



Staff Sgt. Christopher McKinnon, a supply sergeant with the 440th Army Band, North Carolina Army National Guard, conducts logistics operations in Global Combat Support System–Army on May 29, 2015. The band was among the first National Guard units to train on the system. (Photo by Sgt. 1st Class Craig Norton)

Lean Six Sigma Team Improves the Turn-In Process for Global Combat Support System–Army

■ By Capt. Michael S. Smith

The leaders of the 3rd Combat Aviation Brigade (3rd CAB), 3rd Infantry Division, sponsored a project that used Lean Six Sigma (LSS) methods to define, measure, analyze, improve, and control issues related to Global Combat Support System–Army (GCSS–Army) turn-ins conducted through systems received during the

Wave 1 fielding. The project team used LSS to systematically address defects in the GCSS–Army supply support activity (SSA) turn-in process that had resulted in a loss of \$1,201,620 in fiscal year 2015.

Through the analysis, the LSS project team discovered that turn-in process errors created by Forces Command (FORSCOM) units re-

sulted in an avoidable loss of at least \$9,686,619 during fiscal year 2015. Such errors make it appear as though units are not eligible to be reimbursed for turned-in items when, in fact, they are.

If lost credit within FORSCOM was treated in the same way as lost property, then 16 brigade-level turn-ins would trigger a general officer-

level financial liability investigation of property loss because the loss would exceed \$100,000. In addition, 253 brigade-level investigations would be triggered from errors that cost units between \$5,000 and \$100,000.

Missing Logic

When GCSS–Army replaced the Standard Army Retail Supply System (SARSS) and the Funds Control Module (FCM), it did not retain the programming logic for turn-ins. Chapter 13 of the Defense Finance and Account Service–Indianapolis (DFAS–IN) Regulation 37-1, Finance and Accounting, says the FCM “includes a tracking system for matching customer returns against serviceable issues of like items and vice versa.”

According to DFAS–IN Regulation 37-1, GCSS–Army instead automatically generates a turn-in transaction whenever a recoverable item is issued to a unit Department of Defense activity address code. It states, “In order to qualify for credit, the unit must use this transaction to return a matching item within (180) days from issue.”

Because the tracking system provided by the FCM was replaced with a manual matching requirement, junior enlisted Soldiers became responsible for ensuring that their units retained millions of dollars in their operations and maintenance accounts.

The turn-in tracking problem resulted in a Department of the Army accounting issue and not actual property loss because expected turn-in credit was never distributed from the Army Working Capital Fund (AWCF), which operational units cannot access.

Incorrectly processed turn-ins affect a unit’s ability to sustain its readiness because errors result in delayed or missed credit payments. Arbitration claims for incorrectly processed returns must be submitted through the Enterprise Material Discrepancy Challenge System Enterprise Recoverable Items Management process.

Many claims are denied by life cycle management commands because they lack sufficient manpower to fix mistakes made at the unit level. In one case, the 3rd CAB lost \$368,000 in credit after a private first class matched an Apache engine turn-in to a document number that was ineligible for credit instead of creating a request for credit. The 3rd CAB’s arbitration claim to correct the error was denied by an Army Materiel Command representative.

A Time-Consuming Process

The process of identifying the automatically generated turn-in transaction, referenced in DFAS–IN Regulation 37-1 and known as a purchase request (PR) document number in GCSS–Army, can be complicated if the user does not know how the system works. SSA clerks must be able to identify and record all interchangeable and substitutable national item identification numbers (NIINs) to the part being turned in because a PR may have been generated to replace a legacy part.

For example, an SSA clerk processing an engine fuel control component from a general support aviation battalion would record 13 related NIINs. Then he would search for the 13 NIINs in the GCSS–Army turn-in transaction code “ZOBUX” to identify the oldest match for an engine component.

Once the clerk identified the oldest available match, he would establish a turn-in match that triggered a credit payment for the battalion. It is imperative that clerks locate the oldest match quickly because credit is not authorized for turn-ins that occur 180 days after an issue.

Unexpected Returns

If a match is not found, the SSA clerk must generate a PR document number to process what is known as an “unexpected return.” In some SSAs, enterprising turn-in clerks realized that, instead of searching for a match, they could expedite operations by processing every turn-in

as an unexpected return. A second-order effect of this workaround was that SSA clerks accepted the default turn-in advice code of 1W (item is excess).

DFAS–IN Regulation 37-1 states that excess turn-ins are not eligible for credit, so the fastest processing method can affect a unit’s training budget. During fiscal year 2015, the 1st Armored Brigade Combat Team, 3rd Infantry Division, lost \$583,017 because of improperly expedited turn-ins. Regardless of credit value, the workaround wasted line battalion personnel’s time because the recoverable item report did not reflect a turn-in.

According to 3rd Infantry Division standard operating procedure (SOP), technical supply personnel must locate a record of their turn-in and get their company commander to sign a memorandum in order to have an entry manually deleted from the recoverable item report.

Improper Credit

Always requesting credit is not a valid course of action either. DFAS–IN Regulation 37-1 states that “credit paid that is equal to or greater than \$500 for identified turn-ins that exceeds one-for-one criteria will be subject to reversal.”

Keeping this in mind, credit payments that exceed the one-for-one criteria are defined as “improper.” Improper credit payments are similar to overpaid federal tax refunds. Just like the Internal Revenue Service, the Army expects its overpayments to be refunded promptly.

FORSCOM Resource Management Message 150111 says that if credit reversals cause a unit to overspend, leaders are subject to criminal and administrative penalties under the Anti-Deficiency Act.

No improper credit payments triggered in GCSS–Army were reversed in fiscal year 2015. Because there is no guarantee that improper payments will not be reversed in the future, commanders should implement control measures to min-

imize the risk of Anti-Deficiency Act violations.

LSS Study of Improper Credit

The initial goal of the LSS project was to reduce the use of wrong turn-in advice codes by 50 percent and decrease the improper credit dollar value by 50 percent, which would result in more accurate status of funds reviews by July 15, 2015.

During initial analysis, the project team determined that 54 percent of the brigade's turn-ins for credit were defective, which resulted in the brigade receiving \$2,058,483 in improper credit. As a result, the 3rd CAB's status of funds report did not account for 11.45 percent of its actual liabilities.

After examining turn-in records, the LSS team concluded that SSA clerks were passing along errors generated by line battalions. The project team interviewed the supply personnel from the 3rd CAB's five line battalions (ground and aviation) to determine each shop's SOP.

The technical supply officer for the battalion with the least number of defects stated that he established a workaround where they held onto an unserviceable part until a replacement had been received at the SSA. While this may seem like a valid workaround, this policy violated Army Regulation 710-2, Supply Policy Below the National Level, which states line battalions have 10 days to return unserviceable recoverable items to the SSA.

Interviews with other line battalions identified that many clerks and maintenance technicians did not know when to apply the 1W turn-in advice code. In addition, technical supply officers were not receiving the GCSS-Army ZOAREP report, which lists materiel due for turn-in to the SSA. The ZOAREP report is similar to the legacy overage repairable items list report. Lacking the information for verification, clerks requested credit for every turn-in.

The project team identified a dearth of quality control measures at

the SSA. SSA clerks were not trained to spend additional time checking to see if units had a recoverable part on order. They lacked the information needed to determine whether a line battalion required credit, and the SOP did not require clerks to ask if line battalions received a matching issue at another SSA.

The following were determined to

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be the root causes of turn-in failure:

- Line battalions were not trained to use GCSS-Army.
- The SSA and line battalions lacked SOPs relevant to GCSS-Army.
- Quality control was insufficient with respect to turn-in advice codes.

The root causes of turn-in error were all traced back to a lack of technical knowledge.

Improving SOPs and Quality

The project team's goal was to develop an error-proof method that SSA clerks could use to process matches more accurately and ensure compliance with DFAS-IN Regulation 37-1, which states that "units will be required to submit a replenishment requisition for each item that is returned using the manual process and must also be able to provide documentation of these transactions upon request."

The LSS project team considered assigning an officer or civilian contractor to monitor turn-ins to provide a quality control element. However, that option was eliminated because the position would not be included

in the modified table of organization and equipment and it did not address the root cause of errors.

Finding a match. Project team members and aviation maintenance technicians Chief Warrant Officer 2 Diane Washburn and Chief Warrant Officer 3 Christopher Blanchard, felt that their units should be responsible for identifying a match and claiming

training funds instead of SSA clerks who might not even be in their brigade.

The project's SSA subject matter experts, Pfc. Lorin Moss and Chief Warrant Officer 2 Sonia Sanders, thought it wise to shift the responsibility toward line battalions because SSA clerks are often unfamiliar with the specialized nature of high-value aviation parts that are regularly turned in.

A new tool for turn-in. The "eureka moment" struck when Moss stated that processing turn-ins would be a lot easier if he were provided a receipt. Initially, the LSS team considered adding a stamp to the turn-in request form or writing information in its comments section. But after the team studied all of the variables that affected how a turn-in was processed, it instead decided to use the supplemental turn-in form to improve and standardize the process. (See figure 1 on page 60.)

The check boxes on the form alert SSA clerks to the pertinent ZOBUX transaction guides, while the blanks provide the data required to complete the transaction and ensure auditability. A maintenance supervisor must sign the supplemental turn-in form in order to establish

Wave 1 Supplemental Turn-in Form

Return Document Number <small>From ULLS-A or SAMS-E D6Z</small>		Supersession Chain (I&S Family) <small>Identify using PIC03 or FEDLOG</small>	PR Net Days
Return Material Number (NIIN) <small>From ULLS-A or SAMS-E D6Z</small>			
Return Quantity <small>From ULLS-A or SAMS-E D6Z</small>			
Unit SLOC <small>Storage Location corresponding to the DODAAC of the return document number</small>			
Type of Turn-in <small>Initial the appropriate box A funded requisition (PO) must exist in order for a unit to request credit. See DFAS 37-1 Chap 130804</small>		Instructions for Wave 1 Turn-in Section	
Matches an entry on the ZOAREP report Or Webi Overage Repairable Management Report D6Z Turn-in Advice Code is 'blank'	<input type="checkbox"/>	Create match using PR listed below. Refer to XBRWM607G "Process Return (ZRL or ZRX) Purchase Requisition"	
Matches an off-line transaction D6Z Turn-in Advice Code is 'blank'	<input type="checkbox"/>	Remove '1W' turn-in advice code. Refer to XBRWM607G "Create & Process Return (ZXS) Purchase Requisition"	
Matches an item on order D6Z Turn-in Advice Code is 'blank'	<input type="checkbox"/>	Remove '1W' turn-in advice code. Refer to XBRWM607G "Create & Process Return (ZXS) Purchase Requisition"	
Performance Based Logistics Item D6Z Turn-in Advice Code is '1W.' Proof of turn-in to contractor must be provided to the SSA.	<input type="checkbox"/>	Create match using PR listed below. Refer to XBRWM607G "Process Return (ZRL or ZRX) Purchase Requisition"	
Item is excess D6Z Turn-in Advice Code is '1W'	<input type="checkbox"/>	Keep '1W' turn-in advice code. Refer to XBRWM607G "Create & Process Return (ZXS) Purchase Requisition"	
Requisitioning/Issuing SSA SLOC <small>Storage Location (RIC) of issuing SSA. Example: WFT1, WFP1</small>		Refer to XBRWM607D if Ship RIC is NOT your RIC.	
Requisition/Issue Document Number <small>Document number of the issue. Example: W91G6850562501</small>		N/A to ZOBUX process; used for research purposes.	
Requisition/Issue Material Number (NIIN) <small>Material Number of oldest PR or the requisition.</small>		Refer to XBRWM607G "Process Return (ZRL or ZRX) Purchase Requisition" if PR Material Number is different than the Turn-in Material Number.	
Requisition/Issue Purchasing Document (PO) <small>Passing Action Requisition document number Example: 4503700675 or 7102167351</small>		Reject turn-in if D6Z turn-in advice code is 'blank' and a PO is not listed.	
Return Purchase Request (PR) <small>Request for issue document number Example: 1002829475</small>		Use customer provided PR in ZOBUX.	
PO or PR Quantity <small>Must be greater than or equal to the turn-in quantity</small>		Reject turn-in if D6Z quantity is greater than the PR or PO QTY.	
Maintenance Supervisor Signature <small>Rank requirement established by local SOP</small>	_____		

Figure 1. The 3rd Combat Aviation Brigade's Lean Six Sigma project team created this supplemental turn-in form to standardize turn-in information provided by unit clerks across the brigade. The form is the basis for an upcoming Global Combat Support System-Army job aid called the "Wave 1 Supplemental Turn-in Form."

responsibility for errors.

SSA clerks are encouraged to reject turn-ins in any of the following circumstances:

- Line battalions do not provide a supplemental turn-in form with their turn-in.
- The turn-in quantity is greater than the issued quantity.
- The turn-in advice code on the

turn-in request form (D6Z) does not match the turn-in advice code provided on the supplemental turn-in form.

- Line battalions request credit and fail to provide supporting information for a match.

Empowering Battalion Clerks

The LSS project team also focused on training line battalion clerks.

The 3rd CAB provided a block of instruction that focused on the financial implications of matching turn-ins, the process for identifying a match, and practical exercises.

Because technical supply personnel were not granted GCSS-Army access during the fielding, the brigade's support operations supply and services section had to bridge the information gap. Supply and services personnel exported data from GCSS-Army's ZOAREP and ZPROSTAT reports to distribute to line battalions.

The ZPROSTAT order status report lists all outstanding orders, while the ZOAREP report lists all recoverable items expected to be turned in except for off-line transactions such as aircraft on ground (AOG) orders. The AOG orders must be tracked manually by reconciling a list of received items and a list of unexpected turn-ins at the SSA to determine what items are still due for turn-in.

Units followed these steps while identifying matches:

- Identify if related NIINs exist.
- Identify and select the oldest entry on the ZOAREP report for any related NIIN.
- Identify and select the oldest entry for a transaction received offline.
- Identify and select a match for an item on order.
- Declare the item as excess if no match is available.

Training for SSA clerks included learning how to update their turn-in SOPs and how the supplemental turn-in form eliminated the need to search for interchangeable and substitutable NIINs. They also learned how to handle turn-ins if the item had been issued by another SSA.

Testing the Process

During the pilot to test the new procedures, two units conducted 33 turn-ins, which resulted in one defect (a 3-percent defect rate). The only de-

fect happened when a supplemental turn-in form was lost in transit. The SSA clerk did not attempt to establish a match and processed the turn-in using the 1W code.

An added benefit noticed during the pilot was faster processing times because SSA clerks did not have to search for interchangeable and substitutable NIINs. After receiving the pilot results, the 3rd CAB implemented the supplemental turn-in form as a requirement for all turn-ins.

Implementation

The control plan states that a PowerPoint slide should be created to capture turn-in errors and their associated financial impacts. This slide is briefed during weekly ground and aviation maintenance meetings. Because line battalions must brief defects, individuals are held accountable for any negative impact on the brigade's training budget.

The most important lesson learned during implementation was that line battalions that are properly trained on GCSS-Army are a tremendous asset. Since line battalion technical supply officers and clerks are constantly turning over, training is a quarterly requirement.

Understanding GCSS-Army also allows line battalions to provide feedback to the SSA clerks who are responsible for errors. It is essential for units to have read-only access to view GCSS-Army data because brigade representatives are not always available to provide top-level oversight. For instance, line battalions have the ability to check for defects before turned-in items leave the SSA and errors require an arbitration claim.

Recommendations

Based on this project, GCSS-Army training developers are publishing a job aid, the "Wave 1 Supplemental Turn-in Form." It will soon be available at <http://gcss.army.mil/>.

The team also encourages Wave 1

GCSS-Army units to implement the following recommendations.

Provide read-only access. Logistics officers, line battalion technical supply officers, and line battalion clerks should be granted access to a "view only" GCSS-Army role. A second-

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ary benefit is that sustainers have an opportunity to become familiar with the GCSS-Army interface before the next version is fielded to their units.

Consider more oversight by higher echelons. Division and higher echelons should review unexpected turn-ins for improper credit payments monthly and retain inappropriate credit payments to mitigate risk in case life cycle management commands elect to process credit reversals.

Brief your error rates. Brigade commanders must be briefed weekly on the turn-in error rate in order to oversee training dollars. The brief needs to quantify the number of defects and the dollar value of the equipment.

Assign a brigade S-8. The team recommends that aviation brigades be assigned an S-8 to examine how training dollars are spent and to find out if the unit is receiving the maximum amount of credit available. With limited training dollars available, it is vital that brigade commanders have someone in their formation dedicated to budget analysis because the status of funds value does not provide the entire story.

Adopt Wave 2 turn-in logic for ALE-P. The future Aviation Logis-

tics Enterprise-Platform (ALE-P) should automate turn-in advice code assignments by adopting the same turn-in logic as the version of GCSS-Army that was fielded during Wave 2. This is in light of the fact that aviation units will not be transition-

ing to that version of GCSS-Army in the near term.

The 3rd CAB's project is applicable to all units using the Standard Army Maintenance Systems-Enhanced or the Unit Level Logistics System-Aviation systems to process turn-in requests.

By targeting and working to correct defects resulting in improper payments, the 3rd CAB was able to ensure the auditability of its credit payments, maximize the amount of operations and maintenance credit it received, increase the throughput of turn-ins at the SSA, and decrease the man-hours required to manage credit. Following the LSS team's recommendations may help your unit improve its turn-in results and its bottom line.

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