

The Numbers Game: NSNs vs LSNS

A Case Study in Pentagon Decision Making

By Lynn Densford

Acting on a recent recommendation from the Defense Logistics Agency (DLA), the Department of Defense has said that it will not require a new supply bulletin system for the over 40,000 military resale products. Less than a week after receiving DLA's recommendation to retain the current Local Stock Number (LSN) rather than switch to National Stock Number (NSN) for grocery procurements, Paul Riley, Deputy Assistant Secretary of Defense for Supply, Maintenance and Transportation, handed down the final DoD decision.

His action is the last word in the year-and-a-half debate on conversion to NSNs which has involved DoD, the three Services, Congress, the General Accounting Office and the American Logistics Association.

The DLA recommendation came in a July 29, 1980 memo from DLA Director, Lt. General Gerald J. Post, to Mr. Riley recommending that LSNS be retained for identification of commissary grocery products. General Post's conclusions were based on nine months of discussions with the Services and the American Logistics Association (ALA), buttressed by the results of a confidential DLA study of the cost of conversion to all military parties involved.

While DLA anticipates a few initial problems dovetailing the LSN with its omnibus NSN cataloging method, these difficulties promise to be nothing compared to the problems and cost of NSN conversion would have presented commissaries and their suppliers.

Although copies of the DLA econom-

ic impact study were not available, sources indicated that the agency found the cost of modifying its wholesale subsistence management plan to accommodate LSNS (rather than require conversion to NSNs) would be approximately the same as the initial cost to the Service commissaries to convert. Thus, when the commissaries' other problems with NSNs were added to the balance, DLA's scales for the first time tipped to retaining LSNS.

"I think that in the beginning, DLA was so familiar with NSNs that they had trouble understanding just what problems the commissaries would have switching from LSNS," commented Major William J. Murphy, Chief of the Subsistence Division of the Air Force Commissary System (AFCOMS). "They saw us (commissaries) as the one exception in the whole distribution management system, and they couldn't see why there should be an exception to their very fine rule."

According to DLA's calculations, the Army's Troop Support Agency and AFCOMS would have been the most adversely affected by a mandatory conversion to NSNs, because their computer software is designed around LSNS. The impact on the Naval Supply System would reportedly have been less severe, since the Navy uses its own code in its computer management system and is not as dependent upon LSNS as the others.

"Conversion to National Stock Numbers would cause some difficulties in our continued efforts to improve our commissary system," acknowledged Brig. General Leo A. Brooks, head of the Troop Support Agency at Ft. Lee, Va. "We've discussed our concerns

In the NSN, the last seven digits are randomly selected numbers.

Lynn Densford is the Washington, DC editor of Progressive Grocer magazine.

Over the last decade, LSN-dependent computer systems have been built.

with the proper authorities for consideration in the decision process."

AFCOMS' Major Murphy was more specific. "DLA is used to working with a system where vendor information is not important," he explained. "In the commissaries, however, we look for the vendor rather than the product group. The LSN gives us that vendor's code, and if you've worked with the system long enough, you know that a particular number is such-and-such a supplier. But the NSN is a group of digits which serve only for product identification and do not give any indication of whether it is a brand name item or who makes it."

It's All in the Numbers

In fact, the current LSN numbering system is unique to the military grocery business. Since the early 1970s, the Defense Personnel Support Center (DPSC) in Philadelphia, which manages military subsistence programs under DLA, has assigned LSNs to "dry" commissary resale products for procurement and management purposes, and catalogs these numbers in its Supply Bulletin—the ordering Bible of the commissary system.

Both the LSN and the NSN are 13-digit numbers. The first four digits in each identify the Federal Supply Class in which the product fits, i.e., Subsistence (8900 series), Clothing and Individual Equipment (8400) or Medical (6500). For example, "8930" is one of several FSCs covering resale food items. The next two digits—again the same in the LSN and NSN—are the NATO country code, indicating where the

request originated.

Here, however, is where the two part company. In the LSN, the seventh space is occupied by a letter telling where the product comes from—a private manufacturer, the National Industries for the Blind (which by law provides many nonfood commissary resale items), etc. "A" signifies a brand name item. It is immediately followed by a three-digit Supply Bulletin/Vendor number which identifies the manufacturer. For example, General Foods-Brand Name Contract Supply Bulletin number is 058. This is followed by a series of three numbers that identify the product itself. Therefore, a hypothetical General Foods' LSN would read 8930-00-A058-723.

But in the NSN, the last seven digits are randomly selected numbers, assigned by a computer at the Defense Logistics Support Center (DLSC) in Battle Creek, Mich. They have no purpose other than individual product identification. Although the number contains the manufacturer's identity, it would not be readily recognizable; in order to identify a supplier and the fact that the item is a brand name product, an additional four-digit code would have to be added, making it a whopping 17 digit number.

"Although a NSN would standardize the numbers of items in military cataloging in a unique and non-duplicative fashion, this is really addressing an area where very little, if any, problem now exists," protested the American Logistics Association (ALA), which represented suppliers' views in discussions with military officials. "It can lead to more time-consuming, non-productive use of human resources by both industry and military services."

Commissary Problems

For example, AFCOMS' Major Murphy said, "If we had to convert to NSNs, the time it takes us to get products to the military customers would increase. In the Air Force, we have both troop issue and resale warehoused together, and with the LSN, we can tell immediately that particular product is a resale item," he continued.

Moreover, he added, it would take more people to order commissary items

marked with NSNs. "We would have to pull stock people away from the stores to spend time looking up NSNs for ordering. If we didn't do this, there would be delays in requisition."

Over the last decade, the Services, particularly the Army and Air Force, have built LSN-dependent computer systems. The vendor identification number has become crucial for data collection on: inventory, order writing, order processing, shipping, invoicing, price marking and sales analysis.

Now, by knowing the vendor number, a commissary manager can go right to the Supply Bulletin and get information on that line or any product within the line. If LSNs were replaced with NSNs, an additional cross-reference system would have to be developed. "Otherwise, we'd be looking up every item in a huge binder that had every subsistence product number from 1 to the end," Major Murphy noted.

"Currently, the fact that a commissary person can go to a contract and immediately identify that vendor number or UPC number is very important," conceded Franz Friton, Deputy Program Manager for Subsistence at DLA. "The alphabet system means something to them in their bundling method—it's the group procurement code. Commissaries would have to invent four more spaces in a NSN if they wanted to continue to bundle orders under their present methods."

Furthermore, "commissary employees would have to spend much more time simply researching and identifying items," ALA argued. "This increase in time would lead to a greater out-of-stock situation, order delays and increased percentage of errors. That all adds up to less service to the patron," said William Lazarus, ALA Executive Vice President.

Clearly, the margin for error when dealing with a seven-digit product identification number (NSN) rather than a four-digit number (LSN) increased significantly. "The NSN coding system assumes automation and computer systems will provide cross-references, file maintenance and rapid assignment of numbers," ALA con-

tended. "In fact, the Services are not yet that sophisticated and require considerable manual transactions."

And for each manual error? "One mistake with a code number means that the commissary is shipped the wrong item," said Alan Monette, president of V. H. Monette and Company, and Chairman of ALA's Commissary Committee. "Meanwhile, the right item is running low on the commissary shelf. By the time the commissary reorders the right item and it is delivered, you could have a situation where the item was out of stock 30 to 60 days."

Mr. Monette also pointed out other problems commissaries would experience under a NSN system. "Often, commissary stock will be purchased locally," he says. "Up to 30% of the LSNs now assigned are assigned by the individual commissaries and not by DPSC. How would a (NSN) computer in Battle Creek deal with that?"

In addition, manufacturers sometimes run a special promotion on a product featuring a "cents off" coupon on the retail package. "But it could take up to three days for the DLSC Battle Creek computer to assign a NSN to that item and relay it to DPSC in Philadelphia," Mr. Monette indicated. "This could result in a lost opportunity for commissaries; three days is enough to cause them to miss out on the chance to get some of the limited amount of specially coded products available."

Supplier Concerns

The 1,200-1,500 manufacturers who supply subsistence products for commissary resale had two overriding concerns if DoD elected to implement an NSN coding system: 1) the initial problems associated with reprogramming computer systems now based on LSNs, reprinting labels, order forms, containers, etc. and restocking warehouses, and 2) the ongoing costs that would result from a less efficient inventory/order management system, which would have to be passed on to commissary patrons in the form of higher product prices. *Continued*

The need for accountability is what fueled DLA's drive to implement NSNs. The Universal Product Code system is very straight forward and simple in design."

The commissaries are already adapted to UPC.

"Each supplier would really be affected differently," assessed Jesse Schaudies, National Sales Manager for Special Business, Scott Paper Company, in Philadelphia. "The impact on us would be minimal, since we only use the government stock number where we have to.

"But the idea of changing to NSNs is extremely disturbing to manufacturers who use LSNs in their product identification systems, such as on invoices sent to the government," he continued. The commissary resale system today is nearly a \$4 billion (at cost) business, he observed, "and an awful lot of companies have become dependent on government resale. They've built their systems around what the government asked them to use, that is, LSNs."

Earlier this year, ALA member manufacturers voiced their problems and concerns to Capt. William J. Hennessey, USN, Deputy Commander for Subsistence at DPSC, after he informed them DLA was moving ahead with the NSN conversion plan.

"Just when it seemed like the new (LSN numbering) systems were established with good management controls in effect, now there is to be a new plan to assign computer numbering which would cause the most traumatic out-of-stock condition that overseas customers have ever seen," wrote Sam Phelps, Director of U.S. Military and Export Sales for Kraft, Inc. of Chicago. "We see the present numbering system as ideal for the grocery trade . . . This new numbering system will cause manufacturers added expense in additional columns on product lists and case stencils for the 13-digit NSN."

"The new numbering system will present problems in our data processing system and will not allow us to have NSN numbers on invoices," commented Henry G. Mueller, Jr., General Manager, Military Sales at Oscar Mayer & Co. in Madison, Wis. However, "the marking and shipping areas would not change from the current numbering system—it would only be a separate series of letters and numbers."

Ralph Reichert, Military Sales Manager for Golden Grain, San Leandro, Calif., called a conversion "non-productive and costly," explaining, "our Data Processing Manager advises that due to machine limitations, he cannot add the new NSNs to our current computer system. We are committed to the Universal Product Code system and all our products are identified by a UPC number. We maintain our complete production/inventory/distribution/receivable operations based on the UPC number system. We cannot additionally factor in another product identification number for each of our many products. The cost of new equipment, forms, etc. would be prohibitive and create considerable confusion in our overall operation."

H. P. McCormick, Manager of Government Service for McCormick & Company of Baltimore added this thought: "We feel it is a step backward not to be able to indicate in the code the supply class or the contractor's number. The loss of history and order records based on past performance can be a definite negative impact on all who are responsive to this inventory control."

Few companies actually provided DPSC with actual cost estimates for conversion to NSNs, and none indicated what the long-term, dollars-and-cents impact might be. ALA, however, did submit cost information for both industry and the commissaries to DoD officials at a meeting last August. In addition to calculating that the cost of using NSNs would be 2.6 times greater than the cost of using UPC codes alone, the association noted the one-time conversion price tag would be high, since the following areas would all be hit:

*Shipping: Die costs changes; old inventory; restenciling.

*Supply Bulletin: Administrative time; paper; postage.

*Programming and Computers: Cross-reference files; loading time; disc/tape storage expansion; processing time.

*Service Assistance: Supervision and assistance at base level to affect conversion.

*Forms: Modification and reprinting of various order/reporting forms.

"Computer programming plus clerical

cal assistance has been estimated as high as \$8,000 by one company," ALA noted. "If a manufacturer is required to change shipper coding, the cost could amount to \$50 per shipper. This does not take into account any remaining inventory on hand of shippers with old numbers. Manufacturer assistance of military conversion would also be a very extensive application of human resources."

Finally, one unknown cost would plague both commissaries and manufacturers—lost sales revenue if procurement errors created out-of-stock situations.

Why NSNs?

For DoD and DLA, however, the arguments for conversion to NSNs were compelling. Over the past two decades, DoD had been working toward completion of a worldwide military subsistence program. The goals of the program are:

*Achieve the best possible management of subsistence, enhancing support of troops and dependents as economically and efficiently as possible.

*Harmonize subsistence management with standard integrated systems used for the management of other commodities within DoD.

*To comply with Public Law 436, "which requires the use of NSNs to identify material procured for use within the federal government."

As a means to these ends, DLA devised the Defense Integrated Subsistence Management System—DISMS. "For the last few years, DLA has been developing DISMS at Cameron Stations (in Washington, D.C.) and DPSC in Philadelphia," explained Col. Robert A. Sager, USA, Program Manager for Subsistence at DLA. "DISMS is the name of a *concept* for managing wholesale subsistence worldwide. It was approved in December, 1979 as a program manager's plan."

The Standard Automated Materials Management System—SAMMS—is the

Examples Of A National Stock Number And A Local Stock Number

National Stock Number

8930-00-295-1234

Federal Supply Class
designation

NATO
Country
code

Product Identification number

Local Stock Number

8930-00-A058-723

Federal Supply Class
designation

NATO
Country
code

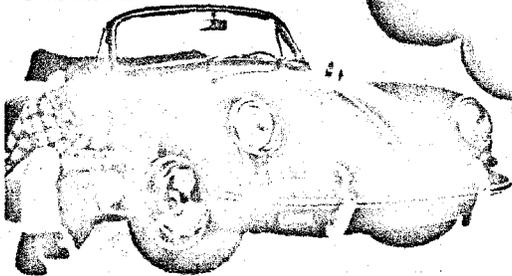
Letter "A"
signifies this
is a Brand Name
item

Supply Bulletin/
Vendor number

Product Identification
number

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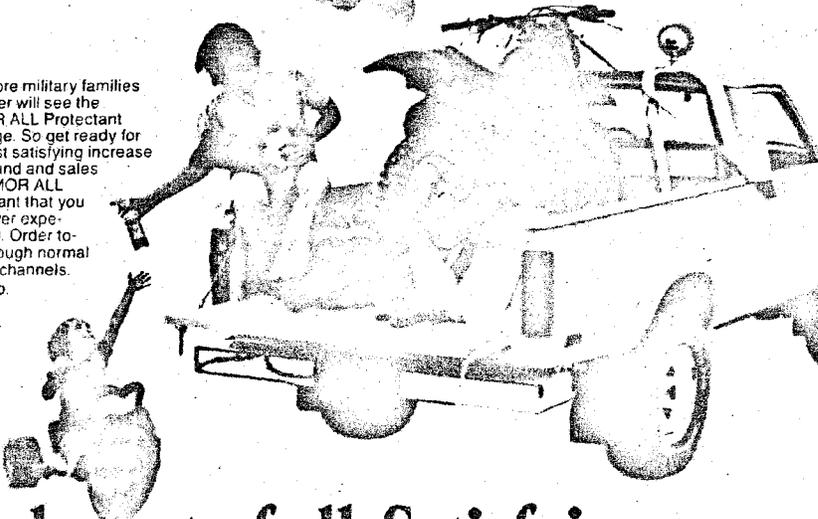


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nuts and bolts of this "centralized management concept," he continued.

"Currently, there are four independent subsistence systems used by DPSC for commissary resale and troop issue item control. What we need at Philadelphia is one automated system that will integrate processing, financial management, inventory, etc.," Col. Sager said. "SAMMS would generate requisitions, produce documentation for procurement, update financial records and account for receipt and distribution of goods in the system. It is an integrated system that has checks and balances to make sure our records stay straight."

This need for accountability is what fueled DLA's drive to implement SAMMS and NSNs. The LSN system—a utilitarian program designed for the ordering/stocking needs of industry and commissaries—simply could not offer the bookkeeping checks and balances DLA said it must have. "When we made our recommendations," commented Col. Sager, "we had to keep DoD's needs in mind, too. That is, clean up the system to provide accountability. The accounting procedures in SAMMS have already been approved by the General Accounting Office (GAO)."

Cost was also a consideration. "It has been estimated that over \$2 million in cost avoidance was realized with the decision to use SAMMS and its GAO-approved procedures rather than attempting to bring the four DPSC subsistence systems up to GAO standards," DLA explained.

"The choice was, we could build a totally new system (for wholesale subsistence management), or we could use an existing, time-tested one," Col. Sager added. "We decided to use SAMMS, modified as necessary to accommodate subsistence."

Legal Requirements

Finally, at the root of the controversy, there's Public Law 436—the Defense Cataloging and Standardization Act. "That law requires 'one item, one number,'" Col. Sager said. "NSNs are what the Public Law implied, but didn't spell out. DoD spelled out how that number

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system would be built, and it says it must be all numeric."

However, attorneys for the Services and suppliers disagreed with DoD's interpretation. "It is the considered opinion of the American Logistics Association that the current numbering system used by DPSC is completely legal and does not need to be changed (to comply with the law)," ALA maintained. "DPSC at this time has a well-disciplined and established numbering system that is, in fact, a DoD-wide stock numbering system. Federal stock numbers, therefore, do not need to be applied in order to comply with the Defense Cataloging and Standardization Act."

This view was amplified by Col. Donald P. Blinn, USAF Staff Judge Advocate. "Since the statute in question does require a comprehensive cataloging of federal supply items, it seems to us that the solution is simply to take the current Local Stock Numbers, which in actuality are not "local" at all, redesignate those same numbers as NSNs and incorporate them in their new capacity into the Federal Catalog System. The statute itself specifies that NSNs may be composed of 'a combination of letters or numerals, or both.' Thus, the fact that the currently used LSN system utilizes an occasional letter presents no problem to its being incorporated into the catalog . . . The fact that the old LSNs contain a letter in their 'numbers' means that the old 'numbers' cannot possibly conflict with any currently used NSNs, since NSNs contain no letters . . . In conclusion, there is no statutory requirement to convert to a new numbering system."

In fact, even DLA's general counsel came around to this opinion. "Initially, DLA's counsel said LSNs were not in compliance with P.L. 436," Col Sager notes. "This shut the door on us. But now, he says that LSNs do meet the 'one item, one number' criteria."

But in the end, it was DoD's interpretation of the statute that counted. "And DoD's directive is very specific—it says only NSNs comply with the law," he concludes. "We would need a waiver from the Deputy Assistant Secretary of Defense to modify DISMS (to accommodate LSNs)."

DoD's long-standing position favoring conversion to NSNs was spelled out

in an April 12, 1979 letter from Deputy Assistant Secretary Riley to the three Services, notifying them that DLA was implementing DISMS, and this would mean the end of LSNs.

To DLA front liners, this meant approval of their project, Col. Sager recalled. But the Services "totally ignored" the April letter. So, on Dec. 4, 1979, DLA sent them a copy of Mr. Riley's letter, this time with a schedule for conversion to NSNs.

"We spent the next nine months in discussions with the three Services and industry," Col. Sager relates, adding it was basically "a Mexican stand-off." Meanwhile, some other parties were also drawn into the growing debate.

GAO and Congress

The General Accounting Office was already studying commissary operations when the stock numbers pot boiled over.

"We were doing a routine review of commissary systems, looking at aspects such as whether they should be moving more quickly into scanning," says Donald Benedict, a GAO investigator. "But

Glossary

AFCOMS	Air Force Commissary System
DISMS	Defense Integrated Subsistence Management System
DLA	Defense Logistics Agency (Washington, D.C.)
DLSC	Defense Logistics Support Center (Battle Creek, Mich.)
DPSC	Defense Personnel Support Center (Philadelphia)
FSC	Federal Supply Class
LSN	Local Stock Number (also called "stock number")
NSN	National Stock Number
NSS	Naval Supply Systems
SAMMS	Standard Automated Material Management System
TSA	Army Troop Support Agency
UPC	Universal Product Code

"Subsistence" Includes products—primarily food—for both troop support and commissary/exchange sales.

One mistake with a code number means that the commissary is shipped the wrong item.

we felt the stock number conversion issue wasn't important enough on its own for us to look into. It did not appear that it would create significant problems for the commissaries."

But then Rep. Dan Daniel (R. Va.), chairman of the House Armed Services Nonappropriated Funds Panel, became interested in the issue. The congressman, whose panel oversees commissary and exchange operations, was concerned about the charges that conversion to NSNs could result in reduced services and higher prices to military patrons.

As a result of Rep. Daniel's concern, "we expected a congressional request for an audit of DLA and its conversion plans," explained Benedict. GAO even contacted DLA and received some preliminary data on the subject. But then, Benedict said, the request never materialized.

Ralph Marshall, staff member of the Armed Services Committee, reports that Rep. Daniel sent him to an April meeting between DLA officials and several ALA representatives. Based on that session, Marshall recommended that no action on conversion be taken until DLA received more information from the Services and cost estimates from industry suppliers.

"I reported to Rep. Daniel that I'd attended the meeting and made those suggestions," Marshall indicated. "Right now, I don't think Rep. Daniel has any interest in pursuing it. The committee has no intention of holding hearings, but again, that would be up to the chairman."

"If we saw that there's to be some big hurt for either the commissaries or suppliers," noted GAO's Benedict, "we might pursue the issue. But no one has given us any arguments that show this is the case. Our primary concern here is what this all means to the government. The DLA system already supports billions of dollars worth of goods. Next to this, the commissaries' systems are peanuts."

Universal Product Code

Throughout the discussions on conversion, industry has pushed for acceptance of the Universal Product Code as the standard military cataloging number system.

"Contrary to what the largest industry in the United States (the grocery industry) has established, the federal government thinks it can better manage groceries than the grocery trade industry," ALA stated. "The UPC code system of grocery identification was the largest cooperative effort ever in the U.S. grocery industry. Its purpose was to make industry more efficient and less costly.

"Furthermore, the military commissary system and the members of industry that serve it are totally adapted to using UPC codes," ALA continued, "not only in procurement, warehousing, receiving and inventory control, but also in point-of-sale scanners, electronic scales and price marking equipment . . . The UPC system is very straight forward and simple in design: 5 digits define the manufacturer of a given product and 5 define the product. Thus, an item can have but one code—the Universal Product Code."

But DLA did not buy the argument that, "if there must be a change, why not make it to UPCs?"

"To convert to exclusive UPC use is not practical," DLA maintained. "Both the DoD community and civil agencies need NSN accountability for acquisition, inventory, distribution, financial and transportation/delivery purposes. NSNs are needed in such commodity areas as troop issue perishable and non-perishable rations; fresh fruits and vegetables for troop issue and commissary resale use; bulk meats delivered to overseas commissaries; and offshore (non UPC) overseas local buys for troop issue and commissary resale use. Most of the dollar value sales at DPSC are for these non brand name subsistence specification items. Finally, the use of the UPC as the brand name retail resale item identification number in the wholesale system would in essence mean government dependence on an item identification system over which we have no control."

