's unadjusted CBSX balances were compared to the semi-annual sPBS-R balance data, which caused CBSX to post erroneous adjustments, record inaccurate Army unit equipment balances, and report inaccurate unit compatibility rates. For example, in one sample case, a unit submitted to CBSX a validation balance of seven for a particular equipment item as of April 25, 1996, and CBSX ran its validation process on June 4, 1996. That unit also submitted a transaction for that item on May 17, 1996, which reduced the balance for the equipment item in CBSX to zero. A software problem caused CBSX not to add back this transaction in order to calculate the adjusted CBSX balance (which is compared to the SPBS-R validation data). As a result, the CBSX validation process adjusted CBSX to agree with the April 25, 1996, sPBS-R validation balance, thereby overstating the unit's balance for that particular equipment item by seven. After we brought this problem to LOGSA's attention, they completed a software change to fix the problem.
Valid Transactions Rejected as Duplicates	Five adjustments were due to CBSX rejecting valid property book transactions because edit processes incorrectly identified them as duplicate transactions. For example, if the unit corrected an error in a transaction (i.e., if the wrong serial number was entered) and the original and corrected transaction was sent in the same submission to CBSX, CBSX

	would reject one of the transactions as a duplicate. The Army was aware of this software problem. To fix it, in 1997, the Software Development Center, Fort Lee, modified SPBS-R to add new data fields to the SPBS-R input to CBSX that will include the date and time of transactions. These SPBS-R software modifications, along with planned modifications to CBSX to use these data, are expected to correct this problem.
SPBS-R Caused Errors	Four adjustments were caused by software errors in SPBS-R that resulted in invalid transactions being posted to CBSX. Three adjustments occurred when a software error in SPBS-R caused it to report a wrong activity address code to CBSX. When a unit is reorganized and transfers assets to a different unit identification code, the unit inputs the gaining and losing units' unit identification codes in SPBS-R, which uses them to automatically record both the gaining and losing units' Department of Defense Activity Address Codes. However, a software problem in SPBS-R caused the system to assign the gaining unit's activity address code to CBSX, which caused CBSX to mistakenly post the loss transaction to the gaining rather than losing unit. Neither LOGSA nor the Software Development Center, Fort Lee, were aware of this SPBS-R software problem. The CBSX Project Manager told us that this error is a significant problem, particularly during times of frequent deployments when these types of transactions are common.
	The fourth adjustment caused by a software error in SPBS-R occurred when a unit incorrectly posted a transaction to reverse a prior transaction. While SPBS-R edits prevented the transaction from updating the SPBS-R asset balance, SPBS-R did not reject this transaction, instead passing along the incorrect reversal transaction as a valid CBSX reportable transaction. While researching another adjustment (which was caused by a transaction not received by CBSX), we found a second unit that performed an incorrect reversal transaction. Neither LOGSA nor the Software Development Center, Fort Lee, were aware of this SPBS-R software problem. An SPBS-R analyst stated that a software change would correct this problem.
	Because the Software Development Center, Fort Lee, plans to replace SPBS-R, additional software improvements are not being made to SPBS-R except for changes related to the Year 2000 problem. <sup>12</sup> However, the errors in SPBS-R discussed in this section, which caused CBSX to have incorrect asset balance data, could be fixed in conjunction with the planned modification to SPBS-R to correct the Year 2000 problem.

<sup>&</sup>lt;sup>12</sup>See Year 2000 Computing Crisis: Time Is Running Out for Federal Agencies to Prepare for the New Millennium (GAO/T-AIMD-97-129, July 10, 1997) for a discussion on the Year 2000 problem.

CBSX Catalog Update Process Error	Three adjustments caused by the catalog update process resulted in invalid transactions being posted to CBSX. As previously discussed, when a unit runs the catalog update process in SPBS-R, the system generates a listing of the unit's equipment balances for newly reportable items, which the unit is supposed to transmit to CBSX. CBSX then records these new balances as part of the unit's asset balance. In three cases, units transmitted catalog balances for items with existing CBSX balances. <sup>13</sup> As a result, CBSX added the newly reported and existing balances together, thus overstating the units' equipment balances in CBSX. We brought this problem to the attention of the CBSX Project Manager, who stated that LOGSA would fix this problem by adding an edit to the CBSX catalog update process to check whether the unit had a preexisting balance for the catalog item.
CBSX Erroneously Posted Transactions	Two adjustments were caused when CBSX erroneously posted transactions. In these cases, transactions were processed in SPBS-R prior to the unit running the validation process (therefore the transactions were included in the unit's validation balances) but were not received and processed by CBSX until after LOGSA ran the CBSX validation process. According to a LOGSA programmer, this error occurred because CBSX was reading the incorrect validation date. The programmer further stated that LOGSA had discovered and, in early 1996, fixed this error.
LOGSA Posted Erroneous Transactions	Fourteen adjustments (9 percent) were caused by LOGSA actions. <sup>14</sup> For 13 of these adjustments, LOGSA analysts posted erroneous transactions to unit asset balances in CBSX. LOGSA analysts can manually enter transactions in CBSX to adjust unit asset balances. Analysts input these transactions when units notify LOGSA of changes to their unit identification or activity address codes or when analysts identify cases where unit property book transactions were not posted correctly in CBSX. For example, when a unit requested that LOGSA change its unit identifier codes, LOGSA analysts often also transferred the asset balances for the affected units without investigating whether the units had already submitted the appropriate SPBS-R unit transfer transactions. Therefore, if the unit had performed the
	<sup>13</sup> These items had existing CBSX balances because (1) the unit erroneously reported the same catalog transaction twice and (2) one item had been previously reported as a substitute item for another reportable item. Units are authorized certain types of equipment for which they can substitute similar items. When units make such substitutions, these items are reported to CBSX even though the substituted item may not be designated as a CBSX reportable item.

<sup>14</sup>The range of our confidence interval at a 95-percent confidence level is that between 1,871 and 4,639 of the 32,649 CBSX adjustments in our sample universe made during the 8-month period of our review were due to LOGSA errors.

	transfer transactions in SPBS-R and submitted this data to CBSX, the LOGSA-generated transaction doubled the unit's asset balances in CBSX. The final adjustment in this category occurred because LOGSA did not update the unit identifier data in CBSX in a timely manner. The CBSX Project Manager agreed that LOGSA-generated transactions can cause adjustments and said that LOGSA should only make these transactions when units do not submit SPBS-R unit transfer transactions. The Project Manager said that LOGSA plans to institute an internal review process to approve LOGSA-generated changes to unit balances. This process will include determining whether units have submitted the appropriate unit transfer transactions. However, unless this process includes coordinating with the applicable unit prior to making changes to unit asset balances, units could still submit duplicate unit transfer transactions at a later time.
Units Posted Transactions Incorrectly	Fourteen adjustments (9 percent) we reviewed were caused when units incorrectly entered property book transactions. <sup>15</sup> Some of these transactions related to unit reorganizations that caused a lack of synchronization between unit identifier data in CBSX and SPBS-R. Other incorrectly entered transactions were due to various other errors such as the unit entering an invalid unit identification code. Errors such as these can be reduced by placing additional emphasis on training, which we discuss in the next section.
	Deployment situations often cause unit reorganizations. As a result of these reorganizations, new unit identifier codes are created and existing unit assets are moved to these new unit identifier codes. These changes are made in order to maintain asset accountability when units are deployed. Therefore, if CBSX and SPBS-R do not contain the same unit identifier data, visibility over these assets is lost. For example, one unit's reorganization adjustments occurred as a result of its deployment to Haiti. During the deployment, the unit transferred a large number of its assets to another property book in Haiti. However, CBSX did not recognize this transfer because the unit did not follow the designated procedure for posting to a new unit identification code established for the deployment. As a result, when the unit submitted its validation balances, which no longer included the assets deployed to Haiti, CBSX deleted those assets in order to match the property book balances submitted. These deleted

 $<sup>^{15}</sup>$  The range of our confidence interval at a 95-percent confidence level is that between 1,871 and 4,639 of the 32,649 CBSX adjustments in our sample universe made during the 8-month period of our review were due to unit errors.

	assets, which included 6 trucks, 12 ambulances, 13 pistols, and 62 M-16
	rifles, remained unreported in CBSX until the next validation was performed 4 months later—after the deployed equipment had been transferred back to the unit's original property book.
	In another example of an adjustment caused by a unit reorganization, a unit property book officer attempted to transfer assets between two Army companies. However, the property book officer performed this transfer incorrectly, which resulted in both companies' assets being incorrectly combined in CBSX in one company's account.
	Other incorrectly entered transactions were due to a variety of circumstances such as the unit entering an invalid unit identification code. For example, in one case, the unit incorrectly used a unit identification code assigned to another unit, which resulted in transactions being incorrectly posted to the other unit's account.
Underlying Factors Affecting the Accuracy of Data in CBSX	In addition to the specific cause of each adjustment, we believe other underlying factors contributed to CBSX not being compatible with SPBS-R. These factors primarily related to the lack of reconciliations, outdated and unclear regulations, and the lack of training.
	<ul> <li>First, although Army Regulation 710-3, <u>Asset and Transaction Reporting</u></li> <li><u>System</u>, requires all activities to maintain accurate asset balances in CBSX, the regulation is unclear about the respective roles of LOGSA and the property book officer for reconciling automated property books with CBSX and refers to a reconciliation process that LOGSA no longer conducts. Instead, LOGSA's practice is to adjust the CBSX database to agree with SPBS-R without a detailed analysis of the causes for these adjustments. In addition, as previously discussed, many units do not retain the documents, such as the inactive transaction register and the receipt confirmations, that would be necessary to perform such reconciliations. As a result, the Army has little of the information it would need on specific causes of adjustments to take corrective actions to prevent their recurrence. Moreover, reconciliations could detect instances where CBSX balances were incorrectly changed. For example, as previously discussed, 21 adjustments in our sample (14 percent) resulted from software problems that led to erroneous adjustments that caused CBSX balances to be incorrect. In addition, Army record retention periods with respect to CBSX contain time frames associated with the validation process that may not be sufficient to support a reconciliation process. Procedures only require that</li> </ul>

units retain applicable records until a period of time subsequent to the time when adjustments are processed.

Second, Army Regulation 710-3, which contains requirements for reporting to CBSX, has not been updated since May 1992 and does not reflect current CBSX reporting processes. For example, the regulation requires property book officers to report to CBSX once a month, whereas LOGSA requests weekly reporting. In addition, the regulation does not require confirming LOGSA's receipt of the unit's property book transactions (i.e., using the confirmation of receipt report). According to Department of Army officials, Army Regulation 710-3, Asset and Transaction Reporting System, is under revision and is scheduled to be completed shortly. We reviewed the draft regulation and it includes new requirements such as requiring unit data to be submitted to LOGSA weekly during peacetime and daily during wartime. However, the draft regulation does not require units to (1) verify their receipt confirmations and research any differences, (2) perform reconciliations of the differences discovered during the validation process, (3) review the monthly reports they receive from LOGSA, or (4) follow up on transactions that were rejected by CBSX.

Finally, we found that several issues related to training contributed to the problems we identified. For example, property book officers in about 12 percent of the units in our sample, primarily those in the Army Reserves and Army medical activities, had received no formal training on how to operate SPBS-R. For example, one property book officer did not know he was required to send transactions to CBSX. In addition, the Army's SPBS-R training does not cover analyzing CBSX reports such as confirmations of receipt and monthly transaction listings. According to Army training officials at the Army Quartermaster Center and School, these subjects are not covered because receiving these reports from LOGSA cannot be simulated and other topics would not be covered if CBSX reporting was emphasized. The CBSX Project Manager stated that the Office of the Deputy Chief of Staff for Logistics was responsible for working with the Quartermaster Center and School to obtain additional emphasis on CBSX. Officials from the Office of the Deputy Chief of Staff for Logistics stated that they had not started this effort. In its comments on the draft report, the Army stated that the Office of the Deputy Chief of Staff for Logistics would request that SPBS-R training be revised to incorporate how to analyze CBSX reports and confirmations of receipt.

Another training issue related to LOGSA's annual conference. Property book officers at 16 units in our sample did not attend the conference, and other

	methods to disseminate the training provided at this conference, such as videotape, were not employed. LOGSA's annual conferences are an important mechanism to obtain information on current CBSX processes and problems. Accordingly, it may be beneficial to videotape and distribute the tapes of these conferences to the property book officers not in attendance. In its response to the draft report, the Army stated that LOGSA is developing a training video based on its annual conference that will be used as a training aid for property book officers.
	Also, in 1994, LOGSA discontinued site visits to property book officers to provide technical assistance and training. LOGSA'S CBSX Project Manager stated that, in 1997, CBSX analysts began performing site visits and that they would continue these visits as funding permits. However, LOGSA has not established a formal site visit program to visit sites with low CBSX compatibility rates.
CBSX Improvement Initiatives Are Worthwhile but Additional Efforts Are Needed	LOGSA and the Software Development Center, Fort Lee, have initiated a CBSX improvement effort to correct problems in keeping the CBSX asset balances current and compatible with SPBS-R. This improvement effort contains worthwhile initiatives. At the same time, the modifications being made under this improvement effort will not correct many of the causes of adjustments to CBSX that we identified. In particular, adjustments caused by transactions not received by CBSX, the largest problem, will not be corrected unless additional efforts are made.
	In 1995, the Army established an Improvement Team (which included representatives from LOGSA and the Software Development Center, Fort Lee) to develop initiatives to improve data accuracy in CBSX. According to the team, among the most significant contributing factors to CBSX inaccuracies were (1) the lack of synchronization of unit identifier data between CBSX and SPBS-R, (2) data lag time in reporting and update processes, and (3) nonsubmission or incomplete reporting. These contributing factors were consistent with some of the previously discussed causes of sample adjustments, such as incorrectly posted transactions that resulted from unit reorganizations that caused a lack of synchronization between unit identifier data in CBSX and SPBS-R. In September 1996, the Army awarded a contract to address the problems the Improvement Team had identified that could be corrected at LOGSA.
	To fix the CBSX problems identified by the Improvement Team, the Software Development Center, Fort Lee, and LOGSA (and its contractor)

initiated several improvement efforts. For example, to fix the lack of synchronization between CBSX and SPBS-R unit identifier information, the Software Development Center, Fort Lee, and a LOGSA contractor modified SPBS-R and CBSX, respectively. In the case of SPBS-R, a July 1997 change allowed units to download the CBSX Customer Identification Control File (which includes the unit identification and activity address codes) that SPBS-R uses to edit transactions. This edit causes units to receive an automated notice when they enter an unrecognized unit identifier code. However, units can override this edit and the frequency that units update the CBSX unit file in SPBS-R is at the discretion of the unit. As part of a September 1996 SPBS-R change, units now transmit unit identification and activity address codes to CBSX. In May 1997, the LOGSA contractor completed a CBSX modification that compares the CBSX and SPBS-R unit identification and activity address codes and provides reports of differences to LOGSA analysts. According to the CBSX Project Manager, desk procedures will be written requiring LOGSA analysts to resolve these differences.

LOGSA has recognized that CBSX had problems maintaining current information because updates were too infrequent. To address this data lag problem, in October 1997, LOGSA'S CBSX contractor completed a CBSX modification to allow more frequent SPBS-R batch updates to the CBSX asset balances.<sup>16</sup> In addition, the contractor, in conjunction with LOGSA programmers, is also implementing an automated error correction process. Currently, units receive information on rejected transactions in hard copy reports that are mailed to the units monthly and there is no automated mechanism for units to resubmit corrected transactions to CBSX. Under the automated error correction process being developed, CBSX would electronically transmit rejected transactions to applicable SPBS-R users, who would be expected to correct and retransmit these transactions to CBSX, where applicable. To be effective, this unit error correction process should be combined with LOGSA follow-up to ensure that rejected transactions are corrected and resubmitted. The CBSX modification, which will encompass reporting CBSX transaction errors electronically to the units, is expected to be completed shortly. However, in order for units to correct these errors electronically, LOGSA will have to modify another system—LOGSA's Distribution Execution System—that it uses to obtain SPBS-R data. The CBSX Project Manager stated that a time frame for modifying the Distribution Execution System has not been set.

<sup>&</sup>lt;sup>16</sup>While units can transmit SPBS-R data to LOGSA anytime, LOGSA generally ran the batch CBSX asset update process twice a week. Under the improvement plan, LOGSA runs the batch CBSX asset update process every 2 hours during LOGSA business hours for SPBS-R transactions.

	These improvements are worthwhile and will improve the accuracy of CBSX when combined with changes LOGSA and the Software Development Center, Fort Lee, have made or agreed to make to fix software problems and erroneous LOGSA transactions previously discussed. However, we remain concerned that the main cause of CBSX adjustments, transactions not received by CBSX, will continue to be a problem. As illustrated in figure 2, CBSX and SPBS-R are not integrated and, therefore, CBSX will continue to rely on units to submit data in a timely manner. As previously discussed, our review of adjustments caused by transactions not received by CBSX indicated that the Army's processes were neither adequately controlled nor documented to ensure that all transactions were transmitted to CBSX. This is consistent with the CBSX Improvement Team's finding that nonsubmission or incomplete reporting was a significant contributing factor to CBSX inaccuracies. LOGSA's CBSX contractor is developing a report identifying units that have not submitted data in a given period which will be provided to CBSX analysts for follow up action. However, this report would not identify transactions that were not received by CBSX if the unit had other CBSX transmissions received during the period covered. Therefore, to eliminate the adjustments caused by transactions not received by CBSX, this LOGSA report would need to be coupled with other control mechanisms, such as unit review and reconciliation of confirmations of receipt and reconciliations of differences between CBSX and sPBS-R data.
The CBSX Compatibility Rate Is an Incomplete Performance Indicator	The Army's initiatives to improve CBSX discussed in the previous section are intended to help the Army achieve its management goal of a 98-percent compatibility rate, which the Army uses to measure the extent that CBSX and property book records agree. However, the Army's current method of calculating this rate is flawed and until this method is changed, the Army will not know whether its improvement efforts will achieve its 98-percent goal. Moreover, the compatibility rate is an incomplete indicator of CBSX performance because it does not address other types of measurements, such as the frequency of unit submissions. LOGSA plans to implement other types of performance measures.
	As of July 1997, the Army reported an Army-wide CBSX compatibility rate of about 92 percent. However, that rate is overstated because LOGSA assigns a 100-percent compatibility rate to those units where (1) LOGSA believes the validation adjustments were not the fault of the local property book officer (such as cases where a unit incorrectly posted a transaction to another unit's account) or (2) the validation adjustments occurred when the unit

converted from a manual system to SPBS-R. If these units were factored into the compatibility rate, the Army-wide rate would fall to about 87 percent. In addition, if a unit does not submit current balances for validation, the Army continues to report the unit's prior compatibility rate, which can be several years out of date, thus distorting the Army-wide compatibility rate. In the April 1997 validation process, 191 reporting entities in the Active Army and Army Reserve did not provide validation data to LOGSA. As of March 1997, there were 1,096 Active Army and Army Reserve entities reporting to CBSX, meaning that current performance data were unavailable for over 17 percent of these entities.

In addition, even if the compatibility rate measured all current differences between CBSX and unit property books, it does not serve as a complete indicator of CBSX accuracy. The compatibility rate does not measure (1) the degree to which CBSX agrees with non-property book systems, such as those that account for wholesale-level assets and (2) errors associated with equipment in-transit between locations.<sup>17</sup> The in-transit exclusion is significant, since in June 1996, the Army Audit Agency reported a 69-percent error rate in CBSX balances of in-transit assets resulting from problems with system interfaces, duplicate unit identification codes, redirected shipments, shipment performance notification procedures, and document number changes (see footnote 1). LOGSA also does not measure other indicators of performance, such as the timeliness of unit transaction submissions.

LOGSA has drafted proposed additional CBSX performance measures, such as timeliness of unit submissions and frequency of errors, which it plans to implement shortly. We believe that these additional performance measures are more indicative of compliance with CBSX reporting requirements than the compatibility rate alone. Further, if implemented, these measures could be used to help evaluate property book officers' and their commanders' performance. However, the proposed performance measures do not include a measure of LOGSA and Army units' abilities to successfully close in-transit transactions, which is needed to measure the Army's progress in reducing its 69-percent in-transit error rate. Moreover, the proposed measures do not include a measurement of planned new processes resulting from the Army's CBSX improvement effort, such as the planned error correction process. Such performance indicators could include measuring the timeliness of units in correcting transaction errors.

<sup>&</sup>lt;sup>17</sup>As illustrated by figure 1, wholesale equipment and in-transit equipment constituted 17.5 percent and 1.8 percent, respectively, of CBSX total assets as of September 30, 1996.

Conclusion	Until the Army addresses the major causes for CBSX adjustments, its system for providing worldwide asset visibility for major equipment assets will continue to contain inaccurate, untimely, and incomplete data, which may cause erroneous monitoring of equipment status and improper equipment acquisition or redistribution decisions. Financial statements will also continue to be misstated. To its credit, LOGSA, both at its own initiative and as a result of our bringing previously unknown problems to its attention, plans to make software and process changes to address many of the causes of CBSX adjustments. However, these changes do not address the primary cause of CBSX adjustments—transactions not received by CBSX. The responsibility for ensuring that CBSX contains accurate, timely, and complete data rests jointly with property book officers under the Army's major commands and LOGSA. However, neither the major commands nor LOGSA have established adequate processes to ensure that property book officers correctly report all transactions. Accordingly, the Army's property book officers do not ensure that all reportable transactions are received by CBSX or identify specific causes of validation adjustments so that corrective actions can be taken to prevent their recurrence.
Recommendations	<ul> <li>To ensure that CBSX receives applicable SPBS-R transactions, we recommend that the Secretary of the Army ensure that</li> <li>LOGSA establish a standard SPBS-R reporting schedule and follow up on missing submissions;</li> <li>the major commands require property book officers to, following each data transmission to CBSX, (1) compare the total number of SPBS-R transactions transmitted to the LOGSA confirmation of receipt, (2) investigate and resolve discrepancies, and (3) retain the confirmations;</li> <li>the Software Development Center, Fort Lee, add a total line to the SPBS-R CBSX reportable transaction report to readily permit it to be matched to the CBSX receipt confirmation; and</li> <li>LOGSA redesign CBSX reports to unit property book officers to make them more user friendly, such as by providing exception reports with easily understood error codes.</li> <li>To correct software problems in CBSX and SPBS-R causing incompatibilities between the two systems, we recommend that the Secretary of the Army ensure that</li> </ul>

- LOGSA proceed with its planned modification to CBSX to correct the adjustments that were caused by valid transactions being incorrectly rejected as duplicate transactions;
- the Software Development Center, Fort Lee, add edits to SPBS-R software to prevent (1) SPBS-R from reporting incorrect activity address codes for unit transfer transactions and (2) incorrect reversal transactions; and
- LOGSA add edits to CBSX software to identify instances where units submit catalog beginning balances for items that have an existing balance in CBSX.

To prevent inaccurate transactions from being posted to unit accounts in CBSX by LOGSA, we recommend that the Secretary of the Army ensure that, prior to LOGSA modifying unit data in CBSX, LOGSA proceed with its planned implementation of an approval and documentation process which should include coordinating with applicable units before making changes to unit balances.

To improve the transaction audit trail and enhance unit understanding of CBSX reporting, we recommend that the Secretary of the Army ensure that

- LOGSA update Army Regulation 710-3, Asset and Transaction Reporting System, to require units to (1) verify their confirmations of receipt and research and resolve any differences, (2) reconcile differences between property books and CBSX and investigate reasons for adjustments, (3) retain property book transaction records (including receipt confirmations) relating to CBSX to determine the causes of adjustments and support the reconciliation, (4) review the monthly reports they receive from LOGSA, and (5) follow up on transactions that were rejected by CBSX;
- the major commands require that all property book officers using SPBS-R, including those assigned to medical and Reserve units, successfully complete SPBS-R training;
- the Army Quartermaster Center and School revise the SPBS-R training to include how to analyze CBSX confirmations and monthly reports;
- the major commands enhance property book officer training by requiring ongoing and up-to-date CBSX training such as that provided by LOGSA's annual CBSX conference or, alternatively, LOGSA videotape its annual CBSX conference and provide on-site training using this tape at Army units to train those unable to attend the CBSX conference; and
- LOGSA establish a formal site visit program to conduct periodic assistance/training for property management personnel.

To improve the effectiveness of LOGSA's plans to improve CBSX, we recommend that the Secretary of the Army ensure that LOGSA (1) proceed

	with the planned development of desk procedures to require LOGSA analysts to resolve differences between CBSX and SPBS-R unit identification and activity address codes, (2) require its analysts to follow up on rejected transactions to ensure that they are corrected, and (3) modify the Distribution Execution System to allow units to correct and resubmit rejected CBSX transactions.		
	To improve the effectiveness of CBSX performance measurement, we recommend that the Secretary of the Army ensure that		
	<ul> <li>LOGSA calculate the Army-wide CBSX compatibility rate based on all differences between property books and CBSX;</li> <li>LOGSA proceed with the planned implementation of additional CBSX performance measures and (1) develop and implement CBSX performance indicators that measure LOGSA and Army unit abilities to successfully close in-transit transactions and the timeliness of corrections of unit transaction errors and (2) provide results to Army major commands for their use in evaluating the property book function; and</li> <li>the major commands include performance measurement data related to CBSX, such as the timeliness and accuracy of transaction submissions, in overall commander and property book officer performance criteria.</li> </ul>		
Agency Comments and Our Evaluation	In commenting on a draft of this report, the Army stated that it concurred with the intent of all of the recommendations and that it will do all that it can in as timely a manner as possible to satisfy them. In particular, the Army stated that some of the recommendations will be implemented when the CBSX Improvement Plan, Phase I, is completed in April 1998. To address several other recommendations, the Army plans to produce, and seek funding for, a CBSX Improvement Plan, Phase II. In addition, the Army stated that it plans to meet in February 1998 to determine what can be done to satisfy our recommendations with current resources while funding is being sought to implement the CBSX Improvement Plan, Phase II.		
	The Army partially concurred with two of our recommendations related to modifying SPBS-R. These modifications are necessary to correct software errors that caused incorrect data to be reported to CBSX. The Army plans to replace SPBS-R with the Integrated Combat Service Support System, which Army stated will be a seamless, integrated retail supply system that will combine the functions of several existing systems. Because it plans to replace SPBS-R, the Army has decided not to modify SPBS-R, except for changes pertaining to the Year 2000 problem. However, the Army said that		

software change requests will be submitted to incorporate our recommendations into the Integrated Combat Service Support System. This system is currently scheduled to be fielded by the end of fiscal year 2003, although the Army stated that if funding is accelerated, it will be fielded by the end of fiscal year 2001. In addition, the Army stated that LOGSA, the Office of the Deputy Chief of Staff for Logistics, and property book officers will meet before April 1998 to determine if there are any workarounds that can be implemented to accomplish these recommendations.

Because the errors in the SPBS-R software cause inaccuracies in CBSX, which the Army uses to monitor the equipment readiness of its warfighting units and fill equipment shortages, these errors must be corrected expeditiously. We are particularly concerned with the software error that caused SPBS-R to report the wrong activity address code to CBSX during unit reorganizations, which in turn caused incorrect unit balances in CBSX. The CBSX Project Manager told us that this error is a significant problem, particularly during times of frequent deployments when such transactions are common. Army planners and logisticians use equipment balances originating from CBSX to redistribute equipment to deploying units; therefore, inaccurate unit equipment balances in CBSX could hinder the Army's assessment of the equipment needs of the deployed unit.

We support the Army's plans to try to develop workarounds to accomplish the goals of our recommendations. If the Army can develop effective workarounds to use until the Integrated Combat Service Support System is fielded, then it can avoid modifying SPBS-R. However, if the Army determines that such workarounds cannot be developed, it must modify SPBS-R software promptly because the Integrated Combat Service Support System may not be fielded until 2003. While we did not independently estimate the effort required to correct the SPBS-R errors, an October 1997 Software Development Center, Fort Lee, proposal to modify SPBS-R to fix the most significant problem-the software error that caused SPBS-R to report the wrong activity address code to CBSX during unit reorganizations—included a recommended solution which indicated that only a minor software modification was needed. Therefore, while modifying SPBS-R to fix the Year 2000 problem, the Software Development Center, Fort Lee, could also correct the errors found in our review without significantly impacting Army's plans to ensure that SPBS-R is Year 2000 compliant.

We are sending copies of this report to the Chairmen and Ranking Minority Members of the Senate Committee on Armed Services, the House Committee on National Security, the Senate and House Committees on Appropriations, the Senate Committee on Governmental Affairs, the House Committee on Government Reform and Oversight, and the Secretary of Defense; and the Director of the Office of Management and Budget. Copies will be made available to others upon request.

The head of a federal agency is required by 31 U.S.C. 720 to submit a written statement on actions taken on these recommendations to the Senate Committee on Governmental Affairs and the House Committee on Government Reform and Oversight within 60 days of the date of this report. You must also send a written statement to the House and Senate Committees on Appropriations with the agency's first request for appropriations more than 60 days after the date of this report.

Please contact me at (202) 512-9095 if you or your staff have any questions concerning this letter. Major contributors to this report are listed in appendix III.

Sincerely yours,

Lin & Jacolina

Lisa G. Jacobson Director, Defense Audits

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#### Abbreviations

AAA	Army Audit Agency
CBSX	Continuing Balance System-Expanded
LOGSA	Logistics Support Activity
SPBS-R	Standard Property Book System-Redesign

#### Appendix I

## List of Army Activities in Our Sample

U.S. Army Central Command	Army Central Command-Kuwait, Doha, Kuwait
U.S. Army Forces Command	<ul> <li>4th Mechanized Infantry Division, Ft. Hood, Texas</li> <li>1st Cavalry Division, Ft. Hood, Texas</li> <li>10th Transportation Battalion, Ft. Eustis, Virginia</li> <li>31st Air Defense Artillery Brigade, Ft. Bliss, Texas</li> <li>108th Air Defense Artillery Brigade, Ft. Bliss, Texas</li> <li>118 Corps Artillery, Ft. Sill, Oklahoma</li> <li>19th Maintenance Battalion, Ft. Sill, Oklahoma</li> <li>3rd Mechanized Infantry Division, Ft. Stewart, Georgia</li> <li>10th Mountain Division, Ft. Drum, New York</li> <li>546th Ordnance Battalion, Ft. Sam Houston, Texas</li> <li>46th Engineer Battalion, Ft. Polk, Louisiana</li> <li>519th Military Police Battalion, Ft. Polk, Louisiana</li> <li>2nd Armored Cavalry Regiment, Ft. Polk, Louisiana</li> <li>937th Engineer Group, Ft. Riley, Kansas</li> <li>Directorate of Information Management, Ft. McPherson, Georgia</li> <li>3rd Brigade, 2nd Infantry Division, Ft. Lewis, Washington</li> <li>85th Medical Evacuation Battalion, Ft. Lewis, Washington</li> <li>18t Brigade, 25th Infantry Division, Ft. Lewis, Washington</li> <li>19th Signal Battalion, Ft. Knox, Kentucky</li> <li>XVIII Airborne Corps Artillery, Ft. Bragg, North Carolina</li> <li>189th Maintenance Battalion, Ft. Bragg, North Carolina</li> <li>189th Maintenance Battalion, Ft. Bragg, North Carolina</li> <li>507th Corps Support Group, Ft. Bragg, North Carolina</li> <li>507th Corps Support Group, Ft. Bragg, North Carolina</li> <li>518th Medical Group, Ft. Bragg, North Carolina</li> <li>52th Medical Group, Ft. Bragg, North Carolina</li> <li>54th Mobile Army Surgical Hospital, Ft. Bragg, North Carolina</li> <li>54th Combat Support Hospital, Ft. Bragg, North Carolina</li> <li>54th Mobile Army Surgical Ho</li></ul>
U.S. Army Intelligence and Security Command	297th Military Intelligence Battalion, Ft. Gordon, Georgia

U.S. Army Special Operations Command	JFK Special Warfare Center, Ft. Bragg, North Carolina 528th Special Operations, Support Battalion, Ft. Bragg, North Carolina 7th Psychological Operations Group, Ft. Bragg, North Carolina 5th Special Forces Group, Ft. Campbell, Kentucky 160th Special Operations Aviation Regiment, Ft. Campbell, Kentucky
U.S. Army Training and Doctrine Command	282nd Army Band, Ft. Jackson, South Carolina
U.S. Army Reserves	<ul> <li>388th Medical Logistics Battalion, Hays, Kansas</li> <li>100th Battalion, 442nd Infantry, Ft. Derussy, Hawaii</li> <li>324th Signal Battalion, Ft. Gordon, Georgia</li> <li>172nd Support Group, Broken Arrow, Oklahoma</li> <li>316th Quartermaster Battalion, Okmulgee, Oklahoma</li> <li>7th Squadron, 6th Cavalry Regiment, Conroe, Texas</li> <li>448th Engineer Battalion, Ft. Buchanan, Puerto Rico</li> <li>1st Battalion, 158th Aviation Regiment, Grand Prairie, Texas</li> <li>313th Transportation Battalion, Baltimore, Maryland</li> <li>77th Army Reserve Command, Ft. Totten, New York</li> <li>854th Engineer Battalion, Kingston, New York</li> <li>804th Hospital Center, Ft. Devens, Massachusetts</li> <li>378th Corps Support Battalion, Ft. Indiantown Gap, Pennsylvania</li> <li>143rd Medical Company, Salt Lake City, Utah</li> <li>592nd Ordnance Company, Billings, Montana</li> <li>24th Military Intelligence Battalion, Ft. Wadsworth, New York</li> <li>854th Engineer Battalion, Wheeling, West Virginia</li> <li>844th Engineer Battalion, Knoxville, Tennessee</li> <li>337th Military Intelligence Battalion, Atlanta, Georgia</li> <li>841st Engineer Battalion, Miami, Florida</li> <li>326th Maintenance Battalion, Owings Mills, Maryland</li> <li>475th Quartermaster Group, Farrell, Pennsylvania</li> <li>138th Military Intelligence Battalion, Rosemont, Illinois</li> <li>3rd Battalion, 92nd Field Artillery, Akron, Ohio</li> <li>352nd Evacuation Hospital, Oakland, California</li> <li>521st Maintenance Battalion, Milwaukee, Wisconsin</li> </ul>
	475th Quartermaster Group, Farrell, Pennsylvania 138th Military Intelligence Battalion, Rosemont, Illinois 3rd Battalion, 92nd Field Artillery, Akron, Ohio 352nd Evacuation Hospital, Oakland, California 521st Maintenance Battalion, Milwaukee, Wisconsin 391st Engineer Battalion, Greenville, South Carolina 842nd Signal Company, Pensacola, Florida

U.S. Army Europe and Seventh U.S. Army	32nd Signal Battalion, Darmstadt, Germany 22nd Signal Brigade, Darmstadt, Germany 233rd Base Support Battalion, Darmstadt, Germany 94th Air Defense Artillery Brigade, Darmstadt, Germany 417th Base Support Battalion, Kitzingen, Germany 1st Mechanized Infantry Division, Kitzingen, Germany 100th Area Support Group, Grafenwoehr, Germany Combat Maneuver Training Center, Hohenfels, Germany 302nd Military Intelligence Battalion, Wiesbaden, Germany 212th Mobile Army Surgical Hospital, Wiesbaden, Germany 12th Aviation Brigade, Wiesbaden, Germany 39th Transportation Battalion, Kaiserslautern, Germany 51st Maintenance Battalion, Mannheim, Germany 22nd Area Support Group, Vicenza, Italy 3rd Battalion, 325th Infantry, Vicenza, Italy
U.S. Army Pacific	Light Infantry Brigade (North), Ft. Wainwright, Arkansas Light Infantry Brigade (South), Ft. Richardson, Arkansas 59th Signal Battalion, Ft. Richardson, Arkansas 25th Infantry Division, Schofield Barracks, Hawaii 58th Signal Battalion, Okinawa, Japan U.S. Army Garrison, Schofield Barracks, Schofield Barracks, Hawaii
Eighth U.S. Army	<ul> <li>2nd Infantry Division, Tongduchon, Korea</li> <li>21st Transportation Company, Seoul, Korea</li> <li>1st Battalion, 501st Aviation Regiment, Seoul, Korea</li> <li>175th Finance Center, Seoul, Korea</li> <li>U.S. Army Garrison, Camp Page, Chunchon, Korea</li> <li>23rd Chemical Battalion, Taegu, Korea</li> <li>168th Area Support Medical Battalion, Taegu, Korea</li> <li>1st Battalion, 43rd Air Defense Artillery, Suwon, Korea</li> </ul>
U.S. Army Southern Command	228th Aviation Regiment, Ft. Clayton, Panama 106th Signal Brigade, Ft. Clayton, Panama

## **Comments From the Department of Defense**

DEPARTMENT OF THE ARMY OFFICE OF THE DEPUTY CHIEF OF STAFF FOR LOGISTICS 500 ARMY PENTAGON WASHINGTON, DC 20310-0500 December 18, 1997 Mr. Gene L. Dodaro Assistant Comptroller General Accounting and Information Management Division U.S. General Accounting Office Washington, D.C. 20548 Dear Mr. Dodaro: This is the Department of Defense (DoD) response to the General Accounting Office (GAO) draft report "ARMY LOGISTICS SYSTEMS: Opportunities to Improve the Accuracy of Army's Major Equipment Item System," dated November 7, 1997 (GAO Code 918875/OSD Case 1488). The Department generally concurs with the draft report. Recommendations three and six of the draft report recommended that a current Standard Army Management Information System (STAMIS), the Standard Property Book System - Redesign (SPBS-R) be changed to meet certain requirements. All Logistics STAMIS are being replaced by a new system, the Integrated Combat Service Support System (ICS3), whose Phase I development is scheduled for completion by the end of Fiscal Year 1999. ICS3 will be a seamless, integrated retail supply system combining functions of SPBS-R, the Unit Level Logistics System (ULLS), the Standard Army Retail Supply System (SARSS), and others. It will provide soldiers with one modernized system using latest technology to accomplish retail logistics actions necessary to support today's modern Army. If funding can be accelerated, ICS3 will be fielded by end of Fiscal Year 2001. If not, then fielding will be completed by end of Fiscal Year 2003.



-3-The Army will also meet in February 1998 to determine what things can be done while funding is being sought for the Phase II plan to satisfy the recommendations with current resources and will move forward with those recommendations, given current fiscal restraints. Our detailed comments on the report recommendations are enclosed. The Department appreciates the opportunity to respond to the draft report. Sincerely ofin G. Coburn Lieutenant General, U.S. Army Deputy Chief of Staff for Logistics Enclosure

	GAO DRAFT REPORT - DATED 7 NOV 97 OSD CASE 1488, GAO CODE 918875
	ARMY LOGISTICS SYSTEMS: OPPORTUNITIES TO IMPROVE THE ACCURACY OF ARMY'S MAJOR EQUIPMENT ITEM SYSTEM
	DEPARTMENT OF DEFENSE COMMENTS ON THE GAO RECOMMENDATIONS
Now on p. 24.	<u>RECOMMENDATION 1:</u> To ensure that Continuing Balance System (CBS-X) receives applicable Standard Property Book System - Redesign (SPBS-R) transactions, the General Accounting Office (GAO) recommended that the Secretary of the Army ensure that the Army's Logistics Support Activity (LOGSA) establish a standard SPBS-R reporting schedule and follow up on missing submissions. (pp. 42-43/GAO Draft Report)
	DOD RESPONSE: Concur. SPBS-R schedule and follow-up on missing submissions involve ensuring unit/command compliance with policy and require additional improvements to the CBS-X process. The additional improvements will need to be incorporated as part of a CBS-X Improvement Plan-Phase II effort. The Army is developing this plan to aid in doing this procedure along with others that will improve CBS-X accuracy. This Phase II Plan still requires full scope of work definition, schedule development, and additional resource and funding identification from resource sponsors. These actions will be completed by Mar 98, and the Office of the Deputy Chief of Staff for Logistics (DDCSLOG) and the United States Army Materiel Command (USAMC) will seek funding at that time. Milestones will be available for Phase II completion when funding becomes available. ODCSLOG will continue to require policy compliance through Power Projection messages and other messages to the field.
Now on p. 24.	RECOMMENDATION 2: Also, to ensure that CBS-X receives applicable SPBS-R transactions, the GAO recommended that the Secretary of the Army ensure that the major commands require property book officers to, following each data transmission to CBS-X, (1) compare the total number of SPBS-R transactions transmitted to the LOGSA confirmation of receipt, (2) investigate and resolve discrepancies, and (3) retain the confirmations. (pp. 43/GAO Draft Report) DOD RESPONSE: Concur. ODCSLOG will meet with LOGSA in Feb 98 to discuss current report and communications/ notification capabilities between CBS-X, SPBS-R, and the
	1



	GAO Draft Report, 7 Nov 97, OSD Case 1488, GAO Code 918875 DOD Comments on the GAO Recommendations
Now on p. 24.	<u>RECOMMENDATION 4:</u> Also, to ensure that CBS-X receives applicable SPBS-R transactions, the GAO recommended that the Secretary of the Army ensure that LOGSA redesign CBS-X reports to unit property book officers to make them more user-friendly, such as by providing exception reports with easily understood error codes. (pp. 43/GAO Draft Report)
	DOD RESPONSE: Concur. The CBS-X Improvement Plan-Phase I has already initiated some product improvements and report tailoring to make CBS-X products user-friendly. Addressing the error codes, there already exists an output report which delineates all the error codes and their meanings. LOGSA works continuously with all customers on tools and products to address their needs, and will continue to do so. Product improvement will be studied with PBO input as CBS-X Improvement Plan-Phase II is developed.
Now on p. 25.	<u>RECOMMENDATION 5:</u> To correct software problems in CBS-X and SPBS-R causing incompatibilities between the two systems, the GAO recommended that the Secretary of the Army ensure that LOGSA proceed with its planned modification to CBS-X to correct the adjustments that were caused by valid transactions being incorrectly rejected as duplicate transactions. (pp. 43/GAO Draft Report)
	DOD RESPONSE: Concur. These issues are being addressed as part of CBS-X Improvement Plan-Phase I.
Now on p. 25.	RECOMMENDATION 6: Also, to correct software problems in CBS-X and SPBS-R causing incompatibilities between the two systems, the GAO recommended that the Secretary of the Army ensure that the Software Development Center, Fort Lee add edits to SPBS-R software to prevent: (1) SPBS-R from reporting incorrect activity address codes for unit transfer transactions and (2) incorrect reversal transactions. (pp. 43/GAO Draft Report)
	DOD RESPONSE: Partially concur. Because of the freeze on work on current legacy STAMIS due to ICS3 development, an SCR will be submitted to PM-ILOGS by Mar 98 to incorporate this idea into ICS3. In the interim, LOGSA, ODCSLOG, and PBOs will meet before Apr 98 to determine if there are any workarounds that PBOs can use to accomplish this recommendation.
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Now on p. 25.	<u>RECOMMENDATION 7:</u> Also, to correct software problems in CBS-X and SPBS-R causing incompatibilities between the two systems, the GAO recommended that the Secretary of the Army ensure that LOGSA add edits to CBS-X software to identify instances where units submit catalog beginning balances for items that have an existing balance in CBS-X. (pp. 43-44/GAO Draft Report)
	DOD RESPONSE: Concur. An internal ECP-S, which will be completed by 30 Jan 98, has been initiated to correct this issue.
Now on p. 25.	<u>RECOMMENDATION 8:</u> To prevent inaccurate transactions from being posted to unit accounts in CBS-X by LOGSA, the GAO recommended that the Secretary of the Army ensure that, prior to LOGSA modifying unit data in CBS-X, LOGSA proceed with its planned implementation of an approval and documentation process which should include coordinating with applicable units before making changes to unit balances. (pp. 44/GAO Draft Report)
	<u>DOD RESPONSE:</u> Concur. A Standard Operation Procedure being developed as part of CBS-X Improvement Plan-Phase I will document this verification process for all parties concerned.
Now on p. 25.	RECOMMENDATION 9: To improve the transaction audit trail and enhance unit understanding of CBS-X reporting, the GAO recommended that the Secretary of the Army ensure that LOGSA update Army Regulation AR 710-3, <u>Asset and</u> <u>Transaction Reporting System</u> to require units to: (1) verify their confirmations of receipt and research and resolye any differences, (2) reconcile differences between property books and CBS-X and investigate reasons for adjustments, (3) retain property book transaction records (including receipt confirmations) relating to CBS-X to determine the causes of adjustments and support the reconciliation, (4) review the monthly reports they receive from LOGSA, and (5) follow up on transactions that were rejected by CBS-X. (pp. 44/GAO Draft Report)
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GAO Draft Report, 7 Nov 97, OSD Case 1488, GAO Code 918875 DOD Comments on the GAO Recommendations DOD RESPONSE: Concur. ODCSLOG will meet with LOGSA in Feb 98 to discuss current report and communications/ notification capabilities between CBS-X, SPBS-R, and the Distribution Execution System (DES), and devise a plan to incorporate current capabilities into policy. Also to be discussed will be automated capabilities that must be available between the systems to be developed in the CBS-X Improvement Plan-Phase II, and capabilities that must be developed in ICS3. Capabilities to fulfill this recommendation through automation will be written into the Improvement Plan-Phase II, and will be built into ICS3 via a Systems Change Request (SCR) sent to PM-ILOGS for ICS3 Phase I development. Policy will then be written by ODCSLOG by Apr 98 and sent to property book officers (PBOs) to instruct them on how to put these recommended actions into effect using present-day tools. Policy will be updated each time new tools and better ways of doing this become available through implementation of CBS-X Improvement Plan-Phase II and fielding of ICS3. The current update of AR 710-3 is in to the printers and cannot be changed. However, when AR 710-3 is updated again, it will have the LOGSA and ODCSLOG input mentioned above included. RECOMMENDATION 10: To improve the transaction audit trail and enhance unit understanding of CBS-X reporting, the GAO recommended that the Secretary of the Army ensure that the major commands require that all property book officers using SPBS-R, including those assigned to medical and Reserve units, successfully complete SPBS-R training. (pp. 44/GAO Draft Report) DOD RESPONSE: Concur. ODCSLOG will request that the major commands require all PBOs to successfully complete training. If there is disagreement with this policy, ODCSLOG will raise the issue to higher levels for resolution. A message to this effect will be sent to the major commands by Mar 98. ODCSLOG will continue to work with TRADOC and LOGSA to develop and make training available through Long Distance Training (LDT), multimedia, and latest networking mechanisms. Major commands will be encouraged to use these new training aids as they become available. LOGSA is currently developing a training video 5

Now on p. 25.

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	based on their annual Major Item conference, and this will also be used as a training aid for PBOs.
Now on p. 25.	<u>RECOMMENDATION 11:</u> Also, to improve the transaction audit trail and enhance unit understanding of CBS-X reporting, the GAO recommended that the Secretary of the Army ensure that the Army Quartermaster Center and School. Revise the SPBS-R training to include how to analyze CBS-X confirmations and monthly reports. (pp. 45/GAO Draft Report)
	DOD RESPONSE: Concur. The ODCSLOG will request through TRADOC that the Army Quartermaster Center and School to revise SPBS-R training to include how to analyze CBS-X confirmations and monthly reports. This will be done by memorandum in Apr 98, after the Feb 98 ODCSLOG meeting with PBOs and LOGSA, to determine exactly the best way that this can be done using present tools. Included will be information on automation techniques that will be available in the future, based on CBS-X Improvement Plan-Phase II work. Use of these techniques will be given to the School for inclusion in their curriculum, once Phase II is completed and the new tools are available.
Now on p. 25.	RECOMMENDATION 12: Also, to improve the transaction audit trail and enhance unit understanding of CBS-X reporting, the GAO recommended that the Secretary of the Army ensure that the major commands enhance property book officer training by requiring ongoing and up-to-date CBS-X training such as that provided by LOGSA's annual CBS-X conference or, alternatively, LOGSA videotape its annual CBS-X conference and provide on-site training using this tape at Army units to train those unable to attend the CBS-X conference. (pp. 45/GAO Draft Report)
	DOD RESPONSE: Concur. LOGSA is in final review stage of a training video. Additional reviews of other multimedia alternatives can be accomplished as part of a CBS-X Improvement Plan-Phase II. This plan still requires full scope of work definition, schedule development, and additional resource and funding identification from resource sponsors. These actions will be completed by Mar 98, and ODCSLOG and USAMC will seek funding at that
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	time. Milestones will be available for Phase II completion when funding becomes available.
Now on p. 25.	<u>RECOMMENDATION 13:</u> Also to improve the transaction audit trail and enhance unit understanding of CBS-X reporting, the GAO recommended that the Secretary of the Army ensure that LOGSA establish a formal site visit program to conduct periodic assistance/training for property management personnel. (pp. 45/GAO Draft Report)
	DOD RESPONSE: Concur. Additional resources will need to be identified to address the additional site visits issue. Additionally, reviews of other multimedia alternatives can be accomplished as part of a CBS-X Improvement Plan-Phase II to address this issue. This plan still requires full scope of work definition, schedule development, and additional resource and funding identification from resource sponsors. These actions will be completed by Mar 98, and ODCSLOG and USAMC will seek funding at that time. Milestones will be available for Phase II completion when funding becomes available.
Now on pp. 25-26.	RECOMMENDATION 14: To improve the effectiveness of LOGSA's plans to improve CBS-X, the GAO recommended that the Secretary of the Army ensure that LOGSA: (1) proceed with the planned development of desk procedures to require LOGSA analysts to resolve differences between CBS-X and SPBS-R unit identification and activity address codes, (2) require its analysts to follow up on rejected transactions to ensure that they are corrected, and (3) modify the Distribution Execution system to allow units to correct and resubmit rejected CBS-X transactions. (pp. 45/GAO Draft Report)
	DOD RESPONSE: Concur. Issue (1) is being addressed as part of CBS-X Improvement Plan-Phase I. Issues (2) and (3) are additional efforts that will be addressed in a CBS-X Improvement Plan-Phase II. The Army is developing this plan to aid in doing this procedure along with others that will improve CBS-X accuracy. This plan still requires full scope of work definition, schedule development, and additional resource and funding identification from resource sponsors. These actions will be completed by
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	Mar 98, and ODCSLOG and USAMC will seek funding at that time. Milestones will be available for Phase II completion when funding becomes available. LOGSA will also pursue other alternatives (i.e., additional/other media such as the latest networking mechanisms) in addressing Issue (3).
Now on p. 26.	<u>RECOMMENDATION 15:</u> To improve the effectiveness of CBS-X performance measurement, the GAO recommended that the Secretary of the Army ensure that LOGSA calculate the Army- wide CBS-X compatibility rate based on all differences between property books and CBS-X. (pp. 42-45-46/GAO Draft Report)
	DOD RESPONSE: Concur. These efforts to address the issues are additional efforts that will be addressed in a CBS-X Improvement Plan-Phase II. This plan still requires full scope of work definition, schedule development, and additional resource and funding identification from resource sponsors. These actions will be completed by Mar 98, and ODCSLOG and USAMC will seek funding at that time. Milestones will be available for Phase II completion when funding becomes available. Also, the Army will review current policy on assigning 100 percent compatibility rates to units converting from manual property books to SPBS-R.
Now on p. 26.	<u>RECOMMENDATION 16:</u> To improve the effectiveness of CBS-X performance measurement, the GAO recommended that the Secretary of the Army ensure that LOGSA proceed with the planned implementation of additional CBS-X performance measures and (1) develop and implement CBS-X performance indicators that measure LOGSA's and the Army units' abilities to successfully close in-transit transactions and the timeliness of corrections of unit transaction errors and (2) provide results to Army major commands for their use in evaluating the property book function. (pp. 46/GAO Draft Report)
	DOD RESPONSE: Concur. CBS-X Improvement Plan-Phase I provides some fixes to a portion of the issues. However, to correct all processes, additional efforts need to be identified as part of a CBS-X Improvement Plan-Phase II. This plan still requires full scope of work definition, schedule development, and additional resource and funding identification from resource sponsors. These actions will
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	be completed by Mar 98, and ODCSLOG and USAMC will seek funding at that time. Milestones will be available for Phase II completion when funding becomes available.
Now on p. 26.	<u>RECOMMENDATION 17:</u> Also, to improve the effectiveness of CBS-X performance measurement, the GAO recommended that the Secretary of the Army ensure that the major commands include performance measurement data related to CBS-X, such as the timeliness and accuracy of transaction submissions, in overall commander and property book officer performance criteria. (pp. 46/GAO Draft Report)
	DOD RESPONSE: Concur. ODCSLOG will request that this be done by the Army for its commander and PBO performance criteria, once the update to AR 710-3 is written in Apr 98, and sent to the field by message by May 98.
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### Appendix III Major Contributors to This Report

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