

DATA ITEM DESCRIPTION

TITLE: Mission/Task Analysis Report (MTAR)

Number: DI-SESS-81635

Approval Date: 20020912

AMSC Number: F7482

Limitation: N/A

DTIC Applicable: No

GIDEP Applicable: No

Preparing Activity: F/11

Applicable Forms: None

Use/Relationships: The MTAR documents the results of the mission analysis, detailed task analysis, and human performance evaluations used to establish the job performance requirements (JPRs) for an aircrew training system (ATS). The MTAR is used to establish JPRs from aircraft mission requirements and to derive task information that fulfills mission objectives.

This Data Item Description (DID) contains the format and content preparation instructions for the data product generated by the specific and discrete task requirements for this data included in the contract. This DID is applicable to all ATS acquisition programs.

This DID replaces DI-ILSS-80568.

Requirements:

1.0 General. The MTAR establishes the JTRs for each type aircrew and ground personnel to be trained by the ATS. They are established upon accomplishment of the mission analysis, task analysis, and human performance evaluations associated with each aircraft type. Aircrew JPRs contain a hierarchy of levels of detail and include identifying information, training factors, and task activity description and support information.

2.0 Format. Contractor format is acceptable.

3.0 Content.

3.1 Mission Analysis. This section shall contain analysis results information about each mission aircraft. Results will document the inductive methodology used to examine the operational requirements and missions of a particular aircraft. The analysis results will show the kinds and extent of human involvement required to fulfill mission objectives. Results from each mission analyzed shall include the following:

3.1.1 Mission objective. This section shall contain the specific results or outcomes associated with successful accomplishment of the mission.

3.1.2 Mission scenario. This section shall describe the full range of conditions under which a mission profile is or could be performed in a realistic operational environment. A mission scenario includes threat conditions expected to be encountered/engaged during the mission. It shall also contain the information required to determine the operational conditions of

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performance and workload requirements of crew members for each mission.

3.1.3 Mission segments. This section shall describe the time-based segments for each of the missions identified above. Each segment consists of a collection of related functions and tasks with a common outcome, timing, and contribution to total mission performance. Listing of mission segments will correspond to the basic aircraft's mission and should include the following breakout:

- a. Mission planning
- b. Preflight system checkouts
- c. Load operations
- d. Takeoff and launch
- e. Departure and climb to altitude/heading
- f. Enroute navigation during cruise
- g. Aerial refueling
- h. Rendezvous with support aircraft and penetration to target area/drop point/forward base
- i. Airdrop/weapons employment
- j. Enroute, defensive maneuver and electronic warfare tactics
- k. Load/unload operations
- l. Egress from target area
- m. Recovery, approach, and landing
- n. Post-flight procedures
- o. Mission debrief

3.1.4 Mission profile. This section shall describe each mission profile and shall include the following information.

3.1.4.1 Mission map descriptions. Map(s) showing terrain and other discrete events that were encountered at fixed points along the mission. Each map/chart shall include the following:

- a. Location of takeoff airfield(s), navigation, penetration target points, corridors, and areas of operation.
- b. Rendezvous point for air refueling, AWACS, or supporting/penetrating aircraft
- c. Check points to be used
- d. Expected flight paths and divert routes including turn points and way points
- e. Maximum range and location of acquisition and engagement threats, and terminal target defenses
- f. Linear distance scale superimposed on the flight path

3.1.4.2 Graph and scale descriptions. Graphs and scales depicting factors that changed or could have changed during the course of the mission. Beneath the chart/map show a scale for elapsed time. Paralleling the time scale include the following:

- a. Graph indicating expected altitude
- b. Graph indicating the probability of encountering enemy defenses overlaying

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- acquisition radars, attack systems, and air-to-air threats
- c. Graph indicating anticipated airspeeds
- d. Graph indicating transverse and angular acceleration
- e. Scale indicating frequency of communication with ground and friendly aircraft
- f. Scale depicting relative crew workload

3.1.4.3 System and operator requirements. Results of time line analysis, link-type analysis, and crew coordination and workload studies. This section shall identify those aircraft systems/subsystems each operator interacts with, types of skills required to operate these systems, and human factors considerations.

3.2 Detailed task analysis. This section shall contain task analysis results information about each aircrew and ground personnel to be trained in the ATS. All critical tasks shall be identified and will be derived from mission-related functions. Critical tasks include all tasks which break down into further subtasks, operating procedures, or describe a discrete set of responses.

3.2.1 Task analysis record. This section shall document the task record(s) of each task for each personnel type identified above. Each record shall contain the following types of information:

- a. Task identifier information. Includes numerical code and task identifier
- b. Task description. Includes the purpose, result/outcome, desired characteristics, task decomposition/response requirements, and controllable skilled response demands/variables
- c. Information requirements. Includes input information, decision/judgmental requirements, information processing information, control adequacy of feedback response, and acceptable feedback result.
- d. Diagram requirements. Includes task diagrams to clarify task descriptions where applicable. Diagram types could include tabular, functional flow, hierarchical input/output process, and operational sequence
- e. Conditions of performance. Includes environmental, situational/temporal context, resources, tools, and data
- f. Human performance evaluations. Includes variables/factors affecting skilled performance, common errors, contingencies/common problems, and human limitations
- g. Learning considerations. Includes psychomotor/cognitive difficulty levels, practice levels, and areas requiring educational emphasis

3.3 MTAR updates. This section shall contain a summary listing of pages changed and the date each change occurred with each revision to the MTAR.

3.4 Appendix. The appendix contains supporting data and detail necessary to complement the detailed task analysis. It shall contain detailed information on the master task listing, which describes the training tasks required to qualify each type aircrew and ground personnel in the ATS/aircraft. Includes proficiency codes for each task and identifies which tasks require crew coordination.

4.0 End of DI-SESS-81635