DATA ITEM DESCRIPTION

Form Approved
OMB No. 0704-0188

1. TITLE	2. IDENTIFICATION NUMBER
System/Design Trade Study Report	DI-ILSS-81021

3. DESCRIPTION/PURPOSE

3.1 The Trade Study Report is used to document the decision rationale for designated trade studies. Trade studies may involve a variety of engineering techniques including complete or partial simulation of operations or maintenance. Trade Studies are accomplished at different levels, thus reporting data may vary considerably. As appropriate, Trade Study Reports will document the results of system effectiveness, life cycle cost and risk analysis.

4 APPROVAL DATE (YYMMDD)	5. OFFICE OF PRIMARY RESPONSIBILITY (OPR)	6a DTIC APPLICABLE	6b GIDEP APPLICABLE
900702	TM		

7 APPLICATION/INTERRELATIONSHIP

7.1 This DID contains the format and preparation instructions for tasks 202, 205, 301, 302, 303, and 401 called out in MIL-STD-1388-1A.

7.2 Trade Studies to support the ongoing design definition activity are accomplished at various points in the acquisition cycle and are not limited to just one phase of a program. Specific trade studies and their attendant reports are usually specified by the procuring activity.

8 APPROVAL LIMITATION	9a APPLICABLE FORMS	9b. AMSC NUMBER
		A4964

10 PREPARATION INSTRUCTIONS

10.1 General. Trade Study Reports shall, as a minimum, contain the information set forth below. The content of the study report is encouraged to consist of extracts from the designer's notebook, contractors' internal memorandums, minutes of meetings, reductions of presentation charts, and formal engineering reports.

10.2 Content Requirement.

10.2.1 Identification and listing of Functional and Technical Design Requirements for Tradeoff. Identify and list the functional and technical design requirements which are subject to tradeoff. The functional requirement is listed first, and then related technical design requirements are listed. For example, "Determine quantity of loaded propellant" would be a functional requirement and " The propellant loading measurement system must be capable of indicating the quantity of propellant loaded to each tank to an accuracy of .35% by weight of propellant required" would be a design requirement. Immediately following, state each listed requirement, if available; e.g., "This reference shall consist of the title, file number, date, page number, and paragraph number from which the requirement statement was extracted."

10.2.2 Identification of possible Design Approaches and Then Design Characteristics. List possible approaches and identify significant design characteristics of each possible design. This list would be generated concurrently with the above requirements. Attainable design approaches shall be pursued considering technical capabilities, cost, time schedules, system effectiveness, risk, and resources limitations or other constraints as specified in system requirement documentation.

11 DISTRIBUTION STATEMENT

DISTRIBUTION STATEMENT A: Approved for public release; distribution [illegible]

Block 7, Application/Interrelationship (Continued)

7.3 This DID is applicable to the acquisition of military systems, equipment and facilities.

7.4 Trade studies and Trade study Reports must be compatible with the contractual System Engineering Management Plan, DI-E-7144.

Block 10, Preparation Instructions (Continued)

For each potential and alternative design approach listed, the report shall identify significant characteristics applicable to each. These characteristics shall relate and be restricted to those attributes of the design approach which bear most directly on its feasibility in relation to the requirements set forth above. The significant characteristics shall reflect predicted impact on such factors as cost, maintainability, reliability, personnel and training requirements, technical order, schedules, performance, survivability, safety, growth potential , facilities, security (clandestine vulnerabilitty) transportability, procurabilty, and producilibility.

10.2.3 Comparison of Matrix of Design Approaches. The matrix shall compare the design characteristics for each design approach to determine the degree to which the design approaches satisfy the functional and technical design requirements. The objective is to facilitate rapid comparison and evaluation of potential design approaches and to allow preliminary screening out of those design approaches that are inconsistent with the functional and technical design requirements. For submittal purposes, the contractor should attempt to combine the matrix information required with the information required in paragraph b. above. Where applicable, include cost effectiveness models and life cycle cost analysis data.

10.2.4 Selection of Design Approach. Select the most promising design approach and provide reasons to substantial the selection. The reasons given for the selection shall be in the form of schematic diagrams, outline drawings. interface details, functional diagrams, reliability data, statistic interference data, and narrative and any other backup data deemed necessary to support the selection. The reasons shall cover the requirements the selected approach imposes on other areas of the systems. The requirements impose on facilities, training, training equipment, human performance, and procedural data shall be determined.

10.2.5 Trade Study Report Index. The Trade Study Report Index shall identify all trade studies required, the studies completed, and those to be completed.

10.3 Format. Contractor format is acceptable.