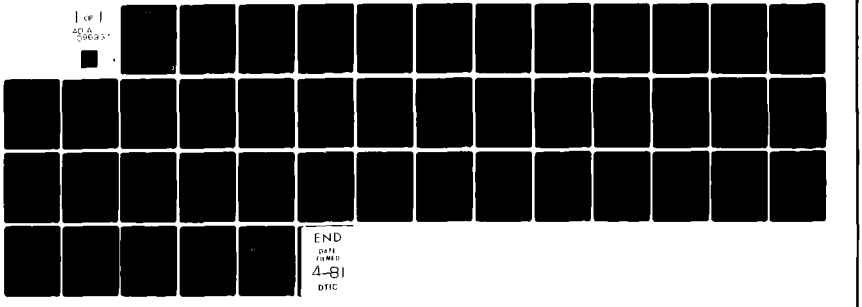
AD-A096 937 ARMY MATERIEL DEVELOPMENT AND READINESS COMMAND ALEX--ETC F/G 5/1
LOGISTIC SUPPORT ANALYSIS/LOGISTIC SUPPORT ANALYSIS RECORD REVI--ETC(U)
JUN 80
UNCLASSIFIED DARCOM-C-700-7 NL



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(14) DARCOM-C-700-7

DEPARTMENT OF THE ARMY
HEADQUARTERS US ARMY MATERIEL DEVELOPMENT AND READINESS COMMAND
5001 Eisenhower Ave, Alexandria, VA 22333

DARCOM CIRCULAR
No. 700-7

Expires 27 June 1981

(11) 27 June 1980

Logistics

(6) LOGISTIC SUPPORT ANALYSIS/LOGISTIC SUPPORT ANALYSIS RECORD REVIEW TEAM GUIDE.

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CHAPTER 1

INTRODUCTION

1-1. Purpose. This circular provides guidance for establishing and implementing a Logistic Support Analysis/Logistic Support Analysis Record (LSA/LSAR) review process and review team. The LSA review team process contained herein pertains to DARCOM implementation of MIL-STD-1388-1 and MIL-STD-1388-2, Logistic Support Analysis via DARCOM-P 750-16, Guide to Logistic Support Analysis. The purpose of this circular is to:

a. Identify the reasons for establishing LSA/LSAR reviews;

b. Identify the management actions required to establish the review team;

c. Identify contractor/hardware developer responsibilities in the review team process;

d. Provide review team procedures/techniques that can be used by all materiel developers; and

e. Provide a standard checklist of questions that will be used by DARCOM LSA review teams.

1-2. Scope. AR 700-127, Integrated Logistic Support, requires that an LSA and an LSA file be established on all developmental, new commercial, and other nondevelopmental materiel systems. Additionally, formation of a logistic support planning team is required to review all areas of support development. This circular applies to the particular areas of the LSAR input and output reports and the necessary Integrated Logistic Support (ILS) management controls that should be applied.

1-3. Background. Accomplishment of LSA during the design and acquisition of a hardware system necessitates the integration of all elements of logistic support. Insuring that the elements of logistic support are integrated is a management function of both the materiel developer (i.e., development/ readiness command) and hardware developer (i.e., Contractor). The degree of involvement each logistic discipline has in the LSA process depends on the complexity of the hardware system and the development life cycle phase. Insuring that each logistic discipline does participate in the LSA process must be assured by the materiel developer through review of the logistics effort.

1-4. Changes. Readers of this circular are encouraged to recommend changes to improve its content. Recommendations should be forwarded to Commander, US Army DARCOM Materiel Readiness Support Activity, ATTN: DRXMD-EI, Lexington, KY 40511.

CHAPTER 2

ESTABLISHING THE LSA REVIEW TEAM

2-1. Purpose. The purpose of the LSA Review Team is to:

a. Function in an advisory capacity to the system project manager or materiel developer concerning the LSA process and the LSAR data base.

b. Provide guidance and resolve problems related to LSA policies and procedures.

c. Review and recommend approval or disapproval to the project manager or materiel developer of all LSA data generated for entry into the LSAR.

d. Insure that the LSAR data is used in developing the deliverable products that define and allocate logistic support resources.

2-2. Review team membership. a. Accomplishment of LSA necessitates the integration of all elements of logistic support. From a management standpoint the following disciplines must be involved in the conduct of the LSA:

(1) Maintainability engineering.

(2) Reliability engineering.

(3) Maintenance engineering.

(4) Publications.

(5) Supply support/initial provisioning.

(6) Support and test equipment.

(7) Human engineering.

(8) Safety engineering.

(9) Personnel and training.

(10) Packaging, handling, storage and transportability engineering.

(11) Standardization engineering.

(12) Design engineering.

The degree of involvement each discipline has in the LSA process depends on the complexity of the hardware system and the phase of development.

b. Membership on the LSA review team must take into account the disciplines involved in the LSA process in order to adequately review the LSA data and the management of the LSA effort by the hardware developer. Membership should consist of representatives from each of the following organizations or disciplines:

(1) Product/project manager's ILS office or the development command ILS office.

(2) The materiel readiness command(s) ILS office.

(3) Maintenance engineering.

(4) Product assurance (reliability).

(5) Initial Provisioning.

(6) Publications.

(7) Personnel and Training (US Army Training and Doctrine Command (TRADOC) School(s)).

c. In addition the following organizations or disciplines should be considered for part time or full time membership on the review team.

(1) Contracting officer.

(2) Configuration management.

(3) Testing.

(4) Packaging, handling, storage, and transportability engineering.

(5) US Army DARCOM Materiel Readiness Support Activity.

(6) LSAR Automatic Data Processing (ADP) Analysts.

(7) Design engineering.

(8) Human engineering.

(9) Safety engineering.

(10) Standardization engineering.

2-3. Review team organization. a. The LSA review team should consist of a chairman, co-chairman, and review team members as indicated by paragraph 2-2. The chairman should be an individual from the product/project manager's ILS office or the development command ILS office. This insures proper interface between the review team and contractor should contractual questions arise during the review process. The co-chairman may be an individual from the product/project manager's ILS office, development command ILS office, or the readiness command ILS office as deemed desirable by the chairman.

b. The responsibilities of the LSA review team chairman include, but are not limited to the following:

(1) Determines team membership initially and augments or reduces team membership as the process warrants.

(2) Schedules and conducts a Government only LSAR guidance meeting.

(3) Schedules and conducts a Government only LSAR guidance meeting for the purpose of establishing a singular Government position prior to the Government/Contractor LSAR Guidance Conference.

(4) Schedules team meetings as required to establish and/or revise team procedures.

(5) Schedules LSA reviews through coordination with the contractor and notifies team members of the time and place of the review.

(6) Insures that the contractor has available all materiel needed for the review. This includes technical documentation, drawings and/or hardware.

(7) Insures that review team members receive appropriate LSA data item descriptions (DID), statements of work, LSA functional documentation, and the LSA plan in order to conduct the review.

(8) Review and approve consolidated comments and provide technical direction to the contractor through appropriate channels.

(9) Assures, through the procuring contracting officer (PCO), that all agreed-to changes are incorporated into the LSAR by the contractor.

(10) Assures that LSA/LSAR hardcopy and summary information is available at key ILS events (i.e., physical teardown, draft Technical Manual (DTM) reviews, maintenance demonstration, etc.) for hardware validation.

(11) Formulates and secures approval of a charter for LSA management and review team.

(12) Assures that required changes resulting from LSAR comments made during the ILS events are incorporated.

c. Responsibilities of the LSA review team co-chairman include but are not limited to the following:

(1) Assumes all responsibilities of the LSA review team chairman in the chairman's absence.

(2) Insures that minutes of all LSA review team meetings are taken, finalized, agreed to and distributed to review team members.

(3) Insures that all review team comments are consolidated into a single list of comments (that may form an inclosure to the minutes of the review team meeting).

d. Responsibilities of the organizations or disciplines providing membership to the review team include but are not limited to the following:

(1) Insures that technically qualified personnel are available to participate in the LSA review process.

(2) Insures that peculiar organizational or discipline guidance/ requirements are identified and appropriate addendums to the standard DARCOM LSA/LSAR guidance are written and provided to the contractor through appropriate channels.

(3) Insures that continuity of review team membership is maintained to the maximum extent possible.

(4) Bears the cost of participating in LSAR review team meetings including travel (when the product/project managers office does not provide funding).

2-4. Review team schedules. The scheduling and conduct of the LSA review process is dependent on the complexity of the hardware, progression of the design and degree of tailoring applied to the LSAR effort. Therefore, the review team schedule for each development item must be tailored to accommodate the aforementioned variables rather than adhering to fixed intervals of time.

CHAPTER 3

PLANNING ACTIONS AND REVIEW TECHNIQUES

3-1. Government furnished information. a. Review of the LSAR data base developed by a contractor must be predicated on certain baseline data in the same manner that the contractor must conduct the analysis predicated on baseline data. This data must be provided to the contractor at the start of contract in order for the contractor to perform an adequate logistic analysis of the developing hardware system. Similarly the review team must have the same baseline data in order to adequately judge the contractor's analysis effort. This data includes the logistic support concept, envisioned table of organization and equipment (TOE), personnel skill capabilities and training programs, common tool and test equipment lists.

b. The letter of agreement (LOA), required operational capability (ROC), document, letter requirement (LR), or training device requirements (TDR), would contain the baseline logistic support concept agreed to by DARCOM and TRADOC. Since the basic Army maintenance structure accommodates all types of materiel systems, a high degree of flexibility exists in developing the logistic support concept. Such variables as the required operational readiness, maximum permissible downtime for maintenance, mobility and transportability requirements, and the operational and logistic environment in which the system will operate would be included in the baseline logistic support concept. These qualitative and quantitative requirements must be provided to the contractor before the start of the LSA and likewise be made available to the review team members.

c. The baseline logistic support concept would contain the envisioned TOE or modified TOE (MTOE) in which the materiel system will be used. The TOE would list the military occupational specialities (MOS's), tool kits/sets, test equipment, and special tools that are currently available to support the developing materiel system. From this list the following detailed information can be obtained and provided to the contractor and review team.

(1) A consolidated list of common tools available in the TOE can be developed by obtaining the appropriate supply catalogs for the tool kits/sets. Tool kits/sets listed in the TOE have a line item number (LIN). By using the LIN and DA PAM 310-6, Index of Supply Catalogs and Supply Manuals, the appropriate supply catalog number can be obtained. These supply catalogs would contain a list of all tools in the tool kit/set.

(2) The basic skill capabilities can be obtained from the responsible TRADOC school(s) to augment the basic description.

(3) Technical information concerning the test measurement and diagnostic equipment (TMDE) can be found in DA PAM 700-20, Test Measurement and Diagnostic Equipment Register. In addition, the register contains all TMDE currently in the Army Inventory or under development. Providing the register to a contractor will aid the contractor in determining available TMDE in the Army.

d. The final area of Government information that should be provided to the contractor and made available to the review team are the quantitative logistic requirements normally contained in the LOA, ROC, TDR, and LR. Data Sheet "A," Operations and Maintenance Requirements, would be used to record these parameters as part of the LSAR. Such parameters as system mean time to repair (MTTR), mean time between failure (MTBF), and mean active maintenance down time (MAMDT) would be placed on this data sheet. Of equal importance are the annual operating requirements for the materiel system. Annual operating requirements may be expressed in terms of miles, hours, rounds, landings, cycles, etc. This parameter forms the basis for all of the LSA and the logistic products that can be derived from the LSA/LSAR. If the annual operating requirements are based on a peacetime scenario, then the LSAR data base and its products would be based on the peacetime environment. Normally, logistic requirements are based on a wartime scenario and therefore the LSAR would also be based on wartime usage of the materiel system. Whether the requirements are wartime, peacetime or a combination of both, the contractor must be provided with this information before the analysis begins.

3-2. Contractor furnished information. a. The contractor, as the hardware developer, can be held responsible for providing information that is contractually called for. This section will discuss contractor information that will greatly aid the review team and therefore should be included in the contract as part of the LSA/LSAR effort.

b. In responding to an Army request for proposal (RFP)/request for quotation (RFQ) the contractor projects the total logistics effort that will be required based on the projected design of the hardware system. These projections form a basis for establishing cost and logistic organizational requirements. When DI-S-7017, LSA plan is included in the RFP/RFQ the contractor is required to:

(1) Identify his logistic organization including authority and responsibility for conducting the LSA.

(2) Establish flow of LSA data between logistic organizational elements within the contractors activity and with sub-contractors/vendors.

(3) Provide LSA program schedule and interfacing milestones.

(4) Specify LSA tasks and the level of LSA effort to be performed.

(5) Provide identification of items upon which LSA will be performed.

(6) Provide explanation of the LSA control numbering system. (i.e., functional group code/work breakdown structure/work unit code (FGC/WBS/WUC)) to be employed.

NOTE: **Obtaining this information from the contractor and making it available** to the review team establishes the baseline management controls between contractor and the review team.

c. Of particular importance from a review team standpoint is the identification of items upon which LSA will be performed (i.e., an LSA candidate list), the level of LSA effort to be performed, and the LSA control numbering system to be employed. Shown in figure 1, the LSA candidate and task function list is an example of how this information can be displayed so that the LSA candidates, their LSA control number (LSACN) and the analysis required are interrelated. At the start of the review process the list identifies the projected analysis that will be accomplished by the contractor. As the design progresses the list is updated to include identification of more detailed components/assemblies, completed LSA's by item name, and additions/deletions to the candidate list as a result of design changes. In short, the LSA candidate and task function list provides a means of easily tracking the contractor's LSA effort as well as establishing/reflecting the initial maintenance concept.

d. Adequate review of the LSAR data by the review team can only be accomplished if design drawings, mock-ups, or actual hardware are available during the scheduled reviews. Access to this information allows the review team members to simulate the contractor's analysis and verify the data generated. The importance of this information cannot be over-emphasized in terms of conducting an adequate and detailed LSA review.

3-3. LSA/LSAR guidance conference. a. The first LSA/LSAR review team meeting should be a Government/Contractor guidance conference. The meeting should be held 30 to 90 days after award of the contract. The meeting provides a forum for establishing the initial LSA/LSAR review procedures to be employed; transfer of data and information between the review team and contractor; and resolution of problem areas. Specifically the guidance conference would be used to provide the contractor with the required maintenance and logistics requirements as recorded on data sheet A, the envisioned TOE for the hardware system, current MOS training programs and capabilities, common tool kit listings, and the TMDE register. Conversely, the contractor would identify his organization for accomplishing LSA/LSAR, the specific tasks and level of LSA effort to be performed, identification of items upon which LSA will be performed and the LSA control numbering system to be employed.

b. The review team would use the guidance conference to review and evaluate the LSA candidate and task function list submitted by the

contractor as baseline for the LSA effort. Of particular interest are the maintenance functions to be performed and the LSA control numbering system to be employed. The maintenance functions should agree with the maintenance concept that has initially been established. For the LSA control numbers one of three basic methods can be employed. They are the classical assignment, modified classical assignment, and sequential assignment methods that are described in detail in the LSAR ADP Guide for Functional Personnel. Combinations of these methods are also possible which serves to further economize the number of digits required for each indenture level. The method selected should be fully developed and LSACN's assigned to the lowest indenture level required very early in the program. This will insure that the method selected will enable identification of the lower level items without exceeding the allocated field.

c. The major concern and responsibility of the LSA/LSAR guidance conference would be the establishment or review of a completed set of LSAR data sheets. This package would serve as a model or benchmark against which all LSA packages would be reviewed. Development of the package should consider the following:

(1) All data sheets and the data blocks on each sheet should be completed in order to establish the contractual range of data required. Data blocks that are left blank should be marked accordingly in order to avoid confusion. Additionally, data blocks that are not completed until late in the analysis cycle should be identified with a projected completion date. Examples of these data elements include unit price, quantity per end item, provisioning nomenclature, and measured elapsed time and man-hours.

(2) The definitions of all data blocks should be reviewed to insure that the review team and the contractor fully understand the data required. Use or non-use of specific codes should also be identified as well as the assignment of additional codes (e.g., Item Category Code) when deemed desirable.

(3) The maintenance task functions on data sheet C should be reviewed and specific definitions and guidance for use of each function should be established. These task functions relate directly to the maintenance functions that appear in the maintenance allocation chart (MAC). General definitions for the task functions may be found in AR 310-3, which governs the format and content of MAC.

(4) The data sheet D sequential task description should reflect the amount of detail required for publications and for training purposes. Firm guidelines should be established relative to referencing other tasks and the accountability of time when a task is referenced. Two methods for correctly accounting for time when a task is referenced are provided in appendix A, this circular. Guidelines should also be established concerning inclusion of tools and test equipment as part of the narrative or by referencing tools listed in the D07 cards using the card number.

(5) Identification of common tools and test equipment on the D07 cards can be accomplished using the national stock number (NSN) or the tool number. One of the two identifications should be established.

(6) As a part of the LSA/LSAR guidance conference a provisioning guidance conference should be conducted to establish the specific data sheet H requirements and the attendant LSA-36 outputs.

d. The final action of the guidance conference would be to review **or establish the review team procedures that will be followed and the methodology that will be used concerning Government comments.**

3-4. Review environment. a. There are two variables involved in establishing the basic review process: the type of contract (competitive or sole source) and the physical location of the review team meeting (on-site at the contractor's activity or in-house at the responsible development or readiness command). As used in the context of this guide, competitive contract is the environment that it exists during demonstration and validation where multiple contractors are involved and sole source contract is the environment that exists during full-scale engineering development where there is normally a singular contractor. Taken together these variables provide the four basic review environments with their attendant advantages and disadvantages. Each environment is detailed below.

b. Review of the LSA/LSAR data on-site at the contractor's facility with a sole source contract is the most common review situation. This **type of review is best suited for large developmental items that require voluminous amounts of LSAR data. The advantages of conducting a review** under this situation are as follows:

(1) Drawings and hardware are readily available for use during the review.

(2) Contractor personnel are available for questioning concerning the analyses conducted.

(3) Design recommendations can be made by the review team through the PCO based on identified logistic deficiencies.

(4) Due to the location, review team members are not distracted by home office work.

(5) A team approach can be used to capitalize on the expertise of the members to a greater degree than is possible by mail.

(6) An effective LSAR review can be conducted and corrective action taken in significantly less time than an in-house review.

Conversely there are disadvantages to this review team environment:

(1) Travel funds must be made available either by the project/product managers office or by each participating command/agency.

(2) Stability of review team membership cannot be maintained due to conflicting travel requirements of members.

(3) The time allotted for the review is constrained due to the temporary duty status of review members.

c. In-house review of the LSA/LSAR data for a sole source contract is best suited for small developmental items which result in a small LSAR data base. The advantages of conducting the review in-house are as follows:

(1) Travel requirements are limited to personnel outside the readiness/ development commands supporting the review.

(2) More time can be allotted to the review.

(3) Additional Government personnel are readily available to provide specialized assistance.

The disadvantages of conducting in-house reviews are as follows:

(1) Hardware is not readily available and drawings must be duplicated by the contractor in order to make them available to the review.

(2) All LSAR data must be duplicated in order to avoid hindering the contractor's analysis effort.

(3) Only a limited number of contractor personnel are available to aid the review effort.

(4) Review team personnel are subject to home office work which can detract from the review effort.

d. The on-site and in-house review of the LSAR data for a competitive contract has the same advantages and disadvantages as the respective sole source environments. The major disadvantages of these reviews is that the review team cannot make design recommendations nor can it specifically dictate changes to the LSAR data base. To do so would provide a competitive edge to the contractor receiving the changes or recommendations. The review team in a competitive contract environment is limited to monitoring the effort and insuring that the contractor understands the Army maintenance system and scope of contract.

3-5. Review techniques. a. The two main objectives of the review team process are to insure that all elements of logistic support are analyzed, defined, and documented; and insure that the hardware design is influenced from a logistic standpoint. Achievement of these objectives can be accomplished by reviewing all of the LSAR data generated (i.e., 100% review) or by sampling the data base. The contractor proposed LSA plan and associated DID's and contract data requirements list will provide a basis against which the contractor's efforts will be reviewed by the LSA/LSAR review team.

b. The technique of reviewing all of the LSAR data as it is generated and updated by the contractor insures that the entire data base can be used for development of all logistic products. Such a review can be time consuming when the hardware design is large and complex like the PATRIOT Missile System (Example provided in appendix C, this circular), XM-1 Tank, or BLACK HAWK Helicopter but should not be ruled out. Smaller systems should receive a 100 percent review of the LSAR data base in order to avoid errors in the logistic products.

c. Review of the LSAR data base via sampling can be as effective as a 100 percent review if conducted properly. Sampling necessitates use of the LSA candidate list prior to the start of the review process. From this list a statistically valid sample can be chosen and the review team would concentrate their effort on these packages. In addition to the randomly chosen packages the review chairman should identify and include as part of the review critical components and assemblies from a design standpoint. This sample list would be bumped against the available LSA packages at each review in order to determine the number of packages to be reviewed. Naturally, the sample list should not be revealed to the contractor.

d. Conduct of the review will generate specific comments and recommendations relative to the LSAR data base and the hardware design. The manner in which the comments are generated and documented by the review team and the manner in which the contractor responds to the comments will have a direct bearing on the success of the review concept. Control of the review team comments can be handled in one of two ways:

(1) Each review team member documents his/her comments on individual comment sheets emphasizing his/her area of responsibility. This approach necessitates consolidation of the comments by the review team or team chairman at the end of the review.

(2) Each LSA package contains a single comment sheet. The LSA package is reviewed by members representing the different functional areas (i.e., reliability, maintenance engineering, publications, personnel and training, etc.) with all comments against a single package appearing

on a single comment sheet. In this manner the same comment or recommendation is not duplicated. Documentation of the review team comments should be tailored to fit the needs of each developmental item. Appendix B contains sample comment sheets which record the results of the checklist questions contained in chapter 4, this circular.

e. The end of each review should generate a formal set of minutes which contain the following:

(1) Disposition of previous review team comments by the contractor.

(2) General comments/recommendations that apply to all LSA packages or clarify the analysis techniques to be employed.

(3) Specific comments against each of the LSA packages reviewed by the team.

(4) Status of the LSA/LSAR effort to date (i.e., number of packages completed, number of H sheets completed, etc.).

General and specific comments generated by the review team should be analyzed by the contractor and a determination of what should be done attached to each comment. Those comments not incorporated into the LSA/LSAR data base should be explained during the subsequent review.

CHAPTER 4

LSA/LSAR REVIEW/MANAGEMENT CHECKLIST

4-1. General. The LSA/LSAR review/management checklist contained within provides a standard set of questions that should be augmented to fit the requirements of each developmental item. The questions are designed to accomplish the following:

(1) Assess the level of management being applied by the responsible product/project manager or development command.

(2) Evaluate the LSAR data generated by the hardware developer and determine its validity and utility.

The checklist can be applied during all ILS/LSA/LSAR reviews regardless of development phase or type of development. It can also be applied during the initial planning stages of an LSA effort as a checklist of actions/events which should be considered and accomplished.

4-2. LSA/LSAR review/management checklist. a. The checklist questions have been developed in such a manner that the resultant answer is "yes" or "no," In the case of "no" answers the reviewer should obtain or provide a complete explanation of why the question was answered "no," This explanation should be documented using the management checklist or LSAR data sheet checklists. The checklists are end item oriented, therefore, a product office that has many developmental items would require many sets of review team checklists.

b. Section I contains LSA implementation questions for project manager personnel. These questions are designed to be answered strictly by the project office or development command responsible for the item under development. Individually the questions will identify specific problems or weaknesses. Taken as a whole the questions will indicate how well the procuring activity is managing and implementing the LSA effort.

c. Section II is designed for the start of an LSA review at a contractor's facility. The questions should be directed to contractor personnel in order to ascertain the level of management being applied. In addition, there are questions that should be asked of the Government LSA review team chairman. These questions form a basis for ascertaining how well the Government and contractor interact in managing the LSA effort. It will also provide an indication of how successful the LSA review team process has been/will be.

d. Section III of the guide is devoted to the LSAR input data sheets; specifically data sheets "B," "C," "D" and "H." Detailed questions are provided for the B, C, and D sheets since they form the heart of the analysis effort. Detailed questions are not provided for data sheet "H" since this sheet should be reviewed by the procuring activity's provisioning element. In addition, the provisioning effort can more easily be reviewed using LSAR output reports such as the LSA-36 report. Questions in ection III should be applied to each LSA package being reviewed. Any questions answered "No" should result in an official comment to be included in the LSA review team comments. Appendix B provides a sample format that can be used to record the results of the review effort for each LSA package.

e. Section IV is devoted to the LSAR output reports. The checklist questions are designed to review the LSAR outputs without supporting items such as the LSAR input data sheets, drawings, or hardware. However, availability of these supporting items would aid the review process.

SECTION I

LSA IMPLEMENTATION QUESTIONS FOR MATERIEL DEVELOPER PERSONNEL

Date _____

1. Is there a published LSA plan (DI-S-7017)? Yes No

a. If there is not a separate LSA plan, is there an Integrated Support Plan (ISP) that provides for an adequate LSA program? Yes No

b. If questions 1 and 1a are "No," has a suitable plan been established? Yes No

2. Is there an approved LSA candidate list (any system, sub-system, assembly, sub-assembly etc., for which scheduled or unscheduled maintenance is envisioned, should be considered an LSA candidate)? Yes No

3. How many LSA candidates are there? (Note. An LSA candidate would as a minimum have a set of LSAR B, C and D sheets completed; this is sometimes called an LSA package.) _____

4. How many LSA candidates/packages have been completed to date? _____

5. When will all LSA candidates/packages be completed per contract requirements? Date: _____

6. When is the current phase contract to be completed?

7. From a provisioning standpoint, what is the estimated number of parts that will comprise the total system? _____

8. How many of the part number items have a data sheet "H" initiated to date? _____

9. The LSA/LSAR is intended to provide source data for development of contract deliverable products. The following questions and dates will determine whether or not the LSA is actually being used to develop deliverable products. The date for delivery of each product should be after the date provided in question 5; otherwise, a possible conflict exists.

a. Completion date of draft manuals. _____

b. Delivery date of quantitative, qualitative, personnel requirements information (QQPRI). _____

c. Completion date of MAC. _____

d. Completion date of draft repair parts and special tools lists (RPSTL's). _____

e. Delivery date of provisioning technical documentation. _____

f. Contractor start of training for military personnel scheduled to participate in developmental test/operational test (DT/OT). _____

10. Has the project office/development command established an LSA review team? Yes No

11. Are the following areas represented on the LSA review team?

a. Maintenance engineering. Yes No

b. Reliability. Yes No

c. Publications. Yes No

d. Provisioning. Yes No

e. Training. Yes No

f. ILS office. Yes No

g. Command ADP personnel. Yes No

h. Contract office. Yes No

12. Does the materiel developer have identifiable LSA/LSAR officers? Yes No

13. Have LSAR review procedures been tailored to meet the specific needs of the project? How has it been established? Yes No

14. Are LSA design influences/changes being documented? Yes No

15. Have the following items been provided to the contractor as baseline data?

a. TMDE register or a common test equipment list.	Yes	No
b. Common tool lists or tool sets.	Yes	No
c. Skills and their training program/capabilities.	Yes	No
d. The envisioned TOE.	Yes	No
e. Annual operating requirements or mission scenario.	Yes	No
f. System specifications	Yes	No
g. Basic maintenance concept	Yes	No
16. Are engineering drawings available to the LSA analyst?	Yes	No
17. Are engineering drawings available to the review team?	Yes	No
18. Is prototype equipment made available for the preparation of LSAR?	Yes	No
19. Is hardware available to the review team?	Yes	No
20. Have LSAR ADP programs been established?	Yes	No
21. Have the LSAR ADP programs been tested?	Yes	No
22. Is there a plan for validating/verifying the LSAR? Will LSAR data be available and reviewed during--	Yes	No
a. Physical teardown.	Yes	No
b. Maintenance evaluations.	Yes	No
c. Publications reviews.	Yes	No
d. Special logistics evaluations.	Yes	No
23. Has the project office/development command maximized the use of LSAR to preclude duplicate development of logistics products?	Yes	No

24. Is there a formal plan for updating the LSAR files? Is reliability, availability, maintainability (RAM) data being updated as more accurate data becomes available? Yes No

SECTION II

LSA IMPLEMENTATION QUESTIONS FOR PROJECT MANAGER/CONTRACTOR PERSONNEL

Date: _____

A. These questions should be asked of the contractor.

1. Does the contractor have an ILS/LSA manager? Yes No

2. Are the following contractor functional elements directly involved in the LSA process? Yes No

a. Reliability and maintainability engineering (data sheet B). Yes No

b. Maintenance engineering (data sheets C and D). Yes No

c. Personnel and training (data sheets C, D and G). Yes No

d. Support equipment (data sheets C, D and E). Yes No

e. Provisioning (data sheet H). Yes No

f. Publications (data sheet D). Yes No

g. Safety engineering (data sheets B and D). Yes No

h. Human factors (data sheets B and D). Yes No

3. Does the contractor have an approved list of LSA candidates/packages? Yes No

4. Can the contractor provide a status of his LSA effort? Yes No

a. How many LSA candidates/packages? _____

b. How many completed to date? _____

c. When will the LSA effort be completed? Date: _____

d. What is the estimated number of parts that comprise the total system? _____

e. How many of the part numbered items have a data sheet H initiated? _____

5. Does the contractor have formal procedures to insure the latest drawings and technical data is being fed into the LSAR? If so, what are they? Yes No

6. Has the prime contractor subcontracted any of the LSA/LSAR effort? If so, have procedures been established? Yes No

7. Has the contractor established formal quality control procedures for the LSAR data sheets? Yes No

B. The following questions should be answered by the review team chairman or by observing how the review is conducted.

8. Did the LSA review chairman establish/review the purpose and responsibilities of the review team? Yes No

9. Is there a formal procedure for providing the contractor with review team comments? If so, what is it? Yes No

10. Did the contractor provide a status briefing of whether or not the previous review comments have been incorporated in the LSA package? Yes No

11. Did the contractor provide a familarization briefing of the hardware to be reviewed? Yes No

12. Was a list of all LSA packages available for review provided to all team members? Yes No

13. Were drawings/hardware made available to use during the review? Yes No

14. Has the review team and contractor established a model set of data sheets B, C, D and H that serve as a benchmark for reviewing all LSA packages? (These model sheets should indicate which blocks are filled in and which are left blank.) Yes No

15. If there are data elements on the model sheets which will be incorporated towards the end of contract (e.g., unit price), have they been documented? Yes No

16. Has the LSA review team chairman reviewed the specific LSA/LSAR contractual requirements with the review team? Yes No

17. Has each member of the review team been provided with a copy of the LSA review team charter establishing membership and responsibilities? Yes No

SECTION III

LSAR INPUT DATA SHEETS

A. Data sheet "B," Item Reliability and Maintainability Characteristics

1. If the contractor has substituted a failure modes, effects and criticality analysis (FMECA) sheet for the B sheet, does it contain the necessary data which ties it to the appropriate C and D sheets (i.e., does it contain LSACN, task codes, repair times, etc.)?	Yes	No
2. Do cards B01 through B03B contain enough information to properly identify the item under analysis (e.g., LSACN, item name, etc.)?	Yes	No
3. Does card B04 contain the necessary entries?	Yes	No
a. Is the mean time between failure different from the mean time between maintenance actions for all items have scheduled maintenance actions on the "C" sheet?	Yes	No
b. Does the mean time to repair agree with the weighed average of the elapsed time values on the "C" sheet?	Yes	No
4. Card B04 contains maintainability consideration; have all the blocks been filled in? If any are marked "N" for not adequate, has the contractor addressed these items in card B1Ø to correct the deficiency?	Yes	No
5. Are the contractor's reliability and maintainability engineering personnel completing data sheet "B"? If not, who is and how is the data being obtained?	Yes	No
6. Card B05 captures the FMECA conducted by reliability engineering.		
a. Do the failure modes identify the way in which the item under analysis can fail (e.g., A resistor can fail "open" or it can change value)?	Yes	No
b. Do the failure symptoms provide a means of identifying the fact that the item has failed (e.g., When a capacitor shorts out there would be no output signal from the failed item)?	Yes	No
c. Does the criticality block identify what effect failure of the item has on the system/end item?	Yes	No

d. Has the percent of failure rate, repair and task code blocks been completed? Yes No

e. Does the sum of the percent failure rates equal 100 percent? If not, does the contractor intend to add additional failure modes at a later date? Yes No

7. If reliability centered maintenance (RCM) has been contracted for, are the results of the RCM logic documented on the B06 card? Yes No

8. If in column b of card B06 a "Y" has been input for on-condition (OC) or hard-time (HT) maintenance, then has column "C" been completed with the appropriate scheduled maintenance task? Yes No

9. Does card B07 contain a detailed description of what the operational function of the item is? Yes No

10. Does card B09 contain a detailed maintenance concept for the item under analysis; i.e., is it in line with current philosophy for the hardware under analysis? Yes No

B. Data Sheet "C," Task Analysis Summary.

Data Sheet "C" summarizes the detailed analysis information recorded on data sheet "B" and "D," Therefore, the information should be compatible with these sheets.

1. Do cards C01 through C03B contain the same information which was input on the B01 through B03B cards? Yes No

2. Each C04 card summarizes the maintenance functions (e.g., repair, adjust, fault isolate, etc.) to be performed on the item identified by the C01 through C03B cards:

a. Has the contractor identified all maintenance functions that *should* be performed (think in terms of the maintenance functions that should appear on the MAC)? Yes No

b. Do the maintenance functions agree with the maintenance concept on the "B" sheet? Yes No

3. Does the task interval (2d character of the task code) agree with the task frequency? (i.e., if the task interval is quarterly is the task frequency 4.00)? Yes No

4. The task frequency block identifies how many times per year a maintenance task is performed (i.e., 1.00 is once per year, .10 is once every ten years and .01 is once every hundred years per end item). The task frequency is calculated by dividing the MTBF located on the "B" sheet into the annual operating requirements located on the "A" sheet.

a. Has a task frequency been input? If not, what rationale for a zero task frequency is given? See appendix A, this circular for correct methods. Yes No

b. Has the task frequency been calculated correctly? Yes No

c. Has the measurement base code been completed to reflect the measurement base of the annual operating requirements? Yes No

5. Is the allocated elapsed time block a contractually mandatory entry? If so, has it been completed? Yes No

6. Does the predicted elapsed time agree with the value on card D08B, Block 2? Yes No

7. If a physical teardown, DT or OT has been conducted, is the measured elapsed time being completed for those tasks measured during the test? Yes No

8. Blocks 6 through 9 on card C04 pertain to the MOS required to perform the task:

a. Has the Skill Specialty Code (SSC) designation been correctly input and does it agree with card D08A (i.e., is it the lowest level SSC capable of performing the task)? Yes No

b. If a second SSC is required to assist in performing the task, has a second C04 card (with blocks 1 through 5 duplicated) been completed for the second SSC? Yes No

c. If Block 8 is coded "M" or "E", has a "G" sheet been completed for the SSC (not FGC) indicating the additional skill requirements? Yes No

9. If the allocated man-hour block is contractually required, is it filled in?	Yes	No
10. Does the predicted man-hours agree with the sum of the man-hours on the D08B card for the SSC identified?	Yes	No
11. If only one repairman is required to perform the task, are his man-hours less than or equal to the elapsed time?	Yes	No
12. If a physical teardown, DT or OT has been conducted, is the measured man-hour block being completed for those tasks that were measured?	Yes	No
13. Block 11 identifies additional support requirements as follows:		
a. If the facility block is coded "Y", has an "F" sheet been completed identifying the requirement for new facilities?	Yes	No
b. If the training equipment block is coded "Y," has an "E" sheet been completed identifying the training aid?	Yes	No
c. Does the tool code block correctly reflect the types of tools identified on the D07 cards (i.e., common, special or both)?	Yes	No

C. Data sheet "D," Maintenance and Operator Task Analysis.

1. Do cards D01 through D03B contain the necessary identifying information to include the task code from data sheet C?	Yes	No
2. Does card D04 contain a brief narrative description of the maintenance task?	Yes	No
3. If the safety hazard code on the D04 card is coded "2" - critical or "1" - catastrophic, does the sequential task description contain warnings, cautions, or additional personnel?	Yes	No
4. If the safety hazard code is "1" or "2," is the contractor attempting to redesign the item in order to eliminate the safety hazard?	Yes	No
5. Does the safety hazard code agree with the maintainability consideration for safety on the B04 card?	Yes	No
6. Card D05 captures the narrative description of the maintenance action to be performed. Has the project manager/contractor established a model narrative description which can be followed as a benchmark for all "D" sheets?	Yes	No
a. Does it have a logical beginning and ending (i.e., does it start with fault isolation and end with a test)?	Yes	No
b. If other tasks (such as fault isolate and tests) are referenced in the narrative, are the referenced tasks performed at the same level of maintenance?	Yes	No
c. Using available hardware or drawings do the narrative steps flow in a logical manner (i.e., are the screws removed before the doorplate is removed, etc.)?	Yes	No
d. Has the contractor developed a standard method for identifying the tools and test equipment used in each step of the narrative?	Yes	No
e. Is the contractor properly employing his method of identifying tools in the narrative?	Yes	No

f. For tasks referenced in the narrative can the contractor explain and show by example how the time is being accounted for? See appendix A, this circular for instructions on the two correct methods for accounting for time. Yes No

7. On card D05 for each step in the narrative that consumes time, are the elapsed time and man-hours completed? Yes No

8. Do the D07 cards contain all tools, test equipment, spare/repair parts, and bulk items required to perform the maintenance task? Yes No

9. The item category code on the D07 card defines the type of item being listed (i.e., common tools, repair part, etc.). The codes are defined in DARCOM-P 750-16. However, they can be expanded and redefined by the contractor with PM approval. If this is the case, have all reviewers been provided with this information? Yes No

10. Does the quantity/task block reflect the number of tools used and the number of repair parts consumed? Yes No

Note. For common hardware the quantity can be a fraction to account for loss of nuts, bolts, screws, etc. In this case, the quantity/task is an estimate of what might be required.

11. On card D08B do the man-hours and elapsed times agree with the times input on the "C" sheet? Yes No

D. Data sheet "H", Supply Support Requirements

An "H" data sheet will be prepared for each item in the system/equipment subject to provisioning actions.

1. Data sheet "H" identifies supply support necessary for operation and maintenance of the system. Has a provisioning guidance conference been conducted or scheduled? (A guidance conference is normally conducted 90 days after contract (DAC).	Yes	No
2. In accordance with contract requirements does the contractor know to what indenture level the "H" data sheets are to be completed (i.e., has the Army defined a 100% parts provisioning list?).	Yes	No
3. Does the project/command/contractor understand that data sheet "H" is completed against the hardware breakdown and is not completed every time a D07 card is completed? (i.e., data sheet "H" is completed using the bill of materials list on each drawing).	Yes	No
4. Does the contractor know the types of provisioning lists (e.g., provisioning parts list (PPL), long lead time items list (LLTIL), common and bulk items list (CBIL), post conference list (PCL), etc.) that are required per the contract?	Yes	No
5. Is data sheet "H" or an LSA-36 output being provided to command provisioners for review?	Yes	No

SECTION IV

LSAR OUTPUT REPORTS

1. The LSA-01 report contains direct annual maintenance man-hours (AMMH) by SSC and level of maintenance. The report should be used in developing the QQPRI report and for the manpower authorization criteria (MACRIT) equations. The AMMH listed on this report can be used to determine the number of maintenance personnel that will be authorized to maintain the item. The equation for determining this as specified by AR 570-2, MACRIT is as follows:

$$\text{No. of SSC} = \frac{\text{(Direct AMMH + .4 (Direct AMMH)) X Density}}{\text{Available Man-hours}}$$

Available Man-hours (Wartime):

Organizational Level -	2500
DS Level	2700
GS Level	2900

a. Based on the above calculations, will the number of personnel change with the introduction of the new development item into a TOE?	Yes	No
b. Is the number of personnel viable when compared to existing TOE manpower structures?		
c. The LSA-01 report contains percentages relative to the number of tasks containing measured, predicted, and allocated data. If a maintainability demonstration or DT/OT test has been conducted has the contractor updated the file with measured data?	Yes	No
2. The first part of the LSA-03, reliability and maintenance summary contains the quantitative "A" sheet requirements and the status of these requirements based on the analysis conducted. In all cases, is the status value less than or equal to the requirement value? (i.e., is the contractor meeting the quantitative logistic requirements imposed?)	Yes	No
3. The LSA-04 report is a MAC. As such, are all maintenance functions that should be performed included in the report?	Yes	No

a. Are there maintenance functions identified that should not appear against a given reparable — Yes — No

b. Are the levels of maintenance identified in LSA-04 in consonance with the maintenance concept? — Yes — No

c. The tool and equipment numbers correspond to the numbers on the LSA-20 report. The LSA-20 report should be generated for peculiar tools and test equipment only. Check the tools identified against each maintenance function. Do the tools apply to the maintenance task? — Yes — No

4. The LSA-05 is a support item utilization summary. In general this report should be obtained for peculiar tools and test equipment and for repair parts.

a. Reviewing the LSA-05 report for tools and test equipment, are the levels of maintenance identified correct? — Yes — No

b. Do the number of tasks justify the peculiar tool or test equipment being placed at that level of maintenance? — Yes — No

c. Do repair parts for the levels of maintenance or remove/replace and repair tasks agree with the source, maintenance, and recoverability (SMR) codes displayed on the LSA-10 report? — Yes — No

d. The annual requirements quantity listed under the qty/task header represents the total number of parts required to support one system for one year. Multiplying this value by 100 gives an estimate of failure factor I, that appears on card B of the LSA-36 summary. Is failure factor I greater than or equal to the calculated value? — Yes — No

5. The LSA-07 and LSA-08 reports provide a list of tools and equipment used by SSC and level of maintenance.

a. For common tools does the list agree with existing TOE tool kits? — Yes — No

b. For peculiar tools and test equipment are the level(s) of maintenance correct and is the SSC using the items correctly? — Yes — No

6. Using the LSA-09 report for repair parts and the LSA-05 for spare/repair parts task identification a check can be made to insure that all parts used in maintenance tasks (i.e., the LSA-05) are identified for the provisioning progress (i.e., LSA-09). Have all the parts been identified? Yes No

7. If the development phase contract has progressed to a stage where draft manuals are available, the following checks can be made:

a. Does the LSA-04 correlate to the draft MAC? Yes No

b. Does the LSA-20 report agree with the tool and equipment list? Yes No

c. Does the LSA-01 and LSA-02 report information agree with the data contained in the QQPRI? Yes No

d. Do the LSA-26 through LSA-31 reports agree with the lists required for provisioning? Yes No

Appendix A

MAINTENANCE TASK REFERENCING

A-1. This appendix provides two methods for correctly referencing other maintenance tasks within the Logistic Support Analysis Documentation. Referencing standard maintenance tasks in the narrative portion of LSAR data sheet "D" can be accomplished in the same manner used by the finished maintenance manuals. Referencing a maintenance task can be accomplished by simply indicating the LSACN and task code as a step in the sequential task description.

A-2. Accounting for the man-hours and elapsed time of a referenced task can be handled in one of two ways. Method A indicates zero times on data sheet D for the referenced task. Proper accounting of time is accomplished by placing the times on data sheet C for the referenced task. In addition the task frequency of the referenced task should be the sum of the task frequencies for the referencing tasks. Method B indicates the actual times required to perform the referenced task on data sheet D. Thus the time to perform the referenced task is included as part of the referencing task. Proper accounting of time for the referenced task is accomplished by placing the times on data sheet C with a zero task frequency. Use of either method will assure proper man-hour and elapsed time accountability on all LSAR output summaries.

Appendix B

MANAGEMENT DOCUMENTATION
FOR LSA/LSAR REVIEW

This appendix provides the necessary management material to conduct an LSA/LSAR review. Included are sample copies of an LSAR package control chart, an LSAR package cover, a sample comment sheet, and an LSAR status sheet.

a. Package control chart. Provided is a sample control chart which if placed on a chalk board in the review area provides a running status report as to the progress of the review. The control chart lists the package numbers and shows the status of the packages in the review process.

b. Package cover sheet. The cover sheet is used as a concurrence form for each of the packages. It should be noted that each representatives organization is assigned an identifier, that is used to identify the proponent of each comment (e.g., maintenance engineering, D-4). This can be of value when further discussion of a comment may be required at a later date. The routing information on the cover sheet is placed on the control chart as each activity completes its review of the package.

c. LSAR comment sheet. This sheet provides a means of identifying comments by LSAR package number, LSACN and task code. It also contains a column to identify the joint Contractor/Government agreement as to the action required on the comment. It should be the goal of the review team to resolve all comments at the meeting. Comments that do require further research must be appropriately identified for follow-up action. Comments that are sequentially listed by package number provide a means of insuring that appropriate action is taken on each comment.

d. LSAR review status form. This form provides one method of recording the number of packages reviewed at a specific review and pertinent data as to when the contractor was provided the comments. This form, coupled with copies of the comment sheets applicable to each LSA package, provides an audit trail for each comment submitted on each package. Follow-up reviews can then insure that each comment has been incorporated as agreed.

Appendix C

PATRIOT LSAR REVIEW PROCEDURES

REPRESENTATIVE.

US Army Missile Materiel Readiness Command

TASK.

Review as required to insure accuracy and adequacy of data provided. The review should address, as a minimum, the following:

a. Worksheet B.

(1) Maintenance concept.

(2) Failure analysis.

(3) Maintainability considerations.

b. Worksheet C.

(1) Insure that appropriate task codes have been assigned to all applicable maintenance tasks. (Look for missing tasks.)

(2) Verify entry of appropriate codes in the following areas:

C04(11A) Facility Requirements (Note. If Y, an F sheet is required).
C04(11) Tool Code should = D07 Category Code.
S = Special
C = Common
B = Special and Common
N = None

Note. If S or B, check item category code D07-2 and check package for E worksheet.
C04-2 Task Frequency Entry.
C04-4 Predicted Time (same as D08).

c. Worksheet D.

(1) Check D01 task code against C04 task.

(2) Check D01 LSACN structure.

(3) Check D04 nomenclature against ADP data.

(4) Check DO 4 hazard code entry and insure hazards are identified with appropriate warnings or caution notes in D05. Insure such notes precede the step where hazard is encountered.

Note. Two man rule applies when performing a high voltage task and when remote rotation of antenna is required.

(5) Check D05 procedure steps against maintenance design disclosure (MDD) and drawings as required to insure adequacy of the data. Insure that D05 notes referencing other tasks to be accomplished are used only to identify:

(a) Tasks performed at the same maintenance level.

(b) Exit step from one task code to another at the same or higher maintenance level.

Note. Portions of task codes may not be referenced in note.

(6) Check D05 requirements for tools, test equipment, adaptors, repair parts, and other materiels. Insure these items are identified in the D07 data contained in the ADP printout.

(7) Spot check satisfactory incorporation of previously provided review team comments.

d. Worksheet H.

Verify that data on the LSA-36 provisioning summary report meets the needs of provisioning. Use attached check sheet to identify and document missing data.

Appendix C--Continued

REPRESENTATIVE.

US Army Air Defense School
US Army Missile and Munitions Center and School.

TASK.

Review as required to insure accuracy and adequacy of the data provided. The review should address, as a minimum, the following:

a. Worksheet C.

(1) C04-1 Task Code. Insure that the task codes assign the maintenance action to the appropriate maintenance level.

(2) C04-6 Skill Level.

(3) C04-7 SSC. (Same as D08.)

(4) C04-8 Skill specialty evaluation.

(5) C04-9 No. of men. (C04-4B X C04-9 = C04-10B)

(6) C04-4B predicted elapsed time.

(7) C04-10B Predicted man-hours.

(8) C04-11B Training equipment. (If Y, check for E Worksheet.)

b. Worksheet D.

Check D05 procedures against MDD and drawings as required to insure adequacy of the data.

Note: The LSAR data should, when supplemented with appropriate schematics, drawings and MDD circuit descriptions, block diagrams and preliminary maintenance information, provide an adequate baseline for training.

REPRESENTATIVE.

US Army Materiel Readiness Support Activity

TASK.

a. Check each LSAR package selected for review to insure that adequate data is available for review team members to conduct a detailed analysis.

b. Review LSAR worksheets and summaries to the extent required to establish confidence level in the data base and to insure compliance with the LSAR specification.

c. Provide technical assistance to project manager office (PMO) representative and to the review team members.

Appendix C--Continued

B SHEET

B02	blk 3	- Check for entry of 1.00 or 1.90.
B04	blk 1,2,3,	- Check for entry in all blocks.
B05	blk 1	- Review the entries to determine whether the design provisions are adequate from the maintenance/ maintainability viewpoint.
	blk 2	- Check for entry of "Y" or "N" to indicate whether the items listed are required for performing maintenance. Details should be provided on card B09.
B06	blk a	- Check for pertinent failure modes associated with the item.
	blk b	- Should identify the symptoms that would assist in isolating and diagnosing the failure.
	blk c	- Check to see if entry describes the effect a failure would have on end item/system operation and indicates whether the system would be completely inoperable, inoperable in some modes, or operable at a degraded level of performance.
	blk d	- The percentage that each failure mode contributes to the overall failure rate - must = 100 percent.
	blk e	- Check for repair time entry.
	blk f	- Check to insure that task codes are used to associate each failure mode with the maintenance task(s) listed on data sheets C and D.
B07	blk 1	- Check to insure that entry describes the function of the item.
B08	blk 1	- Check to insure entry is a data chain to allow for the various requirements such as fail safe and environmental requirements, etc.
B09	blk 1	- Check to insure that entry is in a concise and clear statement of the maintenance and support concept for the system/equipment at a defined level of readiness or in a specified condition in support of the operational requirement. Information presented shall be the basis for follow-on decisions and provide guidance for detailed approaches set forth on data sheets C and D.

B10	blk 1	- Check for amplifying remarks when any maintainability considerations (Card B05) are coded "N".

C SHEET

C02	blk 3	- Check for entry of 1.00 or 1.90
C04	blk 1	- Insure that appropriate task codes have been assigned to all applicable maintenance tasks. (Look for missing tasks).
	blk 2	- Check for entry for all task codes.
	blk 3	- Check for entry for each task code. (Should be same as A04 blk 2).
	blk 4	- Check for entry in predicated column.
	blk 5	- Check for entry in "Y" or "N," If a "Y" appears in this column the first character of the task code must be a "K."
	blk 11A	- If code "Y" is entered, data sheet F must be completed.
	blk 11D	- Check for entry of "S," "C," "B," or "N" to denote if a peculiar tool, common tool, both peculiar and common tools, or no tools are required to do the task. If "S" or "B" is entered, a data sheet E must be prepared.

D SHEET

D01	blk 1	- Check LSACN structure.
	blk 2	- Insure that task code matches the task code in C04 blk 1.
D02	blk 3	- Check for entry of 1.00 or 1.90.
D04	blk 1	- Check nomenclature against ADP data.
	blk 2	- Check for HAZARD code entry and insure hazards are identified with appropriate warning/caution notes in D05 (4 - negligible, 3 - marginal, 2 - critical, 1 - catastrophic). Insure such notes precede the step where hazard is encountered. Note. Two-man rule applies when performing a high voltage test and when remote rotation of antenna is required. These two men will be reflected in the task code on the C04 blk 1.

Appendix C--Continued

D05	blk 2	- Check procedure steps against MDD's and drawings as required to insure adequacy of the data. Insure that D05 notes referencing other tasks to be accomplished are used only to identify: a. tasks performed at the same maintenance level, b. exit step from one task code to another at the same or higher maintenance level. Check D05 requirements for tools, test equipment, adapters, repair parts and other material. Insure these items are identified in the D07 data contained in the ADP printout. Spot check satisfactory incorporation of previously provided review team comments.
D09	blk 1	- Check SSC to insure that those codes correspond with the SSC's on the C04 and D08 cards.

Appendix C--Continued

PATRIOT
LSAR "H" SHEET REQUIREMENTS

1. H01A/1, Manufacturer's part number -- Required-provided by contractor.

2. H01A/2, Reference number category code (RNCC) -- Not required in LSAR.

3. H01A/3, Reference number format code (RNFC) -- Required-provided by contractor.

4. H01A/4, Federal supply code for manufacturers (FSCM) -- Required-provided by contractor.

5. H01A/5, Item Name -- Required-provided by contractor.

6. H01A/6, Item category code (ICC) -- Required-provided by contractor.

7. H01A/7, Quantity/end item -- Required-provided by contractor.

8. H01A/8, Type of item -- Required-provided by contractor.

9. H01A/9, Essentiality code -- Required-provided by contractor.

10. H01A/10, Shelf life -- Required-provided by contractor.

11. H01A/11, Production lead time -- Required-provided by contractor.

12. H01A/12, Unit of measure -- Required-provided by contractor.

13. H01A/13, Total quantity recommended -- Not required.

14. H01B/17-18-19, Length, width, height dimensions (unpacked) -- Required-provided by contractor.

15. H01B/20, Unit of measure -- Relates to block 17-18-19 -- Required-provided by contractor

16. H01b/21, Weight -- Required-provided by contractor.

17. H01B/22-23, Relates to block 21 -- Required-provided by contractor.

18. H01B/24, Unit of issue (UI) -- Required-provided by contractor.

19. H01B/25, Unit of issue price, -- Required-provided by contractor.

20. H01B/26, Conversion factor -- Required-provided by contractor.

Appendix C--Continued

21. H01B/27, Inventory management Processing code (IMPC) -- Required.

22. H02/29, Additional reference numbers -- Used by contractor as required but do not duplicate part number in H01/1.

23. H02/30, Reference number category code (RNCC) -- Not required in LSAR.

24. H02/31, Reference number format code (RNFC) -- To be provided by contractor if entry is made in H02/29.

25. H02/32, Federal supply code for manufacturers (FSCM) -- To be provided by contractor if entry is made in H02/29.

26. H02/33-34, Maximum allowable operating time (MAOT), maintenance action code (MAC) -- Required-provided by contractor.

27. H02/35, Unit price -- Required-provided by contractor.

28. H02/36, Quantity unit pack -- Required-provided by contractor.

29. H03/38, National stock number (NSN) -- Not required initially in LSAR -- If Government determines NSN's are needed in LSAR, they will be provided by MIRCOM for incorporation by the contractor.

30. H03/39, Physical security/pilferage code (PSPC) -- Required-provided by contractor.

31. H03/40, Special handling code -- Required-provided by contractor. Enter "E" for explosive items, otherwise leave blank.

32. H03/41, Phased provisioning code (PPC) -- Required-provided by contractor.

33. H03/42, Procurement control identifier (PCI) -- This item will be left blank unless otherwise specified/provided by MIRCOM.

34. H03/43, CONUS turnaround time -- Required-provided by contractor.

35. H03/44, Turnaround time (TAT) (repair cycle) -- Required-provided by contractor (conflict of definition between DODI 4140.42 and AMCP 750-16).

36. H03/45, Replacement task distribution -- Required-provided by contractor.

37. H03/46, Army class managing activity (ACMA) -- Not required.

Appendix C--Continued

38. H04/48-50, Basis of issue -- Required-provided by contractor.

39. H04/51, Basic issue item category code (BIC) -- Required-provided by contractor.

40. H04/52, Basic issue item list quantity (BIIL Qty) -- Required-provided by contractor.

41. H05/54, LSA control number -- Required-provided by contractor.

42. H05/55, Source maintenance and recoverability code (SMR) -- Required-provided by contractor. The last card column is for the D-MIL code. It should be part of the LSAR per AR 708-1, change 13 and in accordance with DODI 4160.21-N-1. This is covered in the provisioning scope of work.

43. H05/56, 57, 58, Failure factors -- Required-provided by contractor but as of this time are not under contract.

44. H05/59, Indenture code (INDCD) -- Required-provided by contractor entries shall be in accordance with paragraph 5.1.5.2.1 and Option #4 as defined in paragraph 5.1.5.2.2 of MIL-STD 1552.

45. H05/60, Qty/assy -- Required-provided by contractor.

46. H05/61, Remarks -- Contractor may use as required.

47. H05/63, Provisioning list item sequence numbers (PLISN) -- Required-the contractor shall provide PLISN's in accordance with the provisioning scope of work, paragraph IIA (supplemental instructions to provisioning scope of work).

48. H06/64, Next higher assembly PLISN -- Required-NHA PLISN shall be provided by the contractor in accordance with provisioning scope of work, para IIM (Supplemental instructions to provisioning scope of work).

49. H06/65, Same as PLISN -- Required-provided by contractor.

50. H06/66, Prior Item PLISN -- Required-provided by contractor.

51. H06/67, Maintenance task distribution -- Required-provided by contractor.

52. H07/69, Overhaul/kit/set PLISN -- Required-provided by contractor.

53. H07/70, Overhaul quantity -- Required-provided by contractor.

Appendix C - Continued

54. H07/71, Reference designation -- Not required.

55. H07/72, Long reference number code (LRNC) -- Not required if entry is made in H07/67.

56. H07/73, Reference designation code (RDC) -- Not required if entry is made in H07/67.

57. H08/75, Usable on codes -- Required-provided to contractor for input by MIRCOM.

58. H09/77, 78, 79, 80, 81, 82, TM Designation:

Blk 77, TM designation -- Not required.
Blk 78, TM change -- Not required.
Blk 79, TM indenture code -- Not required.
Blk 80, Figure number -- Not required.
Blk 81, Item number -- Not required.
Blk 82, Provided to contractor by MIRCOM

59. H10/84, Change authority number -- Required-provided by contractor in accordance with paragraph IIIA of provisioning scope of work (supplemental instructions to provisioning scope of work).

60. H10/85, Interchangeability code (IC) -- Required-provided by contractor.

61. H10/86, Serial number effectivity -- Required-provided by contractor.

62. H10/87, Provisioning control code (PCC) -- Required-provided to contractor for input by MIRCOM.

63. H10/88, Total item changes (TIC) -- Not required.

64. H10/89, Replaced or superseding PLISN -- Required-provided by contractor.

65. H20/91, Change authority number -- Not required.

66. H20/92, Quantity shipped -- Not required.

67. H20/93, Quantity procured -- Not required.

68. H30/95, Provisioning nomenclature -- Not required.

The proponent of this publication is the Associate Director for Integrated Logistics Support, Directorate for Readiness, Headquarters, DARCOM. Users are invited to send comments to the Commander, DARCOM, ATTN: DRCRE-IA, 5001 Eisenhower Ave, Alexandria, VA 22333.

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