NEEDED: A STATE OF THE ART INTEGRATED LOGISTIC SUPPORT ACQUISITION STRATEGY

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ABSTRACT

If logistics concepts are to maintain pace with the constantly changing hardware and software spheres, innovative state of the art logistics acquisition strategies must be conceived, defined, and implemented. Logistic acquisition concepts in the past have served well those devices for whose support they were designed. They cannot, however, meet the challenges occasioned by rising costs, the increasing demand for more reliable life cycle support, and ever more sophisticated training device systems. These challenges, as well as others, can best be met by developing a best value, performance based, functionally oriented logistics acquisition strategy. Such an evolution will focus attention on the product, not the process, of the logistics support acquisition effort. In turn, this shift in focus will require both Government and contractor to relinquish certain traditional roles and to assume some unfamiliar responsibilities. The authors recognize that such an approach will cause some degree of discomfort to both Government and contractor personnel. However, they submit that just as technology has advanced from the vacuum tube to the integrated circuit, so must logistics advance from emphasis on the acquisition process to concentration on acquiring logistics products which will provide reliable life cycle support to training device systems.

Changes to our current procedures for providing training device support are being mandated by three persistent and omnipresent forces: (1) the cascading flood of technological advancements in all phases of electronics, (2) the escalating costs and decreasing quality of logistics support efforts, and (3) the unpredicable availability of technical personnel. Although the necessity for modernizing logistics support procurement methods has been recognized for years, few methodological improvements have been planned, designed, or implemented. The logistics community has far too long focused on the process, not the product of the logistics procurement effort. As a result, we find ourselves more and more involved in a game of "catch up" rather than in a role of leadership. Thus engaged, we have failed to assert the vital importance of front end planning for logistics support. The inevitable result has been the generation of conflict between "what is" and "what should be" in terms of training device and simulator support.

The pressure generated by this conflict is influencing people far removed from our situation to enter the arena of logistics decision makers. These people, who are located in all strata of responsibility, from training device user to the Secretary of the Navy, have a vested interest in the availability of training device hours, in the cost, and effectiveness required to provide this availability. They are telling us that our traditional procurement philosophies are no longer meeting their needs. Receiving little, if any, positive response from the logistics community, they perceive that such inaction indicates a lack of ability. Because of this communication gap, we now stand on the precipice of being told that a cure will be effected by eliminating organic support in favor of full contractor support.

Before discussing the changes that are required to upgrade our logistics acquisition strategies, it is imperative that we gain some insight into the conditions which have led to this need. Only through an understanding of the current situation can we appreciate the need for a logistics acquisition strategy which will control costs, provide more reliable support, keep pace with technology, and provide the proper foundation for organic or transition to full contractor support in the future.

It may be helpful to realize that this need is not unique to the training device and simulator environment. A recent Society of Logistic Engineers Newsletter contains extracts from an Acquisition Improvement Task Force Report on the Carlucci initiatives. (1) This report sums up three areas of failure in support and readiness throughout the Defense Department acquisition process. First, and well known to most of us in the logistics business is the lack of management emphasis and support given to logistics. The report states that "support is still running a poor fourth, after performance, schedule, and cost." Next, the report cites a lack of front end logistics analysis as being responsible for building in higher support costs from the very beginning. Finally, the report states that support areas suffer from inadequate procedures, organization, and technical capability. These weaknesses are aggravated in the training device world through a combination of a dinosaur like devotion to tradition and rigid Government procedures which govern almost all aspects of a training device procurement.

The traditional tendency for low risk procurements and the lack of flexibility in logistics acquisition procedures have been addressed at previous industry conferences and in other areas of the acquisition literature. However, such treatments have tended to stress the theoretical aspects of the problems using a broad brush approach. And regrettably, seldom has a positive, feasible alternative been offered as a possible solution to both present and anticipated problems.

It appears valid to state that we can no longer continue to do business as usual if we are to keep pace with the technology we are responsible for supporting. We can no longer continue to stress the theoretical aspects of logistics while giving scant attention to the dynamics of the market place. We can no longer continue to loosely apply the concept of integrated logistics support, while we allow each logistic specialty to go off in divergent directions. We can no longer force logistics and program managers into the role of simply coordinating between individual logistics specialties such as training, provisioning, publications, and others. We must provide our managers with the tools required to overcome these shortcomings.

But such tools will be forged only when we recognize that logistics planning must begin with and be accorded the same stature as functional descriptions, military characteristics, engineering specifications and other documents which are drawn up for the hardware and software. Only then will we be able to adopt and adhere to a state of the art, innovative logistics support acquisition strategy which is a truly integrated package. Our recommendations for accomplishing this start with a review of Department of Defense (DOD) Directive 5000.1 of March 1982, entitled Major Systems Acquisition, which states that a cost effective balance must be achieved among acquisition costs, system ownership costs, and systems effectiveness in terms of the mission to be performed. (2) The directive goes on to say that the acquisition strategy developed for each system should consider the unique circumstances of individual programs and that these programs shall be executed with innovation and common sense.

It is realized that Department of Defense promulgated this directive for major systems acquisition and that training devices are seldom considered major systems. Still the logic is no less valid for the procurement of training devices and simulators, particularly if a series of devices is being contemplated. Innovation and common sense must be the prime requirement in all areas, including logistics. What is a good logistics strategy for one device is not necessarily appropriate for another device. A logistics procurement strategy developed for a series of four, five, six or more devices is not appropriate for a one or two device buy. Obviously, the reverse holds true.

It is the responsibility of both Government and contractor personnel to recognize this and to develop unique procedures for each buy. The day of the boiler plate, cut and paste logistic package is long past. We believe that what is required in today's environment is the development and implementation of a state of the art logistics support acquisition strategy based on the guidance of DOD Directive 5000.1 and on the guidance of other directives such as the Defense Acquisition Regulation (3) which sets forth the basic legal doctrine defining the role of Government and contractor relationships; Office of Management and Budget (OMB) Circular A-109 (4) which further defines these roles and explicitly recommends that the Government establish system performance objectives and allow the contractor to develop detailed design objectives. These recommendations are further defined, enumerated in OMB Circular A-76, (5) which outlines the Office of Management and Budget's policies of acquiring commercial products and services for Government use. Also germane is the Secretary of the Navy (SECNAV) Instruction 4200.27A, (6) which clearly defines the role of contractor personnel. These directives and policy statements provide the cornerstones for our recommendations.

If logistics personnel are to overcome their current problems and retain control over their own future, drastic changes in thinking are required. Today's logistics requirements call for reliable, cost effective life cycle support of the highly sophisticated and dynamic hardware and software subsystems which constitute a training device. To meet these requirements, the authors advocate a performance based, functionally oriented logistics procurement approach that

focuses attention on the product, not the process, of the logistics support acquisition effort. This strategy is defined as a flexible, product based approach to procurement of logistics material and services which rests on the assumption that the device contractor is in the best position to determine the most cost effective and efficient method for development of the life cycle support for that device.

The Performance Based, Functionally Oriented approach differs from the present approach in two fundamental concepts. First is the concept that the only measure of satisfactory logistics performance is the effectiveness of the final logistics package in supporting the device. Time and effort should no longer be wasted in scrutinizing every aspect of the development schedule, in developing detailed plans for every conceivable element, in requiring reports for every contractor movement, for developing and maintaining detailed milestone charts, etcetera. These are tasks which are functions of the contractor and which the contractor must do if he is to meet his contractual requirements with an acceptable product. Government personnel should focus on the quality of the delivered product. Second is the idea that performance of the device for the 10 or 15 years it will be utilized is of at least equal importance to the 3 to 5 years it is in the development and manufacturing stages; thus, logistics considerations should be given equal weight in the request for proposal and in the evaluation and payment clauses of the contract.

From these fundamental concepts are derived three basic premises:

1. Logistics support is an integral part of device procurement and the contractor should be tasked with the full and total responsibility of providing a reliable and cost effective logistics support package.
2. With the proper incentive, contractors will respond to Government's logistics needs.
3. Government can provide this incentive by stipulating in the contract that a major amount of total payment will be withheld until logistic acceptance criteria are met.

These concepts are not new, but they have been neglected in the quest for sophistication. What may be unfamiliar is that the Performance Based, Functionally Oriented concept is based on the premise that if the Government provides the logistics requirements, establishes measurements to determine if those requirements have been met, and by using the common sense mentioned in DOD Directive 5000.1, refuses to pay for materials and services that do not meet the established criteria, contractual cost effective, reliable life cycle logistic support will be forthcoming. Industry has the capability to respond; the Government needs only to develop and provide the proper stimulus.

Logistic support requirements currently vary from full organic support to full contractor support. The Performance Based, Functionally Oriented logistics acquisition strategy was developed to provide a flexible, non-complex method of satisfying varying logistics requirements. The Performance Based, Functionally Oriented concept provides the contractor an opportunity to utilize his creativity, technical expertise and common sense to develop an effective support program when given an established set of objectives in the logistic statement of work. The end result expected from the contractor is a cost effective life cycle support program which can be verified by the Government through evaluations of the performance and usefulness of people, equipment, and documentation against a set of measurable objectives.

The Performance Based, Functionally Oriented acquisition strategy consists of three phases: definition, performance, and acceptance. During the definition phase, the Government integrated logistic support team joins the engineering team in conducting a front end analysis. In conjunction with the engineering team and with project management, a firm maintenance concept is decided upon. Using this maintenance concept as the keystone of all future integrated logistic support planning, the integrated logistic support team works together to develop an integrated logistic statement of work that clearly delineates the aims, goals, and objectives that must be achieved if the required level of life cycle support is to be realized. To properly carry out the all important task of developing a logistic statement of work that will contain all the necessary criteria for performance measurement will require a major effort from each member of the integrated logistic support team. Each subsystem of the device must be analyzed individually and as part of the overall system. The integrated logistic support team will be required to thoroughly research all requirements and ensure that the criteria developed are needed, attainable, measurable, and comprehensive. Once this is done, the logistic statement of work becomes the driving force for the remainder of the contract.

While the definition phase is primarily the responsibility of the Government, the performance phase becomes almost totally the contractor's responsibility. Once the contractor receives the logistic statement of work, it is up to him to develop an integrated logistics support program using state-of-the-art techniques. Once the contractor develops and receives approval on his integrated logistic support plan, he will have no further reviews, approvals, or other interference from Government personnel. Looking at this from another perspective, he will no longer be able to

depend on Government specialists to perform a large share of his work for him. Here, the Government should adhere strictly to the provisions of SECNAVINST 4200.27A.

The last phase, the acceptance phase, once again becomes the responsibility of the Government. Through a series of verifications and demonstrations, the Government will verify the contractor delivered product against the criteria set forth in the logistic statement of work and approved in the integrated logistic support plan.

DEFINITION PHASE:

During this initial phase, the Government integrated logistic support team members must engage in conducting a thorough front end logistics analysis. The time is past when logistics personnel could wait until the device became a conceptual reality and then build a support program around it. In addition to determining the logistics needs, the integrated logistic support team members must become technical advisors on all committees and other teams connected with developing front end documents. Such actions will ensure that logistics become an integral part of the device procurement.

Once the front end analysis is accomplished, the integrated logistic support team must utilize the logistic statement of work developed as a result of that analysis to prepare a request for proposal. The total integrated logistic support team should become involved in the development of the request for proposal to ensure that the package is totally integrated and supportable. In developing the inputs the team members must take into account the proposed training device, who is going to man the device as instructors, operators, maintenance personnel and above all, what is the maintenance concept/plan for the device. With these facts in mind the logistic team develops a list of terminal objectives outlined in a logistic statement of work which ensures that the device will be supportable to the required maintenance plan level. Next, the team develops the following procurement package inputs:

1. Funding Requirements.
2. Request for Proposal.
   a. Schedule.
   b. Final Logistics Statement of Work.
   c. (DD Form 1423) Integrated Logistics Support Plan Requirements.
   d. Technical Proposal Requirements.
   e. Proposal Evaluation Plan.

The technical proposal requirements take on a new meaning under the Performance Based, Functionally Oriented Program because the Government is no longer evaluating proposals based on yes/no responses. The contractor's proposal evaluation is based on how well he responds to an established criteria by applying state-of-the-art procedures. No longer will the contractor have a boiler plate set of guidelines that he can feed back to the Government as a logistics support outline in order to receive a satisfactory proposal evaluation rating. He must use his own skills, abilities, and techniques to determine the best approach in developing a logistic support program that is totally integrated and which will support the device during its life cycle.

The only logistic document required by the Contract Data Requirements List, DD Form 1423, during the request for proposal is the integrated logistic support plan. The integrated logistic support plan will outline the contractor's logistic support plan for the device and, among other items, will contain the contractor's recommendations for all other logistic documentation.

Proposal evaluation procedures will require a highly skilled professional logistics team with expertise in logistics management, the technical aspects of the trainer, and in specific areas of logistics. The evaluation will be accomplished in two parts: first, by a group of highly qualified technical specialists; and secondly, by a joint logistic team to ensure that each element is integrated into a total logistic effort. This joint evaluation will assist the negotiation efforts and ensure a two party win-win situation that will help guarantee a quality product for the fleet.

PERFORMANCE PHASE:

The first step after contract award will be a series of conferences between the Government logistics team and the contractor to define the detailed requirements of the integrated logistic support plan. The primary reason for the Performance Based, Functionally Oriented Program is to create an innovative, flexible integrated logistic support system. Under this concept, the integrated logistic support plan becomes the keystone document which is meant to ensure that each training device is provided a quality support program. No longer will each specialist have his/her own management document governing a specific logistics area. All areas will be governed by the integrated logistic support plan. The integrated logistic support plan will be broken down into a specific set of sections which will be determined by the needs of the device. Specific sections that may be required are:

1. Introduction.
2. Management.
3. Maintenance Plan/Concept.
4. Personnel and Training.
5. Logistic Data.
6. Support and Test Equipment.
7. Supply Support.
8. Facilities.
9. Interim Support.
10. Transportation Handling.
11. Integrated Logistic Support Accountability.
12. Verification Demonstration Plan.

Sections 2, 11, and 12 will be discussed briefly since they will contain the specific requirements which are the essence of a successful integrated logistic support program. Section 2, Management: This section should spell out the integrated logistic support management program and how each logistic element will be integrated into the total support program to ensure that the logistic services provided are all to the same level. Section 11, Integrated Logistic Support Accountability: This section should be a plan spelling out how the members of the device team are going to account for specific items and funds to ensure that specific allocations are slated for a specific area and not diverted to another element without coordination with all concerned. Section 12, Verification Demonstration Program: This section should define how the Government is going to verify the contractor's performance.

Each section of the integrated logistic support plan will be a stand alone document for the management of the individual elements. When the sections are combined, they will form a volume which will provide a comprehensive integrated logistic support plan for the logistic manager. Each logistics specialist will be responsible for the development and acceptance of his/her specific section(s) within the integrated logistic support plan. With this method of developing the integrated logistic support plan, the logistics specialists will have the flexibility to manage their own specific areas and yet give the logistic manager the capability of total integrated logistic support management.

During the orientation conference, the Government will outline its interpretation of the contractor's proposal as it relates to the aims, goals, and objectives of the logistic statement of work. These differences will be reconciled during the conference. Upon completion of the conference, the contractor will forward the revised integrated logistic support plan to the Government for review prior to the integrated logistic support plan conference. Thirty days after delivery of the preliminary integrated logistic support plan, an integrated logistic support plan conference will be conducted. During the integrated logistic support plan conference, the contractor will define, in detail, his concept of the logistic program as stated in the integrated logistic support plan. At this time the integrated logistic support plan will be accepted and become the prime logistic support document for the life of the training device.

The function of the contractor during the performance phase of the device is based on the contractual agreements defined in the integrated logistic support plan. These functions will vary depending on the maintenance concept/plan, size of the device, USER's, and type of trainer. Once the integrated logistic support plan has been approved, the contractor assumes full responsibility for development of the logistics support program.

ACCEPTANCE PHASE:

The acceptance phase is the Government's responsibility in that the Government must establish the criteria against which the contractor's performance will be judged. These expectations must be stated in terms of performance based, functionally oriented aims, goals, and objectives. This is accomplished as described in the definition phase above.

The evaluation method utilized to certify program acceptability will necessarily vary from project to project since it is dependent upon the outcome of the front end analysis accomplished for each device. However, in all cases, the methods chosen will evaluate: (1) the ability of the personnel assigned to support the device to properly fulfill their responsibilities; (2) the usefulness of the support equipment such as tools, test equipment, automatic test equipment and diagnostics in enabling maintenance personnel to carry out the designated level of maintenance; and (3) the accuracy, quality and quantity of documents such as maintenance publications, vendor manuals, PMS documentation, training publications and other required drawings, documentations and publications.

Since the contractor has been assigned total responsibility for development of the total logistics support program during the performance phase, he is totally responsible for the acceptability of his delivered product. As stated earlier, the provisions of SECNAVINST 4200.27A should be taken literally and applied unequivocably:

> The Government may . . . obtain the (required) work by contract, providing two conditions are met: (1) the contract itself must ask for the finished product, only, and (2) the contract must be administered in such a way that control and supervision over the work and discretion as to the techniques which will be used remain solely with the contractor. . . . The intent of this statement is made explicit in the next sentence. . . . In other words, if the Government wants a building painted it defines the job, lets the contractor paint the building as he sees fit, and then accepts it or rejects it solely on the basis of whether the completed job meets the contract specification. . . .

Thus, if the contractor has not lived up to his contractual agreements, he alone will be financially responsible. He will be assessed a significant portion of the overall contract amount for his failure to perform. This assessment may then be used by the Government to correct deficient areas through other means or to obtain,

through agreement with the contractor, extended contractor support until the contractor can correct his own deficiencies. The authors believe that, since a training device which lacks satisfactory support is no more useful than a library without books, at least 50 percent of the total contract price should be assessed for failure to provide a satisfactory logistics support program.

SUMMARY

The rising costs, decreasing quality and flexible method of the current procedures for procuring logistics support for training devices have made changes inevitable. This paper has addressed several of these problems and has pointed out why fresh thinking is needed now. Obviously, there is no perfect solution to the multifaceted problems associated with providing reliable, cost effective life cycle support to training devices and simulators. The authors have proposed the Performance Based, Functionally Oriented Logistics Acquisition Strategy as a possible framework which can be embellished upon to achieve two important goals. The first is the immediate need to improve our logistic acquisition policies. The second is to provide a smooth transitional step into the era of full contractor support, which the authors believe is both inevitable and desirable given the predictable events of the future.

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