DO WE NEED LSAR FOR THE LIFE CYCLE OF THE WEAPON SYSTEM?

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ABSTRACT:

Logistic Support Analysis (LSA) and the LSA Record (LSAR) are invaluable when applied to new acquisitions and modifications. However, an examination of the usefulness of the data in the operational and support arena indicates that there may be little value and no need to continue maintenance of the LSAR after production.

INTRODUCTION:

In acquisition, Logistic Support Analysis (LSA) is accomplished as an integral part of the system design. The emphasis is on evaluation of the emerging design to determine if it will accommodate system operation and maintenance tasks. Almost as a by-product of the design evaluation, LSA identifies the resources required to support the system. To pull that information together, all data is documented in a single logistic data base called the LSA Record (LSAR) (Ref 1).

Through the years, LSA has become accepted as the method used during the acquisition process to document support requirements and influence design. In fact, LSA has worked so well for acquisition of systems that it almost seems logical that it should be expanded and promulgated throughout other phases to benefit the users as well as the designers. But that's not quite true.....

From the logistics support standpoint, the usefulness of LSA and LSAR are clear -- the analysis process itself was invented to help ease the burden of logistic support. By analyzing design evolution in early phases, logistic design problems can be eliminated, supportability can be designed in, and support requirements are identified early enough to allow pre-production planning for downstream support. Certainly, LSA and LSAR should be applied to modifications, where the benefits would be the same as those for acquisition systems. Based on the size and type of modification, the design, analysis and evaluation process should be much the same as it is for a "new" acquisition.

WHAT VALUE DOES LSAR PROVIDE AFTER PRODUCTION?

When we examine the usefulness of maintaining LSAR after production, the benefits are not clearly perceptible. In the past, visits with personnel at the Air Force Air Logistics Centers (ALCs) revealed boxes of paper LSAR data stuffed under
desks, in closets and stored in spare offices. The specialists knew that there was usable data in the boxes but they didn’t have time to sift through reams of paper just to find a few data elements that were really important to them (Ref 2). Recent breakthroughs in LSAR relational data bases and the availability of automated LSAR systems at the ALCs have significantly improved this situation. Now when a technician has access to an LSAR terminal, an ad hoc report can be created so the data can be reviewed electronically, thus eliminating the need for paper delivery.

In the future, we need to take the process one step further -- to be really effective, the data must be available from the data system that the ALC technician knows and uses daily. The data system in question would vary depending on the technician's responsibilities. Is that person reviewing information to make provisioning decisions? If so, the appropriate LSAR data belongs in the provisioning system (D220 or the upcoming Initial Provisioning Management Information System, IPMIS). Depot maintenance planning? The LSAR data should be in the Depot Maintenance Management Information System (DMMIS). Baseline technical order information? Get the information into the Automated Technical Order System (ATOS).

In other words, for LSAR to be most effective to logistic operational technicians, they don’t even need to know they are using LSAR. The DOD Computer-Aided Acquisition and Logistics Support (CALS) Office cites a CALS Phase II goal of achieving an Integrated Weapon System Data Base (IWSDB) that "will consist of multiple distributed databases logically linked but physically maintained at different contractor and DOD locations" (Ref 3). It only seems appropriate that if the DOD is going to require contractors to tie LSAR to other data systems, the Air Force must first integrate all its logistics support information systems. This integration must go one step further than simply sharing information between LSAR and DMMIS, IPMIS, ATOS and the like. We have to make sure that the technicians have a data base that is capable of storing and manipulating the information they need to do their job. Data systems such as the ones that fall under the Air Force Logistics Commands' Logistics Modernization Systems (LMS) (like IPMIS, ATOS, etc.) are prime examples. We also have to make some other assumptions, such as they will be loaded with accurate data, there will be sufficient terminals at the ALCs for access, and the technicians will be trained to use the systems. Finally, from an LSAR standpoint, we have to make sure that the logistics information collected during the system design is sorted according to its post-production worth, transferred to other data systems, and loaded "invisibly" to the technician.

IF LSAR PROVIDES A COMMON DATA BASE PRIOR TO PRODUCTION, WHY SHOULDN’T IT BE EXPANDED TO PERFORM AS A COMMON DATA BASE AFTER WEAPON SYSTEM FIELDING?

It is certainly an option that LSAR could be expanded in purpose and scope. Instead of being used only for design influence and identification of support requirements, it could also be used "to collect logistics information to provide Commanders with rapid, current and complete
logistics information for making command and control decisions." (Ref 4) However, the preceding definition belongs to the LMS programs. When tools are in place to perform specific logistics functions, it does not readily make sense to expand another logistics function to do the same thing. Further, the CALS goal for an IWSDB cites the need to logically link distributed databases. By identifying appropriate data element interfaces and linking LSAR to the existing and planned LMS systems, the CALS goals will be achieved without the need to expand LSAR.

WHAT SHOULD HAPPEN TO LSAR?

Once the data elements are transferred, what should happen to LSAR? We transfer it to the ALC and we put it away on a shelf. Sound too simple? Some would contend that much money has been spent on a product that is not being used. Not true!! LSAR has done its job—it was used during the acquisition process to influence design for supportability. It was never intended to be a life cycle system. Nor, is it a tracking system...the LMS programs will do that where tracking is necessary. ALCs will be required to update and maintain the LMS programs and will have no need to maintain the LSAR or any other system that might duplicate the data in the LMS systems. The valuable information for use after production has been pulled out of LSAR and put where it belongs. The rest of the information in LSAR has lived its useful life, at least for the time being. The Air Force does not need to spend money and man-hours maintaining LSAR—a system that provides no pay back after production.

WHY SHELVe LSAR? WHY NOT THROW IT AWAY?

So, why don’t we just throw the LSAR away? The answer to that question is "modifications." Unless a modification is very minor, one can look at it as a new acquisition, where systems engineering takes place just as it does in an acquisition program. Remembering the original purpose of LSAR, that being to influence design for supportability, it now makes sense to dust off the system and make it available to the designer. The cycle begins again. Use LSAR to influence system design, transfer the important information to operational support systems, then shelve the LSAR.

SUMMARY:

LSAR is invaluable during the acquisition cycles of a weapon system. The systems engineering information within LSAR should be funneled to appropriate logistics information systems for use after production. There is no need to update and maintain LSAR throughout the life cycle.

REFERENCES: