

Department of the Army  
Pamphlet 700-28

Logistics

# **Integrated Logistic Support Program Assessment Issues and Criteria**

Headquarters  
Department of the Army  
Washington, DC  
15 April 1994

**Unclassified**

# ***SUMMARY of CHANGE***

DA PAM 700-28

Integrated Logistic Support Program Assessment Issues and Criteria

This revision--

- o Implements the current DOD acquisition guidance.
- o Adds sections to each chapter to address packaging, handling, and storage and to address environmental considerations in the materiel acquisition process.
- o Addresses Decision Review Issues/Criteria for non-developmental Items (chaps 6 and 7).

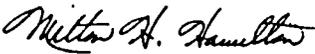
Logistics

Integrated Logistic Support Program Assessment Issues and Criteria

By Order of the Secretary of the Army:

GORDON R. SULLIVAN  
General, United States Army  
Chief of Staff

Official:



MILTON H. HAMILTON  
Administrative Assistant to the  
Secretary of the Army

**History.** This UPDATE printing publishes a revision of this pamphlet. This publication has been reorganized to make it compatible with the Army publishing database. No content has been changed.

**Summary.** This pamphlet provides guidance for assessing the integrated logistic support

(ILS) program status at key decision milestones in the materiel acquisition process. Issues and criteria are included to assist in assessing the adequacy of ILS planning for developmental, nondevelopmental, and materiel change systems and those systems being displaced by the new or improved systems. The guidance is for use in conjunction with AR 700-127.

**Applicability.** This pamphlet applies to the Active Army, Army National Guard, and U. S. Army Reserve. It specifically applies to the logistician, materiel developers, combat developers, trainers, independent evaluators, users, program executive officers/program managers, and HQDA staff elements responsible for accomplishing or assessing the adequacy of one or more ILS program elements.

**Proponent and exception authority.** The proponent for this pamphlet is the Deputy Chief of Staff for Logistics (DCSLOG). The DCSLOG has the authority to approve exceptions to this pamphlet. The DCSLOG may delegate this authority in writing, to a division chief under DCSLOG supervision

within the proponent agency in the grade of colonel or the civilian equivalent.

**Interim changes.** Interim changes to this pamphlet are not official unless they are authenticated by The Administrative Assistant to the Secretary of the Army. Users will destroy interim changes on their expiration dates unless sooner superseded or rescinded.

**Suggested improvements.** Users are invited to send comments and suggested improvements on DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to HQDA, ATTN: DALO-SMM, WASH DC 20310-0500.

**Distribution.** Distribution of this publication is made in accordance with the requirements of DA Form 12-09-E, block number 2557, intended for command level D for Active Army, Army National Guard, and E for U.S. Army Reserve.

Contents (Listed by paragraph and page number)

Chapter 1

Introduction, page 1

Purpose • 1-1, page 1

References • 1-2, page 1

Explanation of abbreviations and terms • 1-3, page 1

Target audience • 1-4, page 1

Assessment progression • 1-5, page 1

Application guidelines • 1-6, page 1

Additional assessment considerations • 1-7, page 2

Manpower and personnel integration (MANPRINT) • 1-8, page 2

Environmental planning • 1-9, page 2

Replaced and displaced systems • 1-10, page 2

Chapter 2

Milestone I Decision Review

Issues/Criteria, page 15

Section I

Design Influence, page 15

Safety and health hazard assessment • 2-1, page 15

Energy efficiency • 2-2, page 15

Other design parameters • 2-3, page 15

Section II

Maintenance Planning, page 15

General • 2-4, page 15

Other maintenance considerations • 2-5, page 15

Section III

Manpower and Personnel, page 16

Operator/Crew • 2-6, page 16

Maintenance • 2-7, page 16

Supply • 2-8, page 16

Transportation—vehicle operators • 2-9, page 16

Analysis Documentation • 2-10, page 17

Section IV

Supply Support, page 17

General • 2-11, page 17

Planning documentation—provisioning plan • 2-12, page 17

Section V

Packaging, Handling, and Storage (P,H&S), page 17

General • 2-13, page 17

Packaging • 2-14, page 17

Handling and storage • 2-15, page 18

Security • 2-16, page 18

\*This pamphlet supersedes DA Pam 700-28, 4 September 1987.

## Contents—Continued

### Section VI

*Support Equipment and Test, Measurement, and Diagnostic Equipment (TMDE)*, page 18  
General • 2–17, page 18  
Supply • 2–18, page 18  
Maintenance • 2–19, page 18  
Ancillary operational equipment • 2–20, page 19

### Section VII

*Training and Training Devices*, page 19  
General • 2–21, page 19  
Institutional training • 2–22, page 19  
Unit training • 2–23, page 19  
New equipment training (NET) • 2–24, page 20  
Planning documentation • 2–25, page 20

### Section VIII

*Technical Data*, page 20  
Equipment manuals • 2–26, page 20  
Authorization documents • 2–27, page 20  
Drawings • 2–28, page 20

### Section IX

*Computer Resources Support*, page 20  
General • 2–29, page 20  
System or end item operation • 2–30, page 20  
System or end item maintenance • 2–31, page 21  
Post deployment software support (PDSS) • 2–32, page 21  
Management planning • 2–33, page 21

### Section X

*Transportation and Transportability*, page 21  
Mobility—strategic and tactical • 2–34, page 21  
Transportability • 2–35, page 21  
Transportability report and engineering analysis • 2–36, page 22

### Section XI

*Facilities*, page 22  
Base operations and services support • 2–37, page 22  
Logistical • 2–38, page 22  
Training • 2–39, page 22  
Planning documentation—support facility annex • 2–40, page 22

### Section XII

*Standardization and Interoperability*, page 22  
General • 2–41, page 22  
Command, control and communications (CCC) • 2–42, page 22  
Battlefield surveillance and target designation and acquisition systems • 2–43, page 23  
Ammunition • 2–44, page 23  
Petroleum, oils, and lubricants (POL) • 2–45, page 23  
Components and repair parts • 2–46, page 23  
Aircraft servicing • 2–47, page 23

### Section XIII

*Reliability, Availability, and Maintainability (RAM)*, page 23  
Reliability • 2–48, page 23  
Availability and system readiness objective • 2–49, page 24  
Maintainability • 2–50, page 24

### Section XIV

*Support Management and Analysis*, page 24  
Support management • 2–51, page 24  
Support analysis • 2–52, page 25

### Section XV

*Cost Analysis and Funding*, page 26  
Logistics-related R&D • 2–53, page 26

Cost analysis documentation • 2–54, page 26

### Section XVI

*Materiel Fielding Planning*, page 26  
Developer • 2–55, page 26  
Gaining commands • 2–56, page 26

### Section XVII

*Environmental Planning*, page 26  
Safety • 2–57, page 26  
Design • 2–58, page 26  
Operation and support • 2–59, page 26  
Testing • 2–60, page 26  
Hazardous material • 2–61, page 27  
Environmental documentation • 2–62, page 27  
Packaging, handling, and storage • 2–63, page 27  
Demilitarization, EOD, and disposal • 2–64, page 27  
Other • 2–65, page 27

## Chapter 3

### Milestone II Decision Review

*Issues/Criteria*, page 27

#### Section I

*Design Influence*, page 27  
Safety and health hazard assessment • 3–1, page 27  
Energy efficiency • 3–2, page 28  
Other design parameters • 3–3, page 28

#### Section II

*Maintenance Planning*, page 28  
General • 3–4, page 28  
Unit/AVUM level • 3–5, page 28  
DS and GS (AVIM) levels • 3–6, page 28  
Depot level • 3–7, page 29

#### Section III

*Manpower and Personnel*, page 29  
Operator/Crew • 3–8, page 29  
Maintenance • 3–9, page 30  
Supply • 3–10, page 30  
Transportation—vehicle operators • 3–11, page 31  
Analysis documentation • 3–12, page 31

#### Section IV

*Supply Support*, page 31  
General • 3–13, page 31  
Retail • 3–14, page 32  
Wholesale • 3–15, page 33  
Planning documentation—provisioning plan (PP) • 3–16, page 33

#### Section V

*Packaging, Handling, and Storage*, page 33  
Packaging • 3–17, page 33  
Handling and storage • 3–18, page 34  
Security • 3–19, page 34

#### Section VI

*Support Equipment and TMDE*, page 34  
Supply • 3–20, page 34  
Maintenance • 3–21, page 34  
Ancillary operational equipment • 3–22, page 36

#### Section VII

*Training and Training Devices*, page 36  
Institutional training • 3–23, page 36  
Unit training • 3–24, page 37  
New Equipment Training (NET) • 3–25, page 37

## Contents—Continued

Planning documentation • 3–26, *page 38*

### Section VIII

*Technical Data*, *page 38*

Equipment manuals • 3–27, *page 38*

Authorization documents for using units and support units. • 3–28, *page 39*

Drawings • 3–29, *page 39*

### Section IX

*Computer Resources Support*, *page 39*

General • 3–30, *page 39*

System or end item operation • 3–31, *page 39*

System or end item maintenance • 3–32, *page 40*

PDSS • 3–33, *page 40*

Management planning • 3–34, *page 40*

### Section X

*Transportation and Transportability*, *page 40*

Mobility—strategic and tactical • 3–35, *page 40*

Transportability • 3–36, *page 40*

Transportability report and engineering analysis • 3–37, *page 42*

### Section XI

*Facilities*, *page 42*

Base operations and services support • 3–38, *page 42*

Logistical • 3–39, *page 42*

Training • 3–40, *page 44*

Planning documentation—support facility annex • 3–41, *page 44*

### Section XII

*Standardization and Interoperability*, *page 44*

General • 3–42, *page 44*

Command, Control, and Communication (CCC) • 3–43, *page 44*

Battlefield surveillance and target designation and acquisition systems • 3–44, *page 45*

Ammunition • 3–45, *page 45*

Petroleum, oils, and lubricants (POL) • 3–46, *page 45*

Components and repair parts • 3–47, *page 45*

Aircraft servicing • 3–48, *page 45*

### Section XIII

*Reliability, Availability, and Maintainability*, *page 46*

Reliability • 3–49, *page 46*

Availability and system readiness objective • 3–50, *page 46*

Maintainability • 3–51, *page 47*

### Section XIV

*Support Management and Analysis*, *page 48*

Support management • 3–52, *page 48*

Support analysis • 3–53, *page 49*

### Section XV

*Cost Analysis and Funding*, *page 50*

Logistics-related research and development • 3–54, *page 50*

Logistics-related investment—procurement • 3–55, *page 50*

Cost analysis documentation • 3–56, *page 50*

### Section XVI

*Materiel Fielding Planning*, *page 50*

Developer • 3–57, *page 50*

Gaining commands—mission support plans • 3–58, *page 50*

### Section XVII

*Environmental Planning*, *page 50*

Safety • 3–59, *page 50*

Technical data • 3–60, *page 51*

Operation and support • 3–61, *page 51*

Packaging, handling, and storage • 3–62, *page 51*

Demil, EOD, and disposal • 3–63, *page 51*

Other • 3–64, *page 51*

## Chapter 4

### Milestone III Decision Review

**Issues/Criteria**, *page 51*

#### Section I

*Design Influence*, *page 51*

Safety and health hazard assessment • 4–1, *page 51*

Energy efficiency • 4–2, *page 52*

Other design parameters • 4–3, *page 52*

#### Section II

*Maintenance Planning*, *page 52*

General • 4–4, *page 52*

Unit, DS, and GS (or AVUM and AVIM) levels • 4–5, *page 52*

Depot level • 4–6, *page 52*

#### Section III

*Manpower and Personnel*, *page 52*

Operator/Crew • 4–7, *page 52*

Maintenance • 4–8, *page 53*

Supply • 4–9, *page 53*

Transportation—vehicle operators • 4–10, *page 54*

Analysis documentation • 4–11, *page 54*

#### Section IV

*Supply Support*, *page 54*

General • 4–12, *page 54*

Retail • 4–13, *page 55*

Wholesale • 4–14, *page 56*

Planning documentation—Provisioning Plan (PP) • 4–15, *page 56*

#### Section V

*Packaging, handling, and storage*, *page 56*

Packaging • 4–16, *page 56*

Handling and storage • 4–17, *page 57*

Security • 4–18, *page 57*

#### Section VI

*Support Equipment and TMDE*, *page 57*

Supply • 4–19, *page 57*

Maintenance • 4–20, *page 57*

Ancillary operational equipment • 4–21, *page 58*

#### Section VII

*Training and Training Devices*, *page 59*

Institutional training • 4–22, *page 59*

Unit training • 4–23, *page 59*

NET • 4–24, *page 60*

Planning documentation • 4–25, *page 60*

#### Section VIII

*Technical Data*, *page 60*

Equipment manuals • 4–26, *page 60*

Authorization documents • 4–27, *page 62*

Drawings • 4–28, *page 62*

#### Section IX

*Computer Resources Support*, *page 62*

System or end item operation • 4–29, *page 62*

System or end item maintenance • 4–30, *page 62*

PDSS • 4–31, *page 62*

Management planning—CRMP • 4–32, *page 62*

#### Section X

*Transportation and Transportability*, *page 63*

## Contents—Continued

Mobility—strategic and tactical • 4-33, *page 63*  
Transportability • 4-34, *page 63*  
Transportability report and engineering analysis • 4-35, *page 63*

### Section XI

*Facilities, page 63*  
Base operations and services support • 4-36, *page 63*  
Logistical • 4-37, *page 64*  
Training • 4-38, *page 65*  
Planning documentation—support facility annex • 4-39, *page 65*

### Section XII

*Standardization and Interoperability, page 65*  
Command, Control and Communications (CCC) • 4-40, *page 65*  
Battlefield surveillance and target designation and acquisition systems • 4-41, *page 65*  
Ammunition • 4-42, *page 65*  
POL • 4-43, *page 65*  
Components and repair parts • 4-44, *page 65*  
Aircraft servicing • 4-45, *page 65*

### Section XIII

*Reliability, Availability, and Maintainability, page 65*  
General • 4-46, *page 65*  
Reliability • 4-47, *page 66*  
Availability and system readiness objective • 4-48, *page 66*  
Maintainability • 4-49, *page 66*

### Section XIV

*Support Management and Analysis, page 67*  
Support management • 4-50, *page 67*  
Support analysis • 4-51, *page 68*

### Section XV

*Cost Analysis and Funding, page 68*  
Logistics-related R&D • 4-52, *page 68*  
Logistics-related investment • 4-53, *page 68*  
Logistics-related operation and support • 4-54, *page 69*  
Cost analysis documentation • 4-55, *page 69*

### Section XVI

*Materiel Fielding Planning, page 69*  
Developer • 4-56, *page 69*  
Gaining commands—MSP • 4-57, *page 69*

### Section XVII

*Environmental Planning, page 70*  
Safety • 4-58, *page 70*  
Operation and support • 4-59, *page 70*  
Hazardous materials • 4-60, *page 70*  
Environmental Documentation and Materiel Fielding • 4-61, *page 70*  
Packaging, handling, and storage • 4-62, *page 70*  
Demil, EOD, and disposal • 4-63, *page 70*  
Other • 4-64, *page 70*

## Chapter 5

### First Unit Equipped

#### Issues/Criteria, *page 70*

#### Section I

*Design Influence, page 70*  
Safety and health hazard assessment • 5-1, *page 70*  
Other design parameters • 5-2, *page 70*

#### Section II

*Maintenance Planning, page 71*  
General • 5-3, *page 71*

Unit/AVUM level • 5-4, *page 71*  
DS and GS (AVIM) levels • 5-5, *page 71*  
Depot level • 5-6, *page 71*

#### Section III

*Manpower and Personnel, page 71*  
Operator/Crew • 5-7, *page 71*  
Maintenance • 5-8, *page 71*  
Supply • 5-9, *page 71*  
Transportation—vehicle operators • 5-10, *page 71*

#### Section IV

*Supply Support, page 72*  
General • 5-11, *page 72*  
Retail • 5-12, *page 72*  
Wholesale • 5-13, *page 72*  
Packaging, handling, and storage • 5-14, *page 73*

#### Section V

*Support Equipment and TMDE, page 73*  
General • 5-15, *page 73*  
Supply • 5-16, *page 73*  
Maintenance • 5-17, *page 73*  
Ancillary operational equipment • 5-18, *page 74*

#### Section VI

*Training and Training Devices, page 74*  
Institutional training • 5-19, *page 74*  
Unit training • 5-20, *page 74*  
NET • 5-21, *page 75*  
Planning documentation—NETP • 5-22, *page 75*

#### Section VII

*Technical Data, page 75*  
Equipment manuals • 5-23, *page 75*  
Authorization documents • 5-24, *page 76*

#### Section VIII

*Computer Resources Support, page 76*  
System or end item operation • 5-25, *page 76*  
System or end item maintenance • 5-26, *page 76*  
PDSS • 5-27, *page 76*

#### Section IX

*Transportation and Transportability, page 76*  
Transportability • 5-28, *page 76*  
MTMC approval • 5-29, *page 76*

#### Section X

*Facilities, page 76*  
Base operations and services support • 5-30, *page 76*  
Logistical • 5-31, *page 76*  
Training • 5-32, *page 77*

#### Section XI

*Standardization and Interoperability, page 77*  
General • 5-33, *page 77*  
Command, Control, and Communication (CCC) • 5-34, *page 77*  
Battlefield surveillance and target designation and acquisition systems • 5-35, *page 77*  
Ammunition • 5-36, *page 77*  
POL • 5-37, *page 77*  
Components and repair parts • 5-38, *page 77*  
Aircraft servicing • 5-39, *page 77*

#### Section XII

*Reliability, Availability, and Maintainability, page 77*  
General • 5-40, *page 77*  
Reliability • 5-41, *page 77*

## Contents—Continued

Availability and system readiness objective • 5–42, *page 77*  
Maintainability • 5–43, *page 77*

### Section XIII

*Support Management and Analysis, page 78*  
Support management • 5–44, *page 78*  
Support analysis • 5–45, *page 78*

### Section XIV

*Cost Analysis and Funding, page 78*  
Logistics–related operation • 5–46, *page 78*  
Logistics–related support • 5–47, *page 78*

### Section XV

*Materiel Fielding Planning, page 78*  
Developer • 5–48, *page 78*  
Gaining commands—MSP • 5–49, *page 79*

### Section XVI

*Environmental Planning, page 79*  
Environmental documentation and materiel fielding • 5–50, *page 79*  
Not Used • 5–51, *page 79*

## Chapter 6

### Milestone I/II Decision Review

**Issues/Criteria for NDI Adaptation or Integration, page 79**

#### Section I

*Design Influence, page 79*  
General • 6–1, *page 79*  
Safety and health hazard assessment • 6–2, *page 79*  
Energy efficiency • 6–3, *page 80*  
Other design parameters • 6–4, *page 80*

#### Section II

*Maintenance Planning, page 80*  
General • 6–5, *page 80*  
Unit/AVUM level • 6–6, *page 80*  
DS and GS (AVIM) levels • 6–7, *page 81*  
Depot level • 6–8, *page 81*

#### Section III

*Manpower and Personnel, page 81*  
General • 6–9, *page 81*  
Operator/Crew • 6–10, *page 81*  
Maintenance • 6–11, *page 81*  
Supply • 6–12, *page 82*  
Transportation—vehicle operators • 6–13, *page 82*  
Analysis documentation • 6–14, *page 83*

#### Section IV

*Supply Support, page 83*  
General • 6–15, *page 83*  
Retail • 6–16, *page 84*  
Wholesale • 6–17, *page 85*  
Planning documentation—provisioning plan (PP) • 6–18, *page 85*

#### Section V

*Packaging, Handling, and Storage, page 85*  
Packaging • 6–19, *page 85*  
Handling and Storage • 6–20, *page 85*  
Security • 6–21, *page 86*

#### Section VI

*Support Equipment and TMDE, page 86*  
General • 6–22, *page 86*  
Supply • 6–23, *page 86*

Maintenance • 6–24, *page 86*  
Ancillary operational equipment • 6–25, *page 88*

### Section VII

*Training and Training Devices, page 88*  
General • 6–26, *page 88*  
Institutional training • 6–27, *page 88*  
Unit training • 6–28, *page 89*  
NET • 6–29, *page 90*  
Planning documentation • 6–30, *page 90*

### Section VIII

*Technical Data, page 90*  
Equipment manuals • 6–31, *page 90*  
Authorization documents for using units and support units • 6–32, *page 92*  
Drawings • 6–33, *page 92*

### Section IX

*Computer Resources Support, page 92*  
General • 6–34, *page 92*  
System or end item operation • 6–35, *page 92*  
System or end item maintenance • 6–36, *page 92*  
Post–deployment software support (PDSS) • 6–37, *page 93*  
Management planning • 6–38, *page 93*

### Section X

*Transportation and Transportability, page 93*  
Mobility—strategic and tactical • 6–39, *page 93*  
Transportability • 6–40, *page 93*  
Transportability report and engineering analysis • 6–41, *page 95*

### Section XI

*Facilities, page 95*  
Base operations and services support • 6–42, *page 95*  
Logistical • 6–43, *page 95*  
Training • 6–44, *page 97*  
Planning documentation—support facility annex • 6–45, *page 97*

### Section XII

*Standardization and Interoperability, page 97*  
General • 6–46, *page 97*  
Command, Control, and Communications (CCC) • 6–47, *page 98*  
Battlefield surveillance and target designation and acquisition systems • 6–48, *page 98*  
Ammunition • 6–49, *page 98*  
POL • 6–50, *page 98*  
Components and repair parts • 6–51, *page 98*  
Aircraft servicing • 6–52, *page 99*

### Section XIII

*Reliability, Availability, and Maintainability, page 99*  
Reliability • 6–53, *page 99*  
Availability and system readiness objective • 6–54, *page 100*  
Maintainability • 6–55, *page 100*

### Section XIV

*Support Management and Analysis, page 101*  
Support management • 6–56, *page 101*  
Support analysis • 6–57, *page 103*

### Section XV

*Cost Analysis and Funding, page 104*  
Logistics–related research and development • 6–58, *page 104*  
Logistics–related investment—procurement • 6–59, *page 104*  
Cost analysis documentation • 6–60, *page 104*

### Section XVI

*Materiel Fielding Planning, page 104*

## Contents—Continued

Developer • 6–61, *page 104*  
Gaining commands—mission support plans • 6–62, *page 104*

### Section XVII

*Environmental Planning, page 104*  
Safety • 6–63, *page 104*  
Design • 6–64, *page 104*  
Testing • 6–65, *page 105*  
Hazardous Materials • 6–66, *page 105*  
Environmental documentation • 6–67, *page 105*  
Packaging, handling, and storage • 6–68, *page 105*  
Materiel Fielding • 6–69, *page 105*  
Demil, EOD, and disposal • 6–70, *page 105*  
Other • 6–71, *page 105*

## Chapter 7

### Milestone I/III Decision Review

**Issues/Criteria for Basic Nondevelopmental Items,**  
*page 105*

#### Section I

*Design Influence, page 105*  
General • 7–1, *page 105*  
Safety and health hazard assessment • 7–2, *page 105*  
Energy efficiency • 7–3, *page 106*  
Other design parameters • 7–4, *page 106*

#### Section II

*Maintenance Planning, page 106*  
General • 7–5, *page 106*  
Unit, DS, and GS (or AVUM and AVIM) levels • 7–6, *page 107*  
Depot level • 7–7, *page 107*

#### Section III

*Manpower and Personnel, page 107*  
General • 7–8, *page 107*  
Operator/crew • 7–9, *page 107*  
Maintenance • 7–10, *page 107*  
Supply • 7–11, *page 108*  
Transportation—vehicle operators • 7–12, *page 108*  
Analysis documentation • 7–13, *page 109*

#### Section IV

*Supply Support, page 109*  
General • 7–14, *page 109*  
Retail • 7–15, *page 109*  
Wholesale • 7–16, *page 110*  
Planning documentation—Provisioning Plan (PP). • 7–17,  
*page 111*

#### Section V

*Packaging, Handling, and Storage, page 111*  
Packaging • 7–18, *page 111*  
Handling and storage • 7–19, *page 111*  
Security • 7–20, *page 111*

#### Section VI

*Support Equipment and TMDE, page 111*  
General • 7–21, *page 111*  
Supply • 7–22, *page 111*  
Maintenance • 7–23, *page 112*  
Ancillary operational equipment • 7–24, *page 113*

#### Section VII

*Training and Training Devices, page 113*  
General • 7–25, *page 113*  
Institutional training • 7–26, *page 113*  
Unit Training • 7–27, *page 114*

New equipment training (NET) • 7–28, *page 115*  
Planning documentation • 7–29, *page 115*

### Section VIII

*Technical Data, page 115*  
Equipment manuals • 7–30, *page 115*  
Authorization documents • 7–31, *page 116*  
Drawings • 7–32, *page 117*

### Section IX

*Computer Resources Support, page 117*  
General • 7–33, *page 117*  
System or end item operation • 7–34, *page 117*  
System or end item maintenance • 7–35, *page 117*  
PDSS • 7–36, *page 117*  
Management planning • 7–37, *page 118*

### Section X

*Transportation and Transportability, page 118*  
Mobility—strategic and tactical • 7–38, *page 118*  
Transportability • 7–39, *page 118*  
Transportability report and engineering analysis • 7–40, *page 118*

### Section XI

*Facilities, page 118*  
Base operations and services support • 7–41, *page 118*  
Logistical • 7–42, *page 119*  
Training • 7–43, *page 120*  
Planning documentation—support facility annex • 7–44, *page 120*

### Section XII

*Standardization and Interoperability, page 120*  
General • 7–45, *page 120*  
Command, control, and communications (CCC) • 7–46, *page 120*  
Battlefield surveillance and target designation and acquisition  
systems • 7–47, *page 120*  
Ammunition • 7–48, *page 120*  
POL • 7–49, *page 120*  
Components and repair parts • 7–50, *page 121*  
Aircraft servicing • 7–51, *page 121*

### Section XIII

*Reliability, Availability, and Maintainability, page 121*  
General • 7–52, *page 121*  
Reliability • 7–53, *page 121*  
Availability and system readiness objective • 7–54, *page 121*  
Maintainability • 7–55, *page 121*

### Section XIV

*Support Management and Analysis, page 122*  
Support management • 7–56, *page 122*  
Support analysis • 7–57, *page 123*

### Section XV

*Cost Analysis and Funding, page 124*  
Logistics-related research and development • 7–58, *page 124*  
Logistics-related investment • 7–59, *page 124*  
Logistics-related operation and support • 7–60, *page 124*  
Cost analysis documentation • 7–61, *page 124*

### Section XVI

*Materiel Fielding Planning, page 124*  
Developer • 7–62, *page 124*  
Gaining commands—MSP • 7–63, *page 125*

### Section XVII

*Environmental Planning, page 125*  
Safety • 7–64, *page 125*  
Design • 7–65, *page 125*

## Contents—Continued

Hazardous Materials • 7–66, *page 125*  
Environmental documentation • 7–67, *page 125*  
Packaging • 7–68, *page 125*  
Materiel fielding • 7–69, *page 125*  
Other • 7–70, *page 125*

**Appendix A.** References, *page 126*

## Table List

Table 1–1: Paragraph Number Cross Reference Areas For ILS  
Assessment Considerations vs Milestone Type, *page 2*

## Figure List

Figure 1–1: Simplified life cycle system management model,  
*page 3*  
Figure 1–2: Design influence assessment structure, *page 4*  
Figure 1–3: Maintenance planning assessment structure, *page 4*  
Figure 1–4: Manpower and personnel assessment structure, *page 5*  
Figure 1–5: Supply support assessment structure, *page 5*  
Figure 1–6: Packaging, handling, and storage assessment structure,  
*page 6*  
Figure 1–7: Support equipment and TMDE assessment structure,  
*page 7*  
Figure 1–8: Training and training devices assessment structure,  
*page 8*  
Figure 1–9: Technical data assessment structure, *page 8*  
Figure 1–10: Computer resources support assessment structure,  
*page 9*  
Figure 1–11: Transportation and transportability assessment  
structure, *page 9*  
Figure 1–12: Facilities assessment structure, *page 10*  
Figure 1–13: Standardization and interoperability assessment  
structure, *page 10*  
Figure 1–14: Reliability, availability and maintainability  
assessment structure, *page 11*  
Figure 1–15: Support management and analysis assessment  
structure, *page 11*  
Figure 1–16: Cost analysis and funding assessment structure,  
*page 12*  
Figure 1–17: Materiel fielding planning assessment structure,  
*page 12*  
Figure 1–18: Environmental planning, *page 13*  
Figure 1–19: Tailored program examples, *page 14*

## Glossary

## Index

**RESERVED**

## Chapter 1 Introduction

### 1-1. Purpose

This pamphlet provides a standard framework and reference point model for assessing the status of the integrated logistic support (ILS) program in preparation for key milestone decision reviews in the materiel acquisition process. The use of this pamphlet provides guidance for uniform assessments across all commodity types (for example, combat vehicles, aircraft, or electronic equipment) thereby reducing subjectivity in the process.

### 1-2. References

Required and related publications and referenced forms are listed in appendix A.

### 1-3. Explanation of abbreviations and terms

Abbreviations and special terms used in this pamphlet are explained in the glossary.

### 1-4. Target audience

This pamphlet is intended for use by personnel involved in systems acquisition (AR 70-1) or materiel transfer, including—

*a. Logistician.* The U.S. Army Materiel Systems Analysis Activity (AMSAA) serves as the logistician for most materiel acquisition programs. (See AR 700-127.) For Class VIII materiel, the logistician is the U.S. Army Medical Materiel Agency, Frederick, MD 21701-5001. In this role, the logistician is responsible for assessing the ILS program status of assigned systems at key milestones in the materiel acquisition process. (See fig 1-1.) The results of this assessment are used to formulate and present the logistician's position at in-process reviews (IPRs) for Department of Defense (DoD) acquisition category (ACAT) III and IV programs. These results also assist the Deputy Chief of Staff for Logistics (DCSLOG) in preparing for Army Systems Acquisition Review Council (ASARC) decision review meetings on DoD ACAT I (formerly major defense acquisition programs (MDAP)) and ACAT II (formerly Army designated acquisition programs (ADAP)) systems. This pamphlet will be of use in those roles.

*b. Other users.* In addition to the logistician, this pamphlet will be of value to other personnel such as the ILS manager, program executive officers/program managers (PEO/PM), materiel developer (MATDEV), combat developer (CBTDEV), trainer, independent evaluators, users, Headquarters, Department of the Army (HQDA) staff elements, and others who are responsible for accomplishing or assessing the adequacy of one or more ILS program elements according to AR 700-127.

### 1-5. Assessment progression

*a.* The ILS program assessment issues and criteria are specified in chapters 2 through 7. The criteria define an orderly progression of the ILS process toward providing an operationally effective, fully supportable, and sustainable system at an affordable life-cycle cost (LCC) at the time of first unit equipped (FUE). The use of general purpose information management area (IMA) non-developmental item (NDI) equipment, services, and systems that are not embedded in or integral to a materiel system fall under the purview of AR 25-1 and AR 25-3. The IMA includes the disciplines of automation, telecommunications, record management, printing and publishing, and visual information. The IMA NDI items will be justified and approved in accordance with AR 25-1 and AR 25-3.

(1) The assessment for the Milestone I concept selection decision (entry to the demonstration and validation (D&V) phase) should address the issues and criteria in chapter 2.

(2) The ILS program assessment for the Milestone II program go-ahead decision (entry to the engineering and manufacturing development (EMD) phase) should address the issues and criteria in chapter 3.

(3) The assessment for the Milestone III production decision (entry to the production and deployment phase) should address the issues and criteria in chapter 4.

(4) Prior to the release of materiel to the first using unit, the ILS program assessment should address the issues and criteria in chapter 5.

*b.* The stated issues and criteria are based on current Army ILS-related acquisition policy and guidance together with issues resulting from AMSAA's experience. The issues and criteria will require updating as this policy, guidance, and experience further evolve.

*c.* The assessment elements, issues, and criteria are meant to be an extension of those provided in the appendixes to AR 700-127 though some differences are recognized.

*d.* The structure for performing each ILS program assessment is defined by identifying the major topics to be addressed under each of the 17 ILS assessment considerations listed in AR 700-127 appendix E, as shown below. The assessment rating definitions and criteria from AR 700-127 are applicable and are to be used when conducting an assessment. These major topics are identified in figures 1-2 through 1-18. The criteria in chapters 2 through 7 follow this framework. For those assessing the status of a specific ILS assessment consideration, table 1-1, can be used to identify the location in the pamphlet where the issues and criteria begin for the milestone decision of interest.

- (1) Design influence. (See fig 1-2.)
- (2) Maintenance planning. (See fig 1-3.)
- (3) Manpower and personnel. (See fig 1-4.)
- (4) Supply support. (See fig 1-5.)
- (5) Packaging, handling and storage. (See fig 1-6.)
- (6) Support equipment and test, measurement, and diagnostic equipment (TMDE). (See fig 1-7.)
- (7) Training and training devices. (See fig 1-8.)
- (8) Technical data. (See fig 1-9.)
- (9) Computer resources support. (See fig 1-10.)
- (10) Transportation and transportability. (See fig 1-11.)
- (11) Facilities. (See fig 1-12.)
- (12) Standardization and interoperability. (See fig 1-13.)
- (13) Reliability, availability, and maintainability (RAM). (See fig 1-14.)
- (14) Support management and analysis. (See fig 1-15.)
- (15) Cost analysis and funding. (See fig 1-16.)
- (16) Materiel fielding planning. (See fig 1-17.)
- (17) Environmental planning. (See fig 1-18.)

### 1-6. Application guidelines

*a.* The issues and criteria are intended to be a general guide rather than a rigid application. All criteria will not apply to every acquisition program, nor should each issue be given equal weight in the assessment process. Defense acquisition policy encourages tailoring the life cycle system management model (LCSMM) where appropriate. While many tailored development approaches are possible, the most prevalent approaches are discussed in DOD 5000.2 and summarized in figure 1-19.

*b.* This pamphlet addresses three categories of non-developmental items: basic non-developmental items, non-developmental items adaption and NDI integration. Basic NDI that fully meets the users need may be able to utilize a single decision review (Milestone I/III) to verify the sufficiency of the item against the requirement and initiate type classification and production. The assessment for the Milestone I/III decision should address the issues and criteria in chapter 7.

*c.* NDI adaption may entail a highly abbreviated engineering development phase (with associated testing) to apply and verify the required modifications, thus employing combined milestone I/II, with milestone III upon completion of testing and verification. The assessment for the Milestone I/II decision should address the issues and criteria in chapter 6.

*d.* NDI integration makes maximum use of NDI as subsystems, modules, and components for a materiel solution that entails low risk systems integration. R&D effort is required for system engineering, software modification, and testing. This integration may also employ combined Milestone I/II when integration engineering is determined to be sufficiently low risk.

e. Members of the U.S. Army Materiel Command (AMC) and U.S. Army Training and Doctrine Command (TRADOC) communities and others involved in the acquisition process should refer to their respective command's publications for further elaboration of the issues presented herein.

**1-7. Additional assessment considerations**

When the LCSMM phases are combined or eliminated, preparation for the next phase/milestone review will address the full range of combined requirements. For example, if the approved acquisition strategy (AS) calls for a combined concept exploration/definition/demonstration/ validation phase followed by engineering and manufacturing development, the full range of activities and events applicable to milestone decision review (MDR) I and MDR II must be accomplished and accounted for prior to completing milestone II. The following are additional ILS program assessment considerations for assessing the severity of problems that are applicable when specific issues in chapters 2 through 7 are not satisfactorily answered:

a. The contribution of the action to the overall objective of fielding a supportable system.

b. The likelihood that the ILS program can "get well" prior to the next milestone decision review or initial fielding.

c. The eventual impact on system operational effectiveness, readiness, sustainability, and support costs if no corrective action is taken or the proposed corrective action is not successful. The impact on the ability to field the system without interim support measures.

**1-8. Manpower and personnel integration (MANPRINT)**

The ILS and MANPRINT processes are mutually supporting and will be integrated in materiel development and acquisition programs. Areas of consideration under MANPRINT are human factors engineering, manpower, personnel, training, system safety, and health hazards. They are specifically addressed within the design influence, manpower and personnel, training and training devices elements within this pamphlet. Consult AR 700-127 and AR 602-2 to identify additional ILS/MANPRINT interface requirements for assessment purposes.

**1-9. Environmental planning**

a. As with many of the 17 ILS assessment considerations, environmental planning is not an isolated subject. Several aspects of environmental planning so closely relate to other ILS elements that they are difficult to address separately. Obvious examples include environmental impacts in the areas of health hazards and safety, technical data, transportation, packaging handling and storage, training, support management and analysis, facilities, materiel fielding planning, and cost analysis and funding. AR 385-16 identify responsibilities and details for System Safety and Engineering Management policies to ensure that—

(1) Verifiable safety, health and environmental standards are included in requirement documents, according to AR 385-10 and AR 200-1.

(2) Emphasis has been placed on designing systems to reduce or eliminate hazards and pollution. Training, administrative procedures, and labels should be used as last options to address system hazards.

(3) All hazards are identified and the status of their corrective

actions are recorded in a hazard tracking system until system disposal.

(4) All tests and pretest training involving soldiers have safety releases.

(5) Test and evaluation plans and test design plans require the collection and recording of data from which an independent assessment of hazards can be made, and that results are documented in all test reports and independent evaluation reports.

(6) A tailored system safety program is implemented for all systems including NDI and MCM efforts. Include a System Safety Risk Assessment (SSRA) for all residual hazards being considered at all milestone decision reviews (MDRs), and ensure that it is forwarded to the appropriate decision level.

(7) An independent assessment of system safety risks will be provided in all ASARC/IPR packages and to the program decision authority for all MDRs.

(8) Systems with residual hazards will not be fielded or used without coordination of associated risks with the combat developer and user(s).

b. It is Army policy to ensure conscientious attention to federal, state, local and applicable host-nation environmental policy and regulations, at every major decision point in the life cycle, from acquisition through demilitarization and disposal.

c. The following are the five broad categories into which a proposed action may fall for environmental review: exemption by law, emergency, categorical exclusions (CX), environmental assessment (EA) and Environmental Impact Statement (EIS). Development and acquisition of new weapon systems normally require at least an EA. See AR 200-2 for guidance, including appropriate documentation.

d. The Army goal is to integrate environmental reviews concurrently with other Army planning and decision-making actions and avoid delay in mission accomplishments. To achieve that goal, proponents should provide complete environmental documents for early inclusion with any recommendation or report to decision makers.

**1-10. Replaced and displaced systems**

a. A replaced system is any Army end item being replaced by a new or product improved system. These systems are redistributed, declared excess, transferred, or disposed of in accordance with AR 40-60, AR 40-61, AR 710-1, AR 710-2, AR 750-1, and other applicable guidance when not specifically designated by HQDA as a displaced system needing special management and control. Replaced system support planning should be conducted simultaneously with the ILS planning for the proposed new system, and a replaced system should remain fully supportable until the new system is introduced.

b. Displaced systems are those HQDA designated materiel systems that are planned for replacement by new systems, and for various reasons, require special management policies and procedures. This pamphlet identifies issues associated with those displaced materiel systems that are to be distributed to a major Army command (MACOM) within the system that has not been previously fielded.

**Table 1-1  
Paragraph Number Cross Reference Areas For ILS Assessment Considerations vs Milestone Type**

| ILS Assessment Areas          | MS I | MS II | MS III | FUE  | NDI     | NDI      |
|-------------------------------|------|-------|--------|------|---------|----------|
|                               |      |       |        |      | MS I/II | MS I/III |
| Design Influence              | 2-1  | 3-1   | 4-1    | 5-1  | 6-1     | 7-1      |
| Maintenance Planning          | 2-4  | 3-4   | 4-4    | 5-3  | 6-5     | 7-5      |
| Manpower & Personnel          | 2-6  | 3-8   | 4-7    | 5-7  | 6-9     | 7-8      |
| Supply Support                | 2-11 | 3-13  | 4-12   | 5-11 | 6-15    | 7-14     |
| Packaging, Handling & Storage | 2-13 | 3-17  | 4-16   | 5-14 | 6-19    | 7-18     |
| Support Equipment & TMDE      | 2-17 | 3-20  | 4-19   | 5-15 | 6-22    | 7-21     |
| Training & Training Devices   | 2-21 | 3-23  | 4-22   | 5-19 | 6-26    | 7-24     |
| Technical Data                | 2-26 | 3-27  | 4-26   | 5-23 | 6-31    | 7-29     |

**Table 1-1**  
**Paragraph Number Cross Reference Areas For ILS Assessment Considerations vs Milestone Type—Continued**

| ILS Assessment Areas                         | MS I | MS II | MS III | FUE  | NDI MS I/II | NDI MS I/III |
|--|------|-------|--------|------|-------------|--------------|
| Computer Resources Support                   | 2-29 | 3-30  | 4-29   | 5-25 | 6-34        | 7-32         |
| Transportation & Transportability Facilities | 2-34 | 3-35  | 4-33   | 5-28 | 6-39        | 7-37         |
| Strandardization & Interoperability          | 2-37 | 3-38  | 4-36   | 5-30 | 6-42        | 7-40         |
| RAM  | 2-41 | 3-42  | 4-40   | 5-33 | 6-46        | 7-44         |
| Support Management & Analysis                | 2-48 | 3-49  | 4-46   | 5-40 | 6-53        | 7-50         |
| Cost Analysis & Funding                      | 2-51 | 3-52  | 4-50   | 5-44 | 6-56        | 7-54         |
| Materiel Fielding Planning                   | 2-53 | 3-54  | 4-52   | 5-46 | 6-58        | 7-56         |
| Environmental Planning                       | 2-55 | 3-57  | 4-56   | 5-48 | 6-61        | 7-60         |
|  | 2-57 | 3-59  | 4-58   | 5-50 | 6-63        | 7-62         |

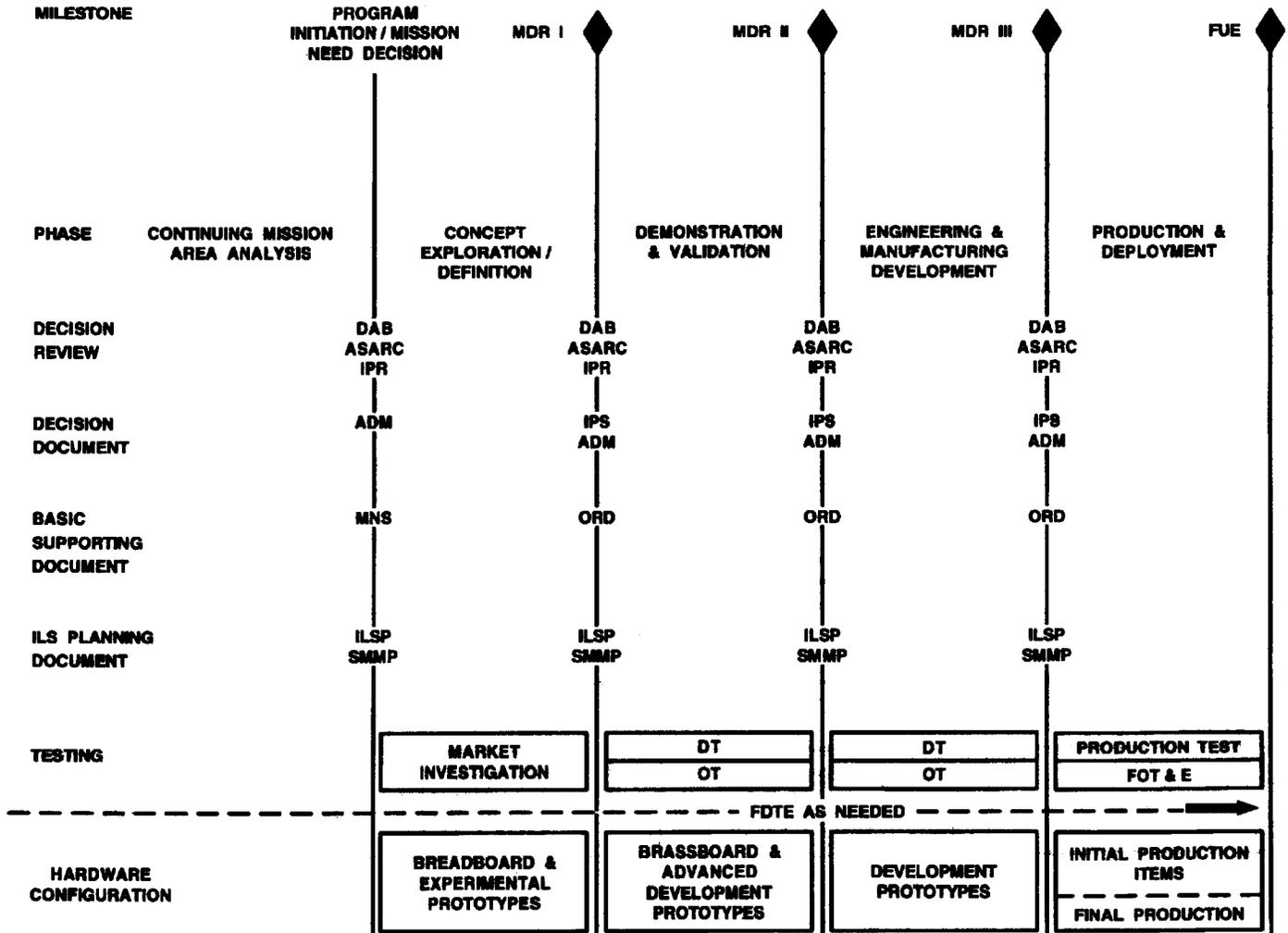


Figure 1-1. Simplified life cycle system management model

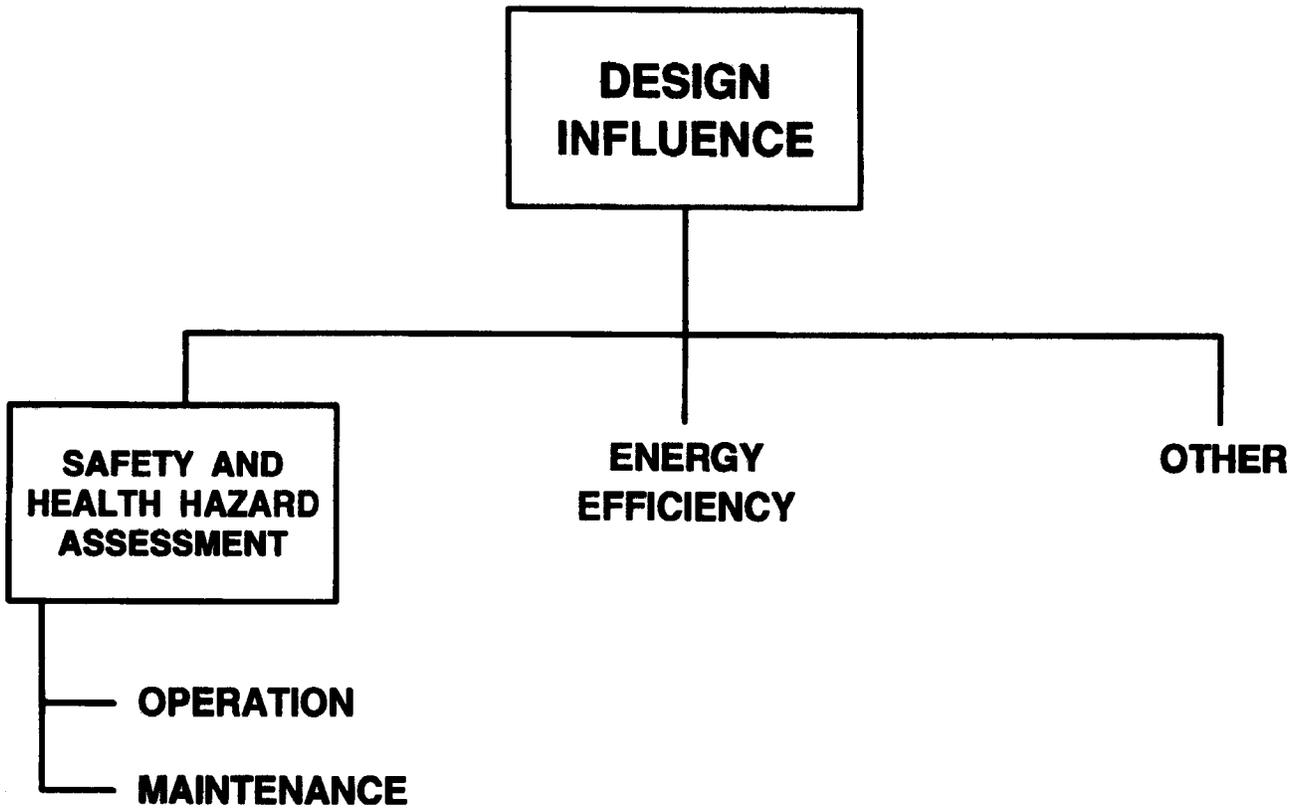


Figure 1-2. Design influence assessment structure

---

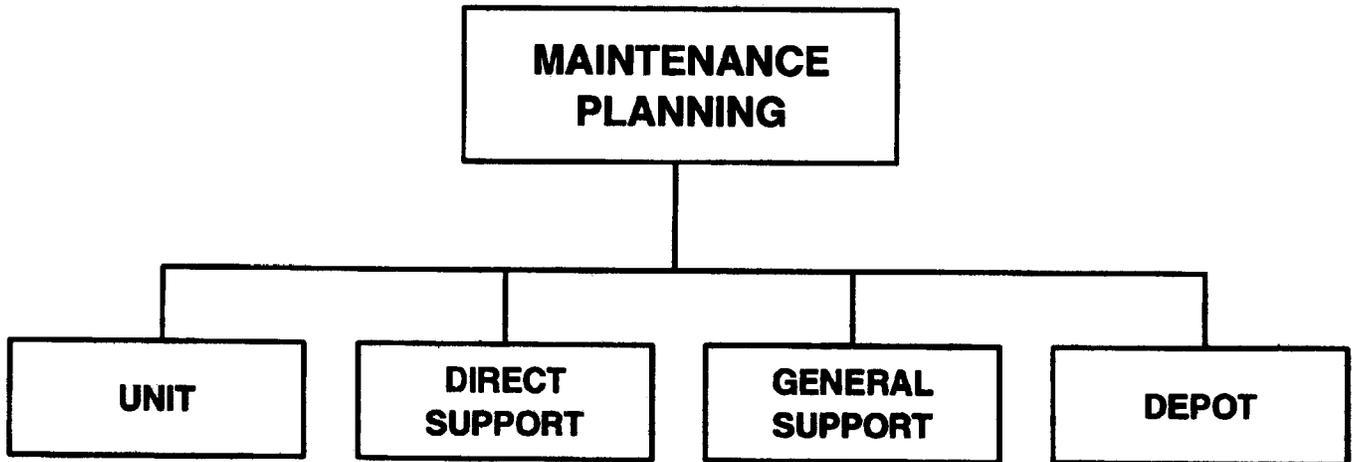


Figure 1-3. Maintenance planning assessment structure

---

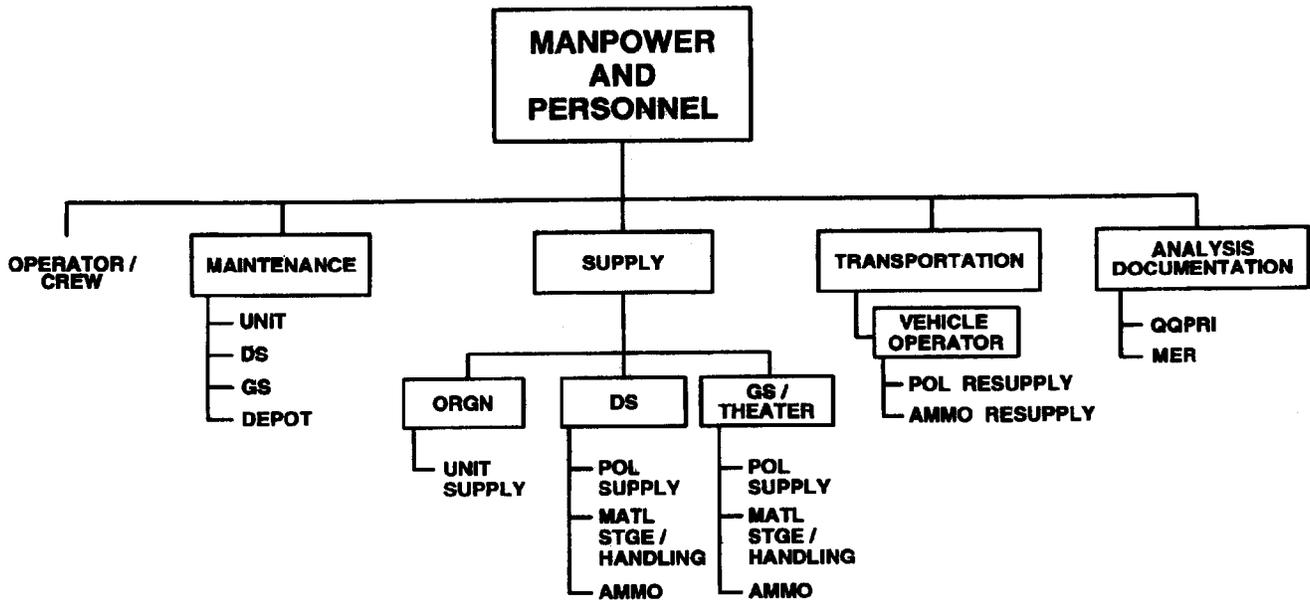


Figure 1-4. Manpower and personnel assessment structure

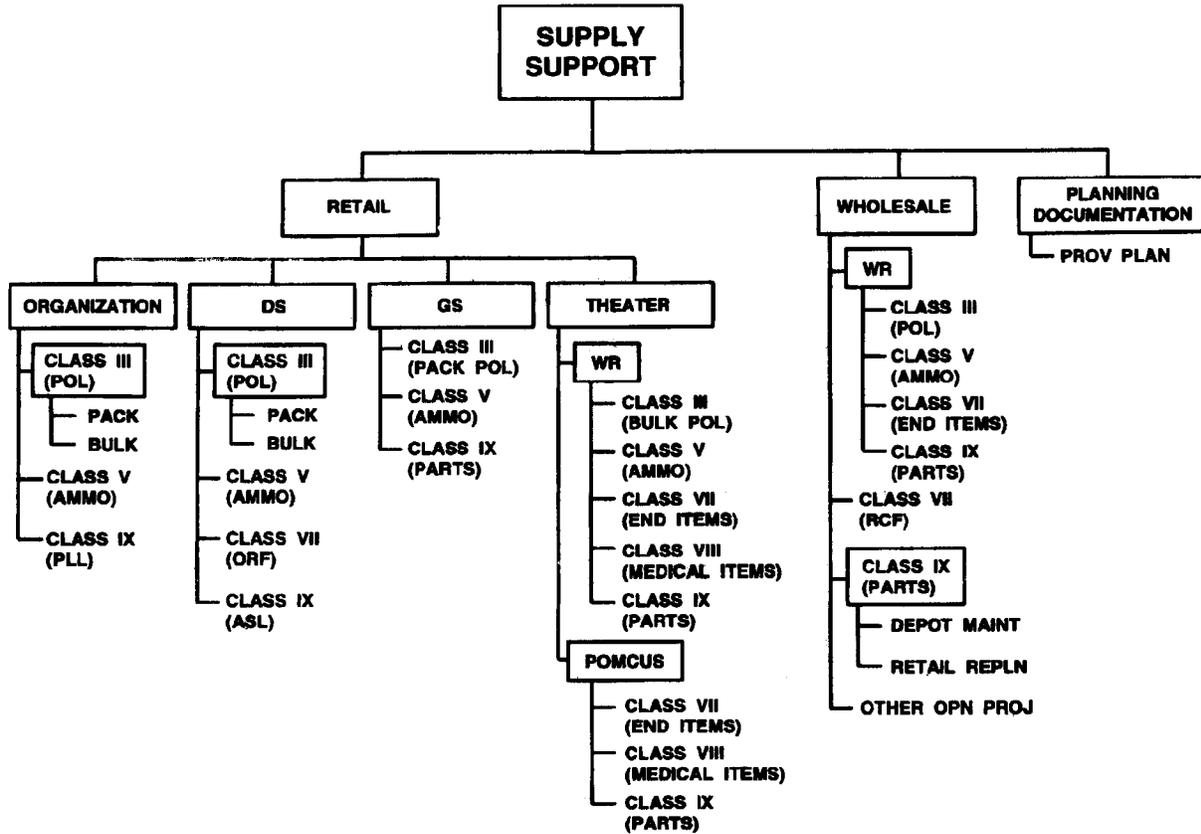


Figure 1-5. Supply support assessment structure

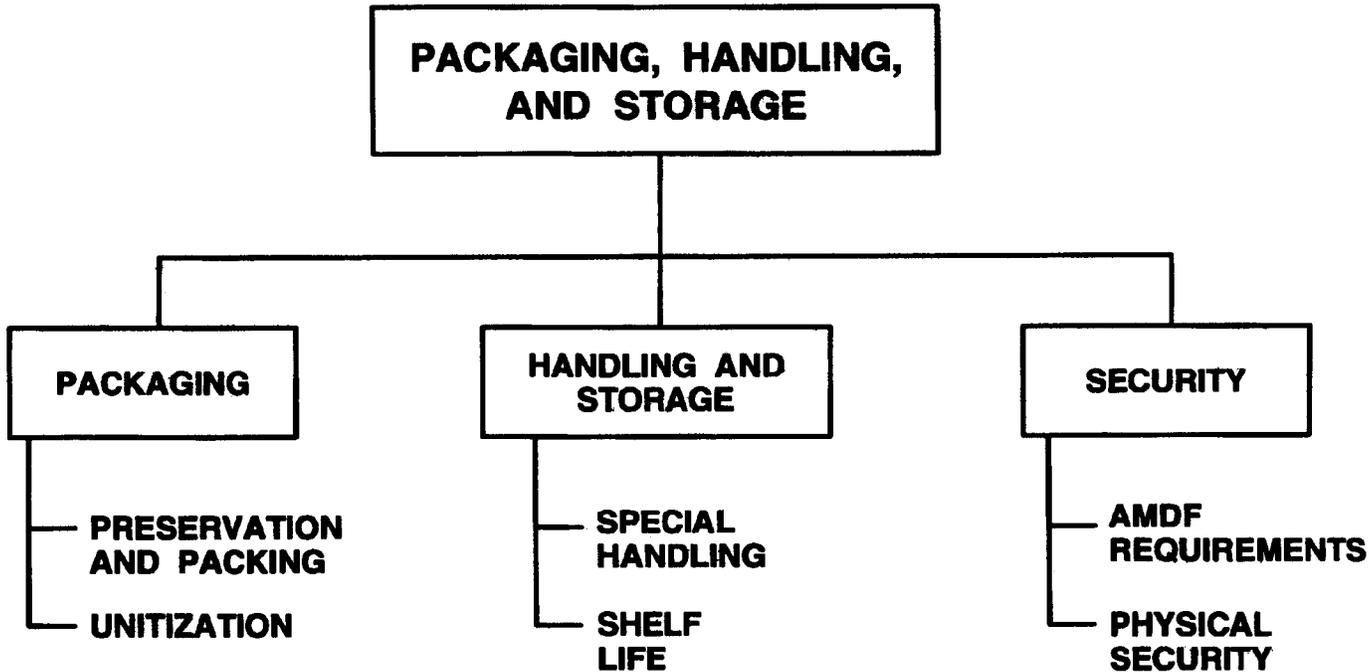


Figure 1-6. Packaging, handling, and storage assessment structure

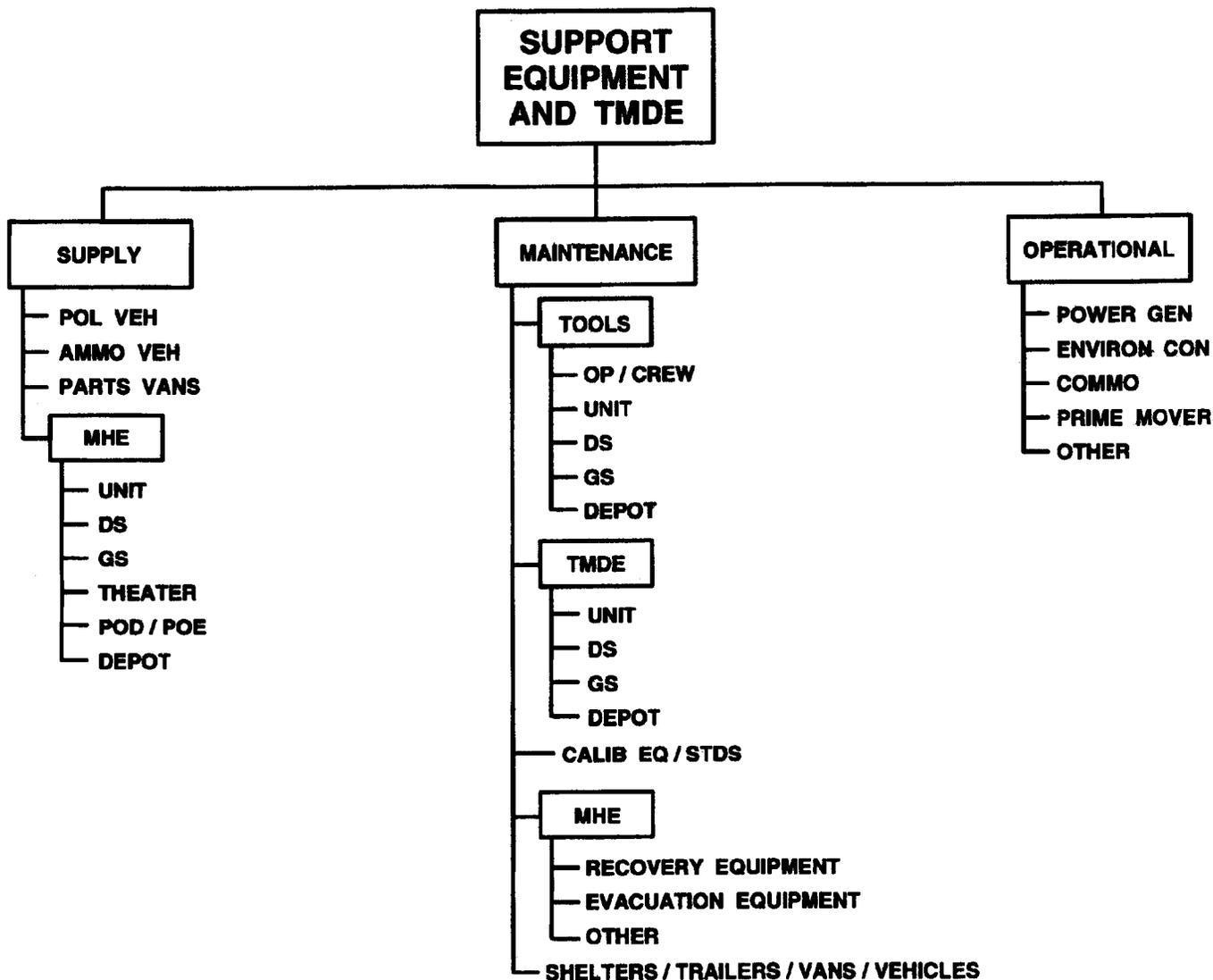


Figure 1-7. Support equipment and TMDE assessment structure

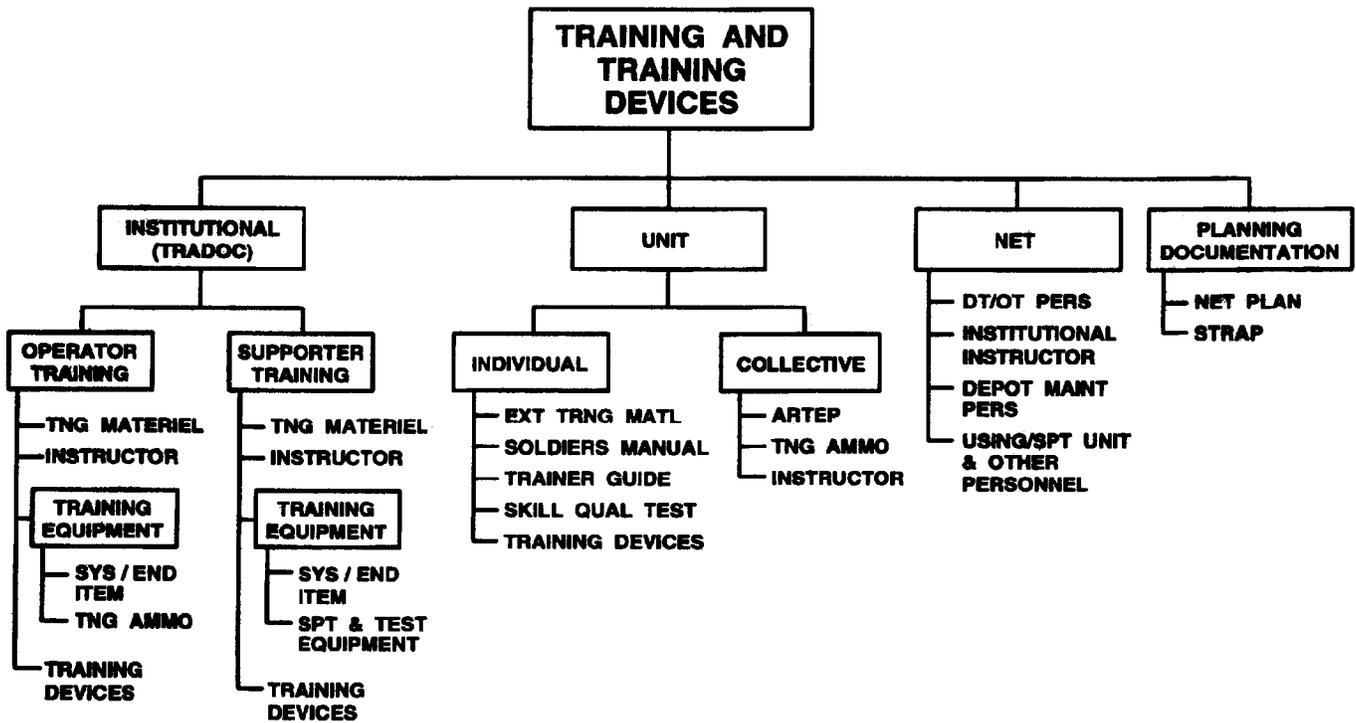


Figure 1-8. Training and training devices assessment structure

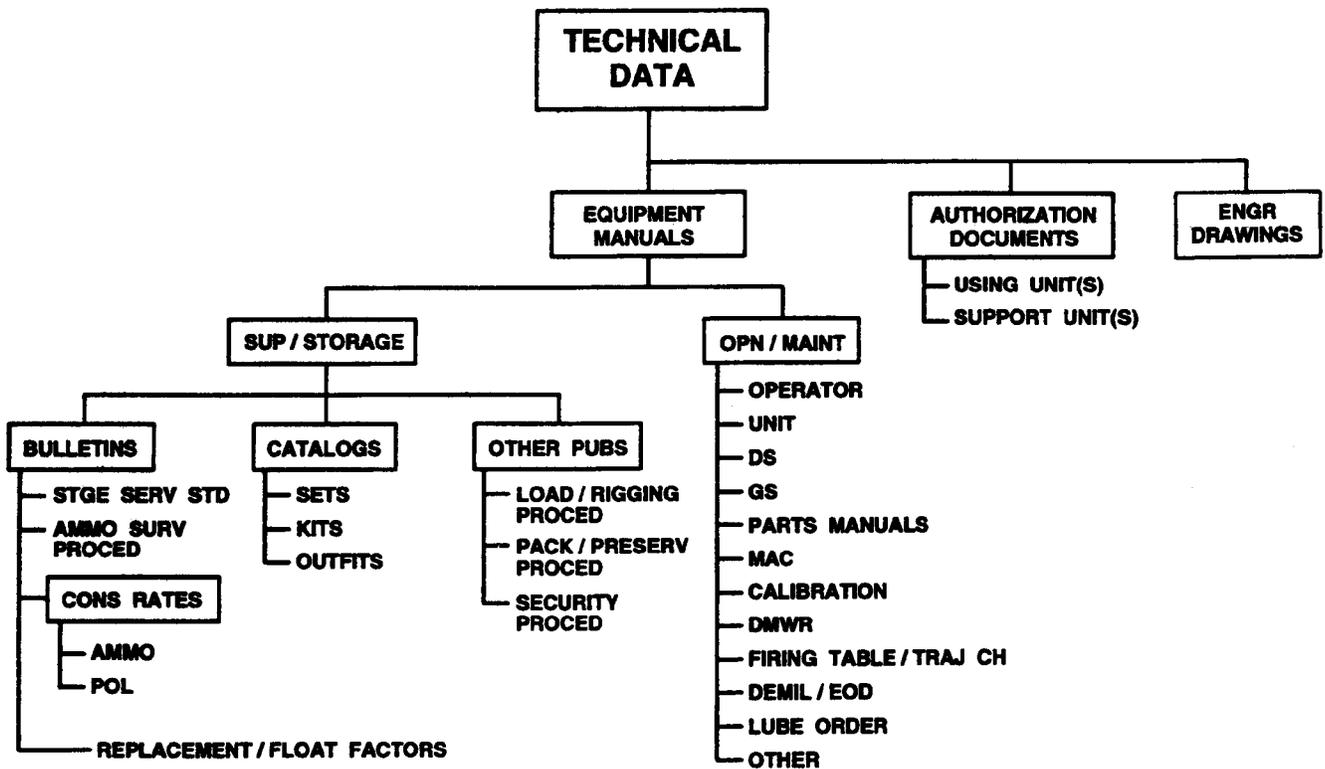


Figure 1-9. Technical data assessment structure

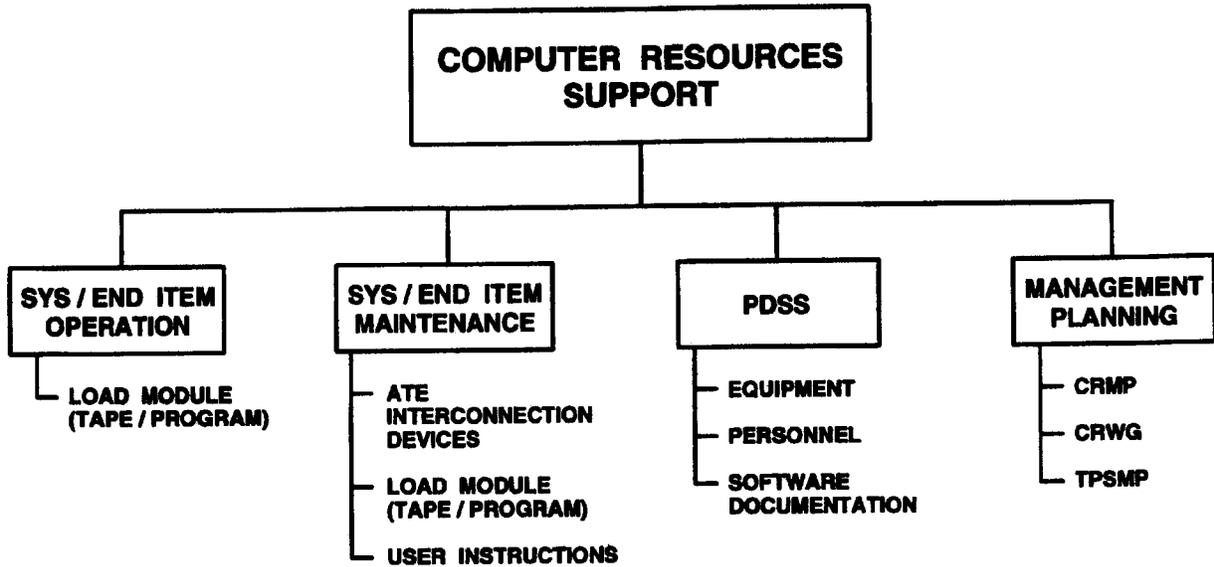


Figure 1-10. Computer resources support assessment structure

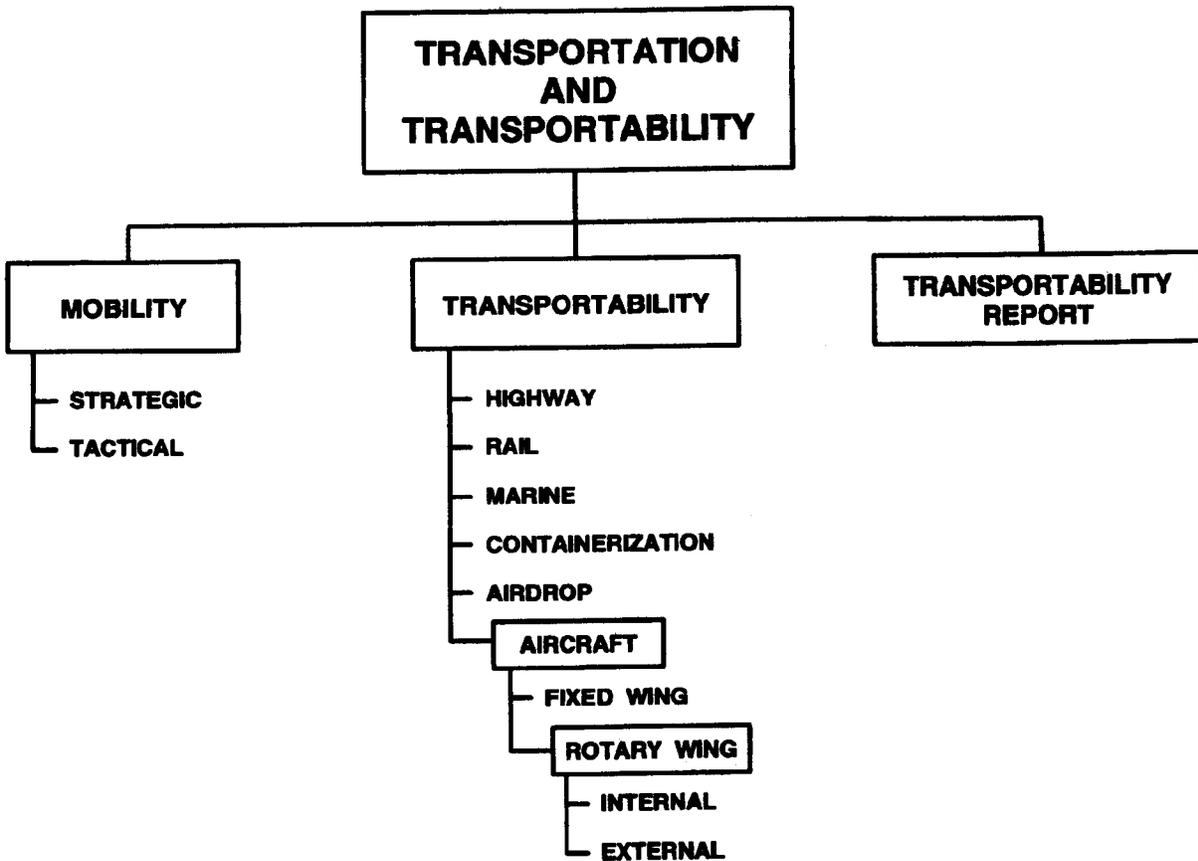


Figure 1-11. Transportation and transportability assessment structure

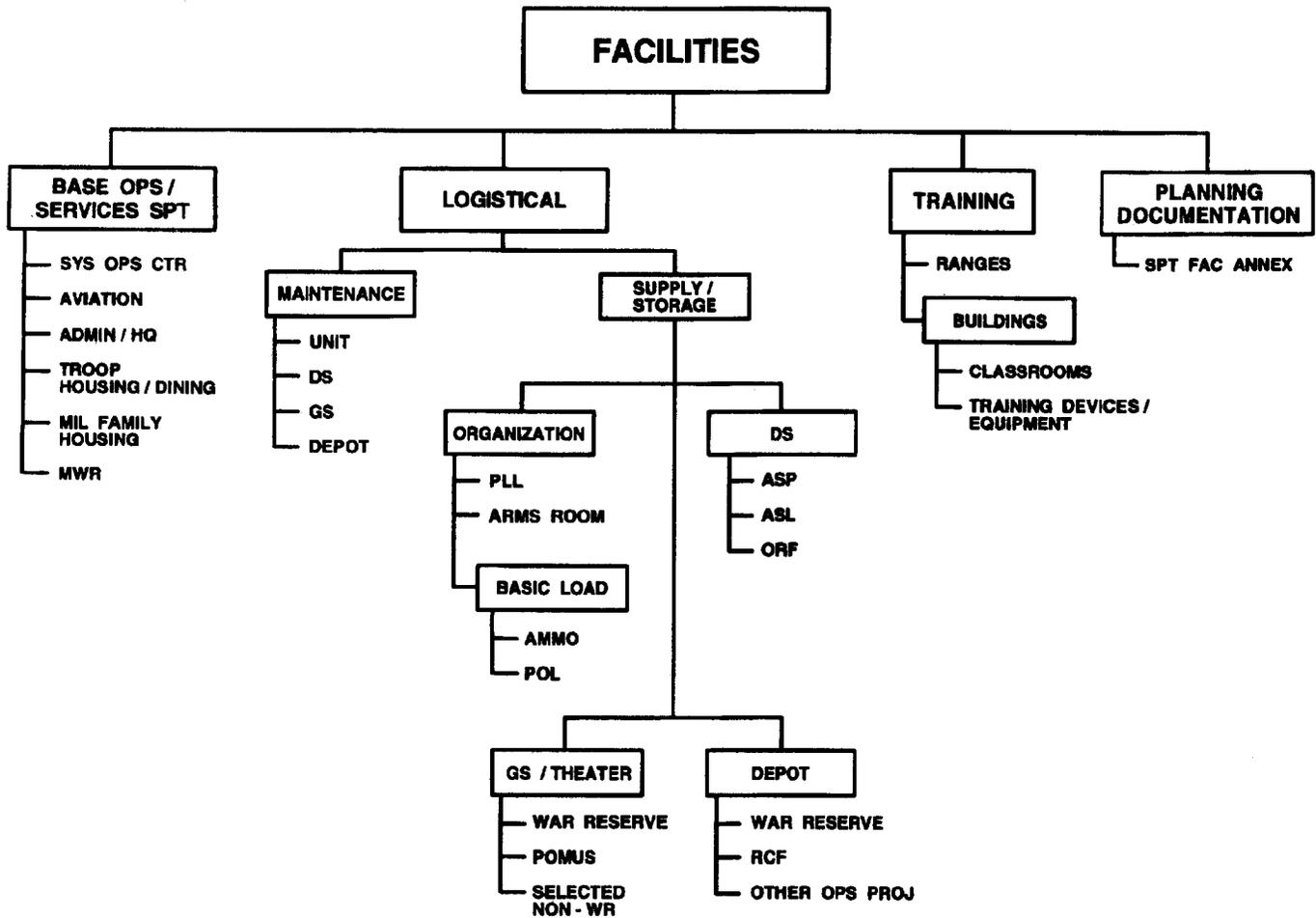


Figure 1-12. Facilities assessment structure

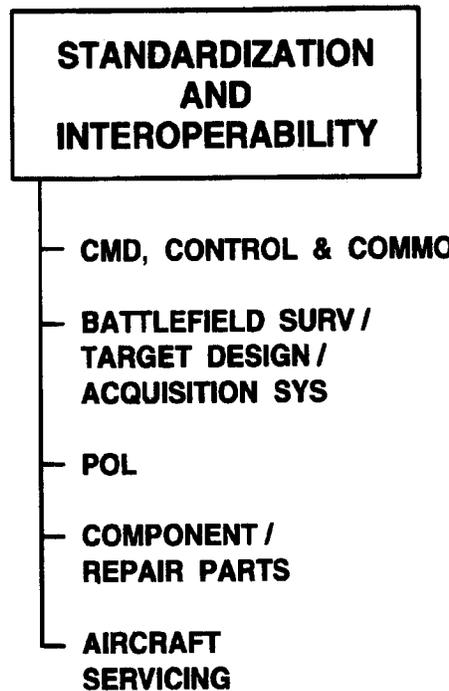


Figure 1-13. Standardization and interoperability assessment structure

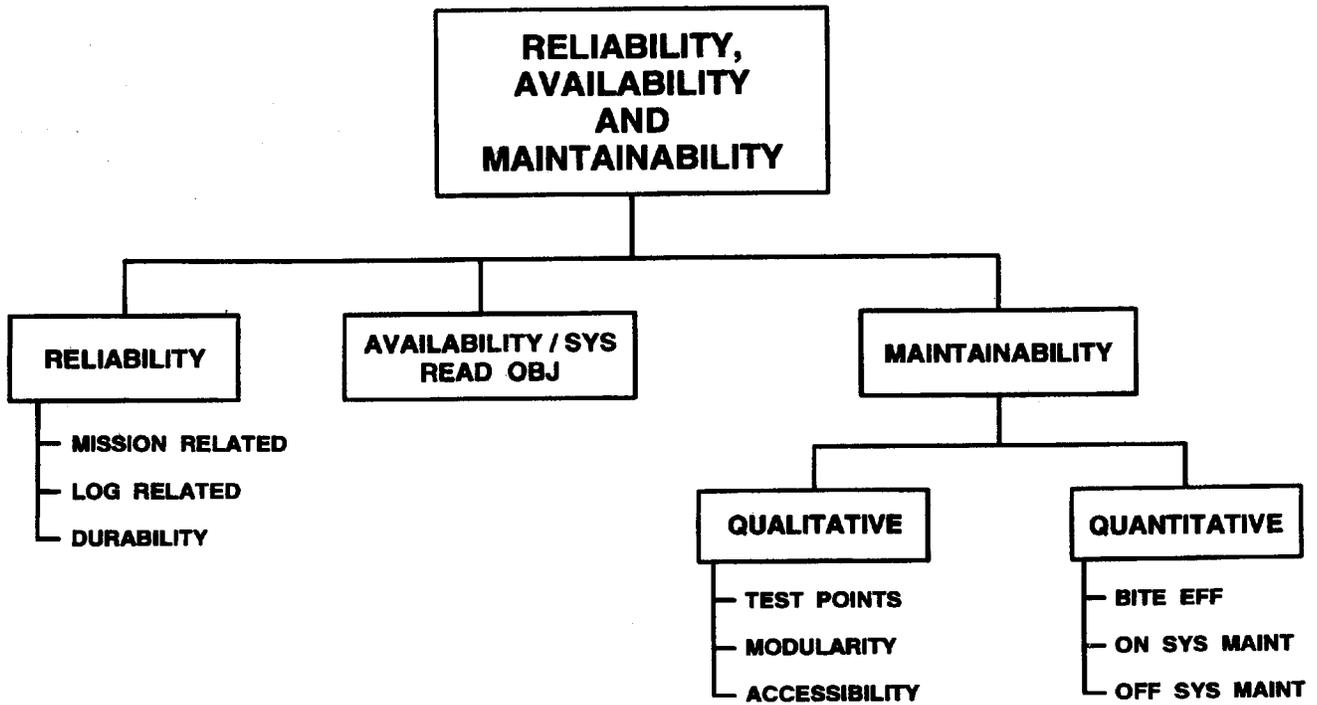


Figure 1-14. Reliability, availability and maintainability assessment structure

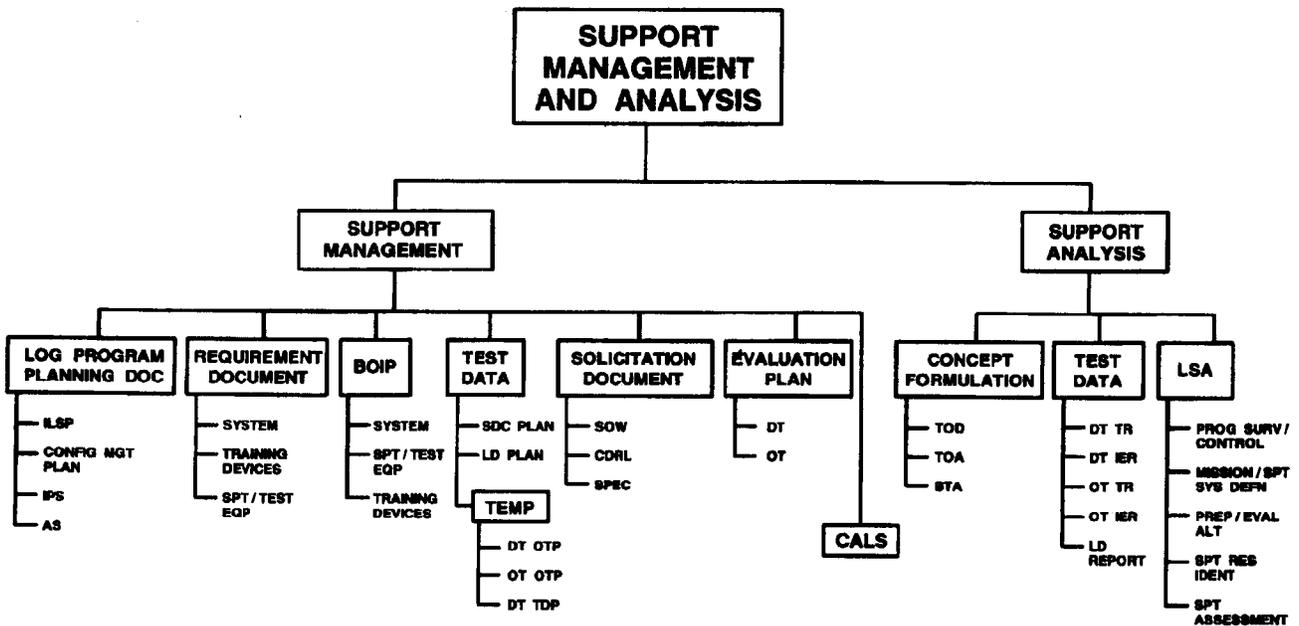


Figure 1-15. Support management and analysis assessment structure

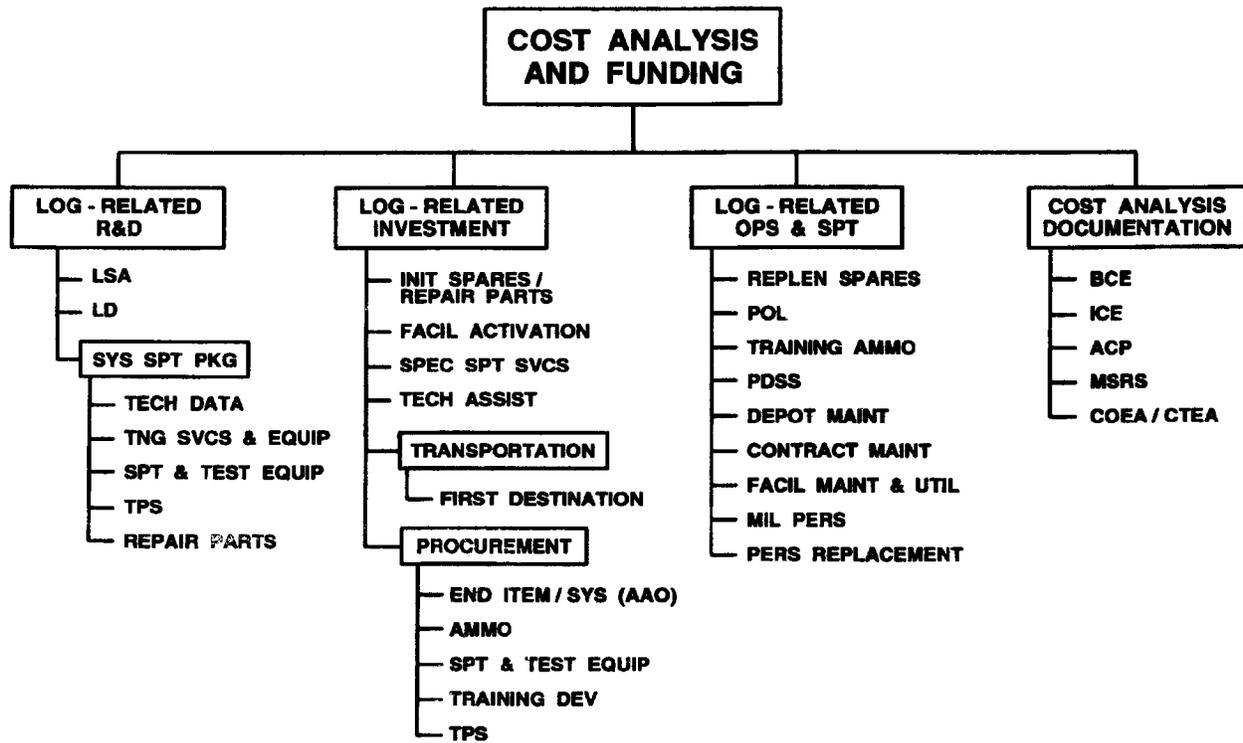


Figure 1-16. Cost analysis and funding assessment structure

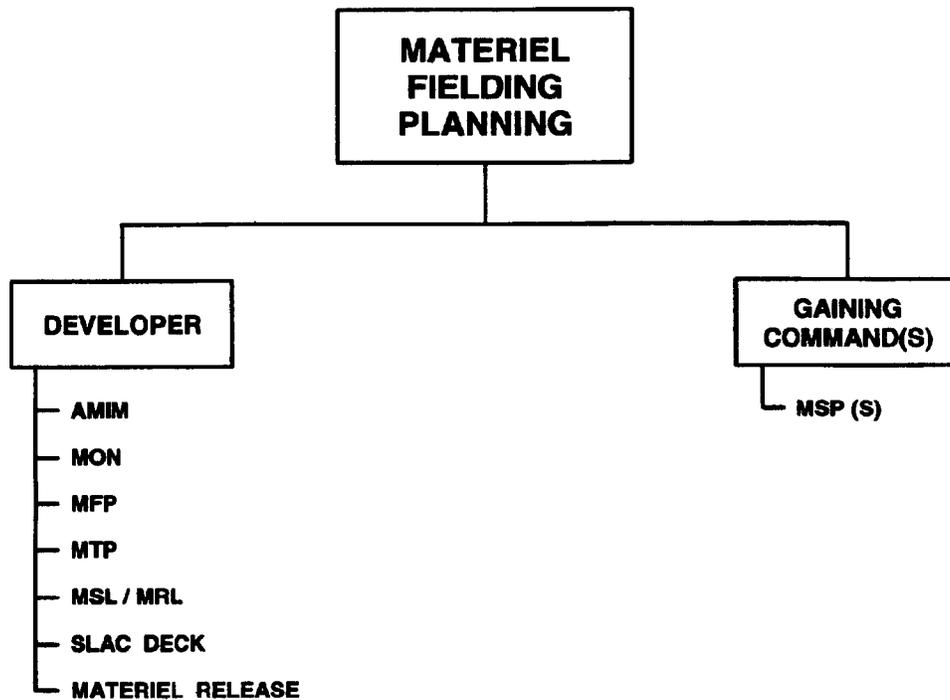


Figure 1-17. Materiel fielding planning assessment structure

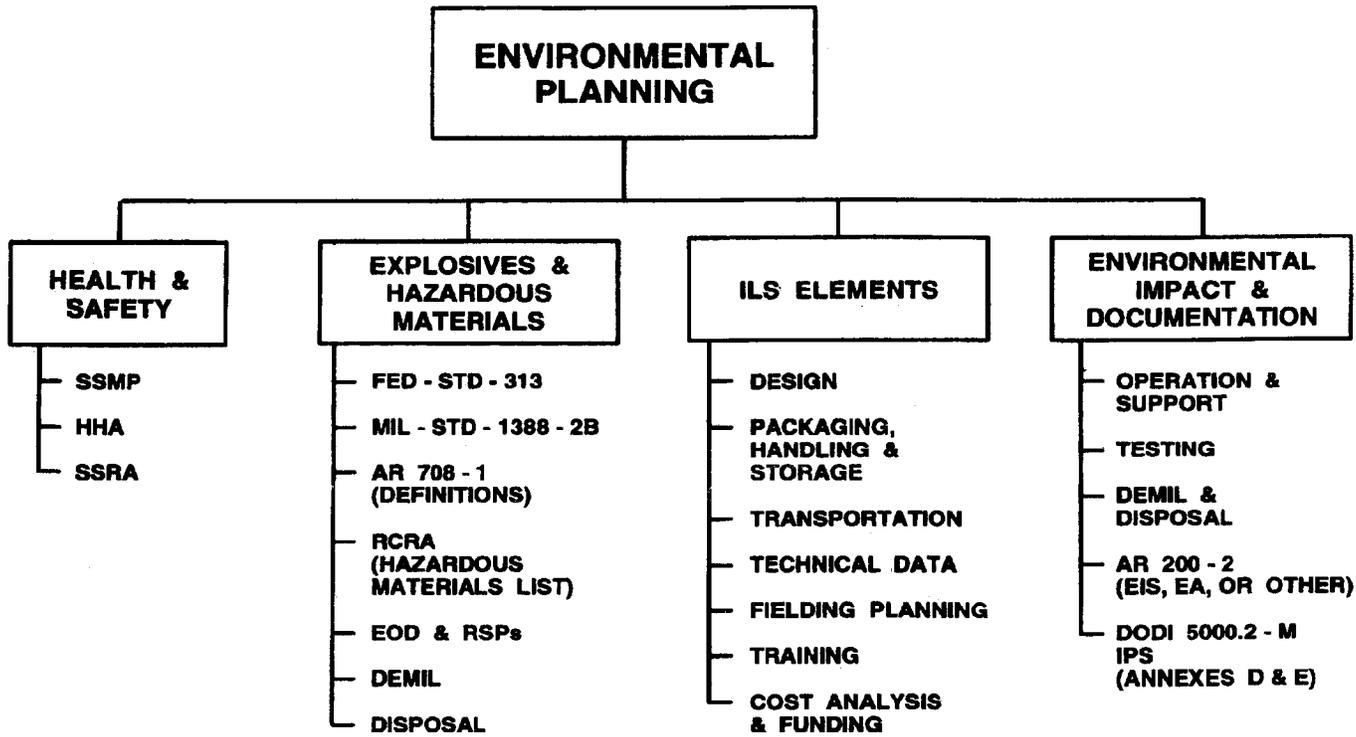


Figure 1-18. Environmental planning



## Chapter 2 Milestone I Decision Review Issues/Criteria

### Section I Design Influence

#### 2-1. Safety and health hazard assessment

*a. General.* For safety and health hazard assessment, ensure that—

(1) A System Safety Program Plan and System Safety Management Plan have been prepared as required by AR 385-16, and MIL-STD-882.

(2) A System Safety Working Group has been established to track hazards and ensure program coordination for acquisition category I and II programs.

(3) Plans exist for the MATDEV to provide the technical and user testing activities, Army Safety Center, and CBTDEV a Safety Assessment Report at least 60 days prior to the start of testing. The report must define hazards to test operator and maintenance personnel.

(4) Plans are established to provide the operational test activity a safety release prior to early user test and experimentation (EUT&E). (See AR 385-16 for format.)

(5) The proposed requirement document has been coordinated with the U.S. Army Health Services Command (HSC) to ensure that adequate consideration is given to the prevention of health hazards from system operation or maintenance.

(6) Plans exist for the MATDEV to request preparation of a Health Hazard Assessment Report by TSG according to AR 40-10.

*b. Operation and maintenance.* For safe system operation and system maintenance avoidance of health hazards, ensure that—

(1) The requirement document and contractual documentation—  
(*a*) Identify essential safety engineering design requirements (quantitative and qualitative).

(*b*) Identify significant development effort required to control foreseen safety and health hazards of system operation and maintenance.

(*c*) Have been reviewed by the safety office supporting the MATDEV or program/project/product manager (PM).

(2) Historical safety and health data (for example, data from the Army Safety Management Information System, and the Hazardous Materials Information System) and operation and maintenance issues of similar fielded systems have been documented. Make certain that plans exist to provide this information to the contractor to influence system design.

(3) A preliminary hazard analysis (MIL-STD-882) has been conducted to identify potentially hazardous or safety critical operating and maintenance aspects of the system(s) entering the D&V phase.

(4) Contractual provisions exist to—

(*a*) Conduct system and subsystem hazard analyses (MIL-STD-882) and tests to further define potential system operation and maintenance problem areas.

(*b*) Design the system so that operator and maintenance actions can be performed to minimize hazardous conditions such as proximity to high voltage, radiation, moving parts, high temperature components, noise (MIL-STD-1474), toxic fumes, skin irritants, lasers, pressure vessels, and so forth.

#### 2-2. Energy efficiency

For energy efficiency, ensure that—

*a.* The requirement document and contract specification include tentative energy-related goals and thresholds that are consistent with support resource limitations, the Mission Need Statement (MNS), and current technology.

*b.* The requirement document commits the MATDEV to establishing a plan for ensuring that the energy requirements to be contained in the operational requirement document (ORD) result

from the proper balance of acquisition risks and life cycle cost (LCC).

*c.* There are provisions in the developmental test I/early user test and evaluation (EUT&E) to evaluate the degree to which tentative energy-related goals and thresholds have been achieved.

*d.* The tentative energy-related goals and thresholds have been compared to an existing similar or relevant system in the Integrated Program Summary (IPS).

#### 2-3. Other design parameters

*a.* Other ILS-related design parameters, even though addressed as separate ILS assessment elements, should be assessed under this paragraph in order to provide a comprehensive evaluation of ILS program influence on system design. Additionally, where appropriate for each of these design parameters, ensure the elements of the OSCR program have been adequately implemented and achieved.

(1) Milestone decision review (MDR) I issues for the following elements should be assessed:

(*a*) Transportation and transportability.

(*b*) Standardization and interoperability.

(*c*) RAM.

(2) System design-related issues affecting other ILS elements such as maintenance planning, manpower and personnel, supply support, transportation and transportability, training and training devices, facilities, and environmental planning also must be assessed. Design to facilitate easy repair in forward battle area with minimum skill levels and special equipment to include standard repair and, when appropriate per AR 750-1, Battlefield Damage Assessment and Repair procedures. In addition, design to minimize use of strategic/scarc materials in system operation and maintenance.

*b.* Other issues, not necessarily ILS-related, must be assessed in order to make an informed IPR/ASARC decision regarding the acceptability of an item for its intended mission. The status of establishing, implementing, and verifying achievement of design-related requirements such as those below, should be assessed under this paragraph.

(1) Essential system operational performance characteristics.

(2) Human factors engineering considerations other than those addressed under paragraph 2-1 and paragraph 2-50. (See AR 602-1, MIL-HDBK-759, and MIL-STD-1472 for program requirements and design considerations.)

(3) Nuclear, biological, and chemical (NBC) survivability and supportability considerations.

(4) Requirements for prototype systems to use materials that, as far as practicable, are the same as those envisioned for the production item.

### Section II Maintenance Planning

#### 2-4. General

For each system concept, ensure a proposed baseline maintenance concept (BMC) unit (or aviation unit maintenance (AVUM) for aircraft) through depot level has been established that—

*a.* Is consistent with the following:

(1) The initial system readiness objective (SRO), RAM goals, and operational concept.

(2) Other Army maintenance support objectives and policies (for example, host nation support (HNS), interservice support agreement (ISSA), and contractor maintenance).

*b.* Reflects consideration of associated support resource requirements and costs, to include implementation of the OSCR program.

#### 2-5. Other maintenance considerations

*a.* Ensure plans as stated in the integrated logistic support plan (ILSP), solicitation document, test and evaluation master plan (TEMP), and so forth, exist for—

(1) Performing (either contractually or in-house) tradeoff analyses between the proposed baseline maintenance concept (BMC),

system characteristics, and manpower or support resource requirements to meet peacetime and wartime SROs.

(2) Developing a preliminary maintenance allocation chart (PMAC) based on level of repair analysis for each system concept.

(3) Coordinating the PMAC with the CBTDEV to DT I and EUT&E.

(4) Evaluating the PMAC unit level maintenance tasks and collecting data to assist in evaluating those higher level maintenance tasks performed during DT I/EUT&E.

b. Ensure that necessary guidelines have been established for making level of repair decisions.

### Section III Manpower and Personnel

#### 2-6. Operator/Crew

For operator/crew manpower requirements, ensure that—

a. An initial estimate (peacetime and wartime) and costs have been determined for the alternative system and operational concepts. The estimate should be compared to MNS constraints (if any) and be reflected in the concept formulation package (CFP), IPS, and LCC estimates baseline cost estimate (BCE) and independent cost estimate (ICE).

b. Both drivers of the displaced or similar system and targets for improvement have been identified if feasible.

c. Tentative goals and thresholds have been established consistent with data from similar systems, the MNS, System MANPRINT Management Plan (SMMP) and projected activity rates.

d. Plans exist to—

(1) Perform tradeoff analyses between operator/crew manpower requirements and system characteristics.

(2) Provide D&V phase contractors with a description of existing and projected Army manpower and skill capabilities/availability (e.g., AR 611-201 and tables of organization and equipment (TOEs)) of operator and crew personnel to influence system design.

#### 2-7. Maintenance

For maintenance manpower requirements, ensure that—

a. Both drivers of the displaced or similar system and targets for improvement have been identified. Ensure maintenance manpower elements of the OSCR program have been addressed.

b. Tentative goals and thresholds have been established consistent with data from similar systems, the MNS, System MANPRINT Management Plan and projected activity rates.

c. An initial estimate (unit/AVUM through depot levels—peacetime and wartime) and costs have been determined for the alternative system and support concepts. The estimate should be compared to MNS constraints (if any) and be reflected in the CFP, IPS, and LCC estimates (BCE and ICE).

d. Plans exist to—

(1) Provide D&V phase contractors with a description of existing and projected Army maintenance manpower and skill capabilities/availability (for example, AR 611-201 and TOEs) to influence system design.

(2) Perform tradeoff analyses among maintenance manpower requirements, system characteristics, and support concepts to meet peacetime readiness and wartime employment objectives.

(3) Conduct and document sufficient logistic support analysis (LSA) to determine unit through general support (or AVUM through aviation intermediate maintenance (AVIM) for aircraft) maintenance manpower and skill requirements data. This analysis must be sufficient to provide data for the qualitative and quantitative personnel requirements information (QQPRI) and basis of issue plan (BOIP), and manpower input to LCC estimates. (See AR 71-2 for BOIP and QQPRI requirements).

(4) Collect data related to unit and direct support (DS) (or AVUM and AVIM) level maintenance manpower and skill requirements during DT I and EUT&E to assist in updating/determining

initial manpower and skill estimates (QQPRI, BOIP, BCE, and ICE).

(5) Compute TOE unit, DS and GS (or AVUM and AVIM) level maintenance manpower requirements consistent with AR 570-2 or justify deviations.

(6) Conduct and document sufficient LSA to determine depot maintenance manpower and skill requirements data required to provide manpower input to LCC estimates.

#### 2-8. Supply

a. *General.* For supply personnel requirements, ensure that—

(1) Both manpower drivers (for example, ammunition handlers and petroleum, oils, and lubricants (POL) resupply personnel) of the displaced or similar system and targets for improvement have been identified. Ensure supply manpower elements of the OSCR program have been addressed.

(2) Tentative goals and thresholds have been established consistent with data from similar systems, the MNS, SMMP, and projected activity rates.

(3) Plans exist to—

(a) Provide D&V phase contractors with a description of existing and projected manpower and skill capabilities/availability (for example, AR 611-201 and TOEs) to influence system design and support planning.

(b) Perform tradeoff analyses among supply support personnel manpower requirements, system characteristics, and support concepts to meet existing/established constraints.

(4) TOE unit, direct support (DS) and general support (GS) theater ammunition, POL, and materials handling/storage personnel requirements are computed consistent with AR 570-2 or that deviations are justified.

b. *Organizational—unit supply.* The organizational unit supply will ensure that—

(1) Initial estimates of unit supply (for example, military occupational specialty (MOS) 76Y) personnel manpower requirements (peacetime and wartime) and costs have been determined for the alternative system concepts. These estimates should be compared to MNS constraints (if any) and reflected in the CFP, IPS, and LCC estimates (BCE and ICE).

(2) Plans exist to conduct and document sufficient analysis to determine unit supply personnel manpower and skill requirements data as input to LCC estimates.

c. *Direct support (DS).* DS includes supply personnel manpower requirements for POL (MOS 76W), materials handling and storage (MOS 76V), and ammunition (MOSs 55B, 55X, 55Z, and 76Y). (MOSs listed are just examples.)

(1) Ensure that an initial estimate of requirements (for peacetime and wartime) and costs have been determined for the alternative system concepts. The estimate should be compared to MNS constraints (if any) and reflected in the CFP, IPS, and LCC estimates (BCE and ICE).

(2) Ensure that plans exist to conduct and document sufficient analysis to determine DS supply manpower and skill requirements data as input to LCC estimates.

d. *General support (GS)/theater.* GS/theater includes supply personnel manpower requirements for POL, materials handling and storage, and ammunition. Ensure that—

(1) An initial estimate of requirements (for peacetime and wartime) and costs have been determined for the alternative system concepts. The estimate should be compared to MNS constraints (if any) and reflected in the CFP, IPS, and LCC estimates (BCE and ICE).

(2) Plans exist to conduct and document sufficient analysis to determine GS/theater manpower and skill requirements data as input to LCC estimates.

#### 2-9. Transportation—vehicle operators

a. *General.* For fuel and ammunition support vehicle operator manpower requirements, ensure that—

(1) Both characteristics (for example, weight and weapon accuracy or lethality) of the displaced or similar system that tend to

drive fuel and ammunition support vehicle requirements and targets for improvement have been identified. Additionally, ensure that the elements of the OSCR program are addressed in this area.

(2) Tentative manpower goals and thresholds have been established for system support consistent with data from similar systems, the MNS, SMMP and projected activity rates.

(3) Plans exist to provide D&V phase contractors with a description of existing and projected manpower and skill capabilities/availability (for example, AR 611-201, AR 600-201 and TOEs) to influence system design and support planning.

(4) TOE ammunition and fuel resupply manpower requirements have been computed consistent with AR 570-2 or any deviations have been justified.

b. Fuel and ammunition resupply. For fuel and ammunition resupply vehicle operator manpower requirements, ensure that—

(1) An initial estimate of manpower (for example, MOS 64C for bulk fuel distribution) requirements (for peacetime and wartime) and costs have been determined for the alternative system concepts. The estimates should be compared to MNS constraints (if any) and be reflected in the CFP, IPS, and LCC estimates (BCE and ICE).

(2) Plans exist to—

(a) Perform tradeoff analyses among manpower requirements, system characteristics, and support concepts.

(b) Conduct and document sufficient analysis to determine manpower requirements as input to LCC estimates.

(c) Collect data (for example, fuel consumption rate for fuel resupply or on-board storage capacity or weapon performance for ammunition resupply) during DT I and EUT&E in order to determine manpower requirements for assisting in updating manpower estimates (BCE and ICE).

## 2-10. Analysis Documentation

a. *QQPRI*. Ensure that plans (that is, tasks, responsibilities, and milestones) exist to develop, coordinate and obtain HQDA approval of the QQPRI prior to MDR II as required by AR 71-2.

b. *Manpower Estimate Report (MER)*. For ACAT I systems, ensure plans exist to develop, coordinate, obtain Army Acquisition Executive (AAE) approval, and submit a MER to the Assistant Secretary of Defense (Force Management and Personnel) at least 45 days prior to scheduled Defense Acquisition Board committee review in accordance with AR 70-1, AR 602-2, and DOD 5000.2-M.

## Section IV Supply Support

### 2-11. General

For adequate supply support, ensure that—

a. Alternative concepts have been developed that are compatible with the MNS, and the logistic resource implications of each concept have been evaluated as required by AR 700-127.

b. Tentative goals and thresholds have been established in the IPS for supply support-related parameters (for example, fuel consumption rates, spares costs, and resupply times), and that they have been compared to an existing system.

c. Characteristics of current systems that are major contributors to supply support costs have been identified and that targets for improvements on the new system have been established as required by AR 700-127.

d. An estimate of initial and follow-on supply support costs including contractor support cost (if applicable), has been developed, compared to an existing system, and included in the BCE and IPS. Additionally, ensure the supply support elements of the OSCR program have been adequately implemented and achieved.

e. Army acquisition objective (AAO) and alternative production and deployment schedules for the system have been determined.

f. Plans or contractual provisions exist to conduct tradeoffs among system characteristics, manpower, and supply support concepts to meet readiness objectives as required by AR 700-127.

g. Adequate consideration has been given to other military service, contractor support, and HNS capabilities in developing the alternative supply support concepts. (See AR 570-9 for policy on using these types of support.)

h. System design has been analyzed to identify potential unique foreign technologies or materials and component dependencies that may constrain production to meet potential surge and mobilization needs.

### 2-12. Planning documentation—provisioning plan

Ensure that a provisioning plan (PP) has been initiated as required by AR 700-18.

## Section V

### Packaging, Handling, and Storage (P,H&S)

#### 2-13. General

For adequate system support, ensure that—

a. Alternative P,H&S concepts have been developed that are compatible with the initial MNS, and the logistic resource implications of each concept have been evaluated as required by AR 700-127.

b. P,H&S characteristics of current systems that are major contributors to supply support costs have been identified and that targets for improvements on the new system have been established as required by AR 700-127.

c. An estimate of initial and follow-on P,H&S costs has been developed, compared to an existing system and included in the BCE and IPS.

d. Plans or contractual provisions exist to conduct tradeoffs among system characteristics, manpower, and P,H&S concepts to meet readiness objectives as required by AR 700-127.

e. Ensure the elements of the OSCR program have been addressed.

#### 2-14. Packaging

a. *General*. For packaging ensure that—

(1) There are plans and contractual constraints to maximize use of packaging material that is reusable, recyclable, degradable, or easily disposable as required by AR 746-1 and AR 700-15 and plans to conduct an environmental impact assessment for each new packaging material. Ensure that environmental requirements of Section XVII are met.

(2) There are contractual provisions for the following:

(a) Preservation and packaging requirements that will limit the number of types, grades, sizes, styles, methods, materials, and designs to simplify procurement and stockage requirements as required by AR 746-1.

(b) Developing preservation, packing, and marking requirements according to MIL-D-46845 and AR 746-1 for new missiles and rockets.

(3) There are contractual provisions to require new packaged petroleum products, if any, be packaged, packed, and marked according to MIL-STD-290.

(4) There are contractual provisions to require packaging for hazardous materials to comply with performance oriented packaging (POP) requirements as codified in the International Maritime Dangerous Goods Code and the International Civil Aviation Organization Technical Instructions for the Safe Transport of Dangerous Goods by air. Ensure environmental requirements of Section XVII relating to packaging for hazardous materials are met.

b. *Unitization*. Ensure that—

(1) Requirements for proposed use or design of a reusable shipping and storage container conform to Army guidelines in AR 746-1. This includes submission of design and function data in accordance with MIL-STD-1510 to the U.S. Air Force Armament Development and Test Center, Armament Systems Division, Container Design Retrieval System Office, Eglin, AFB, FL, 32542, for review prior to initiating development of a specialized reusable container.

(2) There are plans and contractual provisions requiring that each

reusable container for system support meet the design, preservation, and identification requirements of AR 746-1.

(3) The use and design of palletized unit loads consistent with the application criteria (such as, weight and volume limits and meeting MIL-STD-147 requirements) of AR 746-1. (See DA Pam 746-1 for information on pallet selection for shipment and storage (for example, 4-way, 40-inch by 48-inch pallet is standard Army pallet for shipment and storage.)

## 2-15. Handling and storage

Ensure that there are plans and contractual provisions to conduct sufficient analysis to identify all hazardous material, as defined in AR 708-1, required for system operation and support.

## 2-16. Security

Ensure that tentative system physical security requirements have been established to provide—

- a. Inherent security to the maximum extent possible.
- b. Interoperability or application of available physical security equipment or systems.
- c. Replacement or reduction of requirements for security personnel.

## Section VI Support Equipment and Test, Measurement, and Diagnostic Equipment (TMDE)

### 2-17. General

a. For support and test equipment, ensure that—

(1) Major items requiring development have been identified as required by AR 700-127.

(2) A system prime mover has been identified that sufficiently meets the capabilities to transport a system shelter, associated support items of equipment (ASIOE), crew, and power generation equipment as appropriate.

(3) Implications of the alternative operational and support concepts have been evaluated as required by AR 700-127. Also, ensure these elements have been adequately addressed as part of the OSCR program.

(4) Plans exist (for example, in the TEMP) for conducting sufficient evaluation of equipment subelements of the preliminary system support package (SSP) to accomplish DT I/EUT&E objectives. (See AR 73-1 for these objectives.)

(5) Plans and contractual provisions exist to—

(a) Develop prototypes of major items of system-peculiar support and test equipment for delivery to DT I/EUT&E.

(b) Deliver other support and test equipment subelements of the preliminary SSP for DT I/EUT&E.

(c) Ensure the system and support concepts are developed to maximize use of equipment already available in the TOE/table of distribution and allowances (TDA), Army inventory, other Services, or the commercial market (in descending order of desirability).

(d) Ensure approval of the appropriate Army activity is obtained prior to initiating development of a system-peculiar support item. Activities involved include the U.S. Army TMDE Activity (USATA) for TMDE and calibration equipment; U.S. Army Belvoir Research, Development, and Engineering Center (BRDEC) for power generation and environmental control equipment; and U.S. Army Electronic Devices Research Center, CECOM, for battery chargers and batteries. For Class VIII support materiel or equipment, also ensure involvement by the Defense Medical Standardization Board, when appropriate, and by the U.S. Army Academy of Health Sciences.

b. The following information will be helpful in this area:

(1) DA Pan 700-21-1 is the TDME preferred items list (PIL) and should be the first choice for TMDE selection. SB 700-20, DA Pam 700-20 provide additional lists of standard TMDE.

(2) If USATA nonconcurs in initiating development of new TMDE, approval of the Executive Director for TMDE, HQ AMC, and, as necessary, ODCSLOG (DALO-SMT) must be obtained

before development commences. In the case of medical TMDE, approval must also be obtained from the Office of the Surgeon General (TSG), Health Care Logistics (DASG-HCL).

(3) Program Manager TMDE, Huntsville, AL approval is required prior to initiating development of automatic test equipment (ATE).

(4) TMDE (unit/AVUM through depot level) should be selected or developed to be compatible with the calibration capability of the area calibration laboratory (ACL), the area TMDE calibration and repair centers (ACRCs), and the area TMDE support teams.

(5) System TMDE for each maintenance unit should be selected or developed to be compatible with the calibration capability of TMDE currently authorized that unit.

(6) Maintenance shelters must be selected from the approved DOD standard family of tactical shelters, or approval must be obtained from the Joint Committee on Tactical Shelters to develop a new maintenance shelter according to AR 70-59.

(7) When developing or acquiring end items and systems requiring electric power from mobile electric power generating sources (MEPGS), DOD components will consider the characteristics and suitability of the DOD standard family of MEPGS as described in MIL-STD-633 and MIL-STD-1332. If requirements exist that cannot be met with one of the DOD standards, the developer or acquisition component will so advise and obtain deviation approval from the PM for mobile electric power (MEP) as required by AR 700-101. The developer or acquisition component should first carefully review the end item or system requirements for electric power to be assured a DOD-standard MEPGS cannot be made compatible to its needs. The DOD PM-MEP will seek alternatives to granting deviations from the standard family through analysis of the requirement and review of the current inventory and MEPGS research and development (R&D) programs, both ongoing and planned.

(8) U.S. Army Electronics Technology and Devices Laboratory approval is required for use of a nonstandard battery or battery charger.

(9) The system must be designed to use military standard environmental control equipment (MIL-STD-1407 and MIL-STD-1408) or BRDEC approval must be obtained to use nonstandard environmental control equipment as required by AR 700-115.

### 2-18. Supply

The criteria below apply to equipment required for system supply support and support unit mobility.

a. Ensure plans or contractual provisions exist to conduct the following:

(1) Tradeoffs to determine the best balance among hardware characteristics, support concepts, and support equipment requirements.

(2) Sufficient analysis to develop an initial estimate of the type and quantity of—

(a) Fuel resupply vehicles and distribution equipment.

(b) Ammunition resupply vehicles.

(c) Repair parts storage vans and transport vehicles.

(d) Materials handling equipment (MHE) for unit, DS, GS, theater, point of embarkation (POE) and point of debarkation (POD), and depot levels.

b. Make certain plans exist to resolve those requirements that exceed current TOE or TDA authorizations.

### 2-19. Maintenance

The criteria below apply to equipment required for system maintenance support and maintenance unit mobility.

a. Ensure plans or contractual provisions exist to conduct the following:

(1) Tradeoffs to determine the best balance among hardware characteristics, support concepts, and support equipment requirements.

(2) Sufficient analysis to develop an initial estimate of the type and quantity of—

(a) Tools for operator or crew, unit/AVUM, DS and GS (or AVIM), and depot levels.

(b) TMDE for unit/AVUM, DS and GS (or AVIM), and depot levels.

(c) Calibration equipment and standards.

(d) MHE, including recovery and evacuation equipment, and other.

(e) Shelters, trailers, vans, vehicles.

b. Make certain plans exist to resolve those requirements that exceed current TOE or TDA authorizations.

## 2-20. Ancillary operational equipment

The criteria below apply to ancillary equipment required for system operations and support.

a. Ensure plans or contractual provisions exist to conduct the following:

(1) Tradeoffs to determine the best balance among hardware characteristics, support concepts, and ancillary equipment requirements.

(2) Sufficient analysis to develop an initial estimate of the type and quantity of required ancillary equipment such as—

(a) Power generation equipment.

(b) Environmental control equipment.

(c) Communications equipment.

(d) Prime movers.

b. Make certain plans exist to resolve those requirements that exceed current TOE or TDA authorizations.

## Section VII

### Training and Training Devices

#### 2-21. General

Ensure that the training implications and costs have been appropriately considered in the evaluation of alternative system concepts. Additionally, make certain that training and training devices were considered as part of the OSCR program.

#### 2-22. Institutional training

a. *Operator training.*

(1) *Training concept.* Ensure that—

(a) A proposed operator institutional training concept has been developed to identify, in general, who is to be trained, what skills are to be trained, and when, where, and how training is to be accomplished.

(b) There are contractual provisions for conducting sufficient LSA to permit refining the operator institutional and Reserve Component (RC) exportable training concept and critical operator task identification.

(2) *Training material.* Make certain that plans exist to develop preliminary draft training materials in approved format for identified high-risk operator tasks to train EUT&E system operator personnel.

(3) *Instructors.* Make certain that plans exist for conducting an analysis to estimate system operator training instructor requirements.

(4) *Training equipment.*

(a) *System or end item.* Ensure that plans (that is, milestones and responsibilities) exist to conduct, prior to MDR II, analyses to estimate system or end item (and subassemblies) quantity and distribution requirements to support operator institutional training.

(b) *Training ammunition.* Make certain that plans (that is, milestones and responsibilities) exist to determine requirements for development of new training ammunition and to prepare an initial distribution plan.

(5) *Training devices.*

(a) Ensure that the need for new training device(s) for institutional operator and RC exportable training has been included in the system requirement document according to AR 71-9.

(b) Make certain that plans exist for developing breadboard operator training devices for training EUT&E operator player personnel.

b. *Supporter training.*

(1) *Training concept.* Ensure that—

(a) A proposed institutional training concept for support personnel has been developed to identify, in general, who is to be trained, what skills are to be trained, and when, where, and how training is to be accomplished, to include exportable training to the Reserve Components.

(b) There are contractual provisions for conducting sufficient LSA to permit refining the institutional training concept for support personnel.

(2) *Training material.* Make certain that plans exist to develop preliminary draft training materials in approved format for identified critical system support tasks to train EUT&E system support personnel.

(3) *Instructors.* Make certain that plans exist to determine estimated system support personnel training instructor requirements.

(4) *Training equipment.*

(a) *System or end item.* Ensure that plans (that is, milestones and responsibilities) exist to conduct, prior to MDR II, analyses to estimate system/end item (and subassemblies) quantity and distribution requirements to support training of system support personnel.

(b) *Support and test equipment.* Make certain that plans exist to conduct, prior to MDR II, analyses to estimate, for system support personnel, quantity and distribution requirements of—

1. Support and test equipment (common and peculiar). (See fig 1-7.)

2. Related test program sets.

(5) *Training devices.*

(a) Ensure that the need for new institutional training devices to train support personnel has been included in the system requirement document according to AR 71-9.

(b) Make certain that plans exist for developing breadboard training devices for training DT I/EUT&E system support personnel.

#### 2-23. Unit training

Ensure that a proposed unit training (individual and collective) concept for operator and support personnel has been developed to identify, in general, who is to be trained, what skills are to be trained, and when, where, and how training is to be accomplished, to include provisions for exportable training packages. Ensure the concept addresses consideration of embedded training to include the associated analysis and rationale supporting its use or nonuse.

a. *Individual.*

(1) *Extension Training Materials (ETM).* Ensure that plans exist to identify, prior to MDR II, the ETM required to train high risk system operator and maintenance tasks.

(2) *Soldiers manuals.* Make certain that plans (that is, milestones and responsibilities) exist to determine, prior to MDR II, initial estimates of requirements for new or revised soldiers manuals for operator and support personnel MOS.

(3) *Trainer guides.* Make certain that plans exist to determine, prior to MDR II, initial estimates of new or revised trainer guide requirements.

(4) *Skill qualification tests (SQTs).* Make sure plans exist to determine, prior to MDR II, initial estimates of new or revised SQT requirements.

(5) *Training devices.*

(a) Ensure that the need for new training devices for unit training of operator and support personnel has been included in the system requirement document according to AR 71-9.

(b) Make certain that plans exist for developing breadboard unit training devices for training DT I/EUT&E test player personnel.

b. *Collective.*

(1) *Training concept.* Ensure that—

(a) A draft collective training concept (what, when, where, and how) has been developed and included in the System Training Plan (STRAP).

(b) Plans exist for the training developer to initiate an analysis to identify system high risk collective operational tasks.

(2) *Army Training and Evaluation Program (ARTEP).* Make certain that plans exist to determine, prior to MDR II, initial estimates of new or revised ARTEP requirements.

(3) *Training ammunition.* Make certain that plans (that is, milestones and responsibilities) exist to determine, prior to MDR II, initial estimates of ammunition requirements and distribution plan for unit collective training.

(4) *Instructors.* Ensure that plans exist for conducting an analysis to estimate system-related collective training instructor requirements.

## **2-24. New equipment training (NET)**

Ensure that tentative dates have been established for conducting NET for DT I/EUT&E operator and support player personnel.

## **2-25. Planning documentation**

*a. New equipment training plan (NETP).* Ensure that an NETP has been prepared, coordinated, approved, and distributed as required by AR 350-35 and DA Pam 350-40.

*b. STRAP.* Unless waived by U.S. Army Training Support Center (USATSC), make certain that an initial STRAP has been prepared (to include the training strategy, training concept, and initial training resource estimates). Also ensure that the plan has been coordinated with affected training developers and the MATDEV.

## **Section VIII Technical Data**

### **2-26. Equipment manuals**

*a. Supply/storage and other publications—security procedures.* Ensure that a System Security Classification Guide (SSCG) has been prepared and approved according to AR 380-5.

*b. Operation and maintenance manuals.*

(1) *Operator level.* Ensure that—

(a) Plans exist to develop preliminary draft operator manuals for DT I/EUT&E.

(b) DT I/EUT&E test planning (TEMP) includes provisions for evaluating preliminary draft operator manuals.

(2) *Unit/AVUM level.* Ensure that—

(a) Plans exist to develop preliminary draft unit maintenance manuals for DT I/EUT&E.

(b) DT I/EUT&E test planning (TEMP) includes provisions for evaluating preliminary draft unit maintenance manuals.

(3) *Repair parts and special tools list (RPSTL).* Ensure that—

(a) Plans exist to develop a preliminary RPSTL for DT I/EUT&E.

(b) DT I/EUT&E test planning (TEMP) includes provisions for evaluating preliminary draft RPSTL.

(4) *Maintenance allocation chart (MAC).* Make certain that plans exist for developing a PMAC or equivalent LSA data for inclusion in the appropriate preliminary draft equipment publication.

(5) *Explosive ordnance disposal (EOD) procedures.* Ensure that—

(a) EOD design tradeoffs have been considered.

(b) The MATDEV has coordinated with the Army EOD Office, U.S. Army Armament Research and Development Engineering Center (ARDEC), ATTN: SMCAR-FSM-E, Dover, NJ 07801-5001. ARDEC provides guidance and assistance, and reviews and approves EOD technical information (TI) procedures, tools, equipment, and publications for all new, improved, and modified U.S. and foreign explosive ordnance.

(c) The requirement document (that is, the MNS, ORD, and so forth) has been reviewed by ARDEC.

(d) Plans exist to prepare and obtain approval of EOD TI prior to any movement or shipment within continental United States (CONUS) of new, improved, and modified U.S. and foreign ordnance for which published EOD procedures are not available.

(e) Both the need for new EOD render safe procedures (RSP) and applicable techniques, tools, and equipment have been identified for materiel with explosive components, fuses, and fuse systems, including nuclear weapons. (Blow-in-place is not an RSP.)

## **2-27. Authorization documents**

*a.* For systems requiring the development of a new organization (TOE), ensure that plans (that is, tasks, responsibilities, milestones) have been established to prepare an Automated Unit Reference Sheet (AURS) for submittal to HQDA with the initial BOIP as required by AR 71-2.

*b.* Ensure that developmental line item numbers (ZLIN) and standard study numbers (SSN), if appropriate, have been assigned for the system and those associated support items and training devices requiring type classification as required by AR 710-1, AR 71-2, and AR 70-1.

## **2-28. Drawings**

As a minimum, ensure there are contractual provisions to develop and deliver conceptual design engineering drawings and associated lists to document D&V phase system design.

## **Section IX Computer Resources Support**

### **2-29. General**

For support resources, ensure that—

*a.* The request for proposal (RFP) for the D&V phase includes a requirement for unlimited rights to all technical data and documentation for computer program configured items (CPCI) and associated support resources. If not unlimited rights, the RFP should include at least limited rights with permission to use the data to prepare, modify, and maintain the same or similar CPCIs and associated support resources.

*b.* There are plans and contractual provisions to acquire and support new mission software in conformance with DOD Standard 2167, DOD Standard 2168 and DOD Standard 1467.

*c.* That computer resource considerations are adequately addressed in the OSCR program.

### **2-30. System or end item operation**

For load modules (tape and program), ensure that—

*a.* Potential computer resource implications and associated development risk areas related to system operation have been identified for the recommended system(s).

*b.* The system specification (type A, MIL-STD-490) has been prepared and the system requirements review has been completed to establish system baseline functional requirements.

*c.* Computer software documentation deliveries required to maintain the software have been identified in the RFP; for example, management plans, development and design specifications, test and support plans, and requirements.

*d.* A preliminary system analysis has been conducted and plans prepared to resolve identified software problem areas.

*e.* Requirements exist to minimize the number of different languages used and to use the Ada programming language to develop system software unless waiver approval is obtained from the Ada waiver control officer (HQDA (SAIS-PS) through, for AMC activities, HQ AMC (AMCDE-ATC)) and, for ACAT I D systems, the Decision Acquisition Executive (DAE) as required by DODD 3405.1, DODI 5000.2, and AR 70-1.

*f.* Plans and resources exist for evaluating operational computer software during DT I and EUT&E to the extent necessary to resolve key system performance issues.

*g.* Procedures exist for managing and controlling changes in operational requirements and computer software requirements.

*h.* Plans exist for performing hardware, software, and firmware tradeoffs to meet system operational requirements.

*i.* Responsibilities for solving system integration problems (for example, Government-furnished equipment (GFE), contractor-furnished equipment (prime and subcontractors)) have been defined.

*j.* Contractual provisions exist for use of common data elements (AR 25-9 series), message formats, and computer programs to promote operational software standardization.

*k.* Security and privacy requirements for the operational software have been defined.

l. Plans exist to conduct system design reviews and audits according to MIL-STD-1521 or other standard.

### 2-31. System or end item maintenance

a. Ensure that the potential computer resource implications and associated development risk areas related to system maintenance have been identified for the recommended systems.

b. Make certain that plans for performing hardware, software, and firmware tradeoffs meet system maintenance requirements.

### 2-32. Post deployment software support (PDSS)

Ensure the potential computer resource implications and associated development risk areas related to post deployment software support (PDSS) have been identified for the recommended systems.

### 2-33. Management planning

a. Make certain a draft Computer Resources Life Cycle Management Plan (CRLCMP) has been prepared (for AMC activities, submit to Headquarters, AMC (AMCDE-SB) for approval by program decision authority) to document D&V phase development activities and responsibilities.

b. Ensure a computer resources working group has been established to assist in the management of the computer resources support development.

c. An initial test program set management plan (TPSMP) has been prepared, coordinated, and submitted to PM TMDE (AMCPM-TMDE) according to AR 70-1.

## Section X

### Transportation and Transportability

#### 2-34. Mobility—strategic and tactical

For strategic and tactical mobility, ensure that—

a. System alternatives selected for the D&V phase reflect proper consideration of the transportation assets required for deployment of the system and ASIOE. Ensure that transportability has been adequately addressed as it relates to the operation and support cost reduction (OSCR) program.

b. The CBTDEV, in coordination with the MATDEV, the logistician, and Military Traffic Management Command (MTMC) Transportation Engineering Agency (MTMCTEA), has included appropriate (from an economic and operational review) transportability requirements and characteristics in the requirement document, consistent with current doctrine and controlling strategic and tactical transportation asset requirements.

c. Appropriate transportability constraints, analysis, and reporting requirements related to strategic and tactical mobility of the system and ASIOE have been included in the RFP.

#### 2-35. Transportability

##### a. General.

(1) For required modes of transportation, ensure that contractual provisions exist for designing system lifting and tie-down provisions to comply with MIL-STD-209.

(2) Ensure that the CBTDEV, in coordination with the MATDEV, the logistician, and MTMCTEA, has included in the requirement document, consistent with current doctrine and controlling transportation asset requirements, appropriate (from an environmental, economic and operational view) transportability requirements and characteristics for the following:

(a) Highway.

(b) Rail.

(c) Marine.

(d) Aircraft, including fixed wing and rotary wing (internal and external cargo).

(3) Ensure the RFP contains appropriate analyses and reporting requirements for the following:

(a) Highway transportability.

(b) Rail transportability.

(c) Marine transportability.

(d) Containerization.

(e) Airdrop/low altitude parachute extract system (LAPES).

(f) Aircraft transportability, including fixed wing and rotary wing (internal and external cargo).

(g) Lifting and tiedown provisions

(h) Shelter overload prevention. The U.S. Army Natick RD&E Center Shelter Management Office should be consulted for engineering analysis or assistance to preclude shelter overload.

b. *Highway.* If a highway transportability requirement exists, ensure that contractual provisions exist to design the system to meet the dimensional and weight limitations of MIL-STD-1366C.

c. *Rail.* Ensure that plans exist to—

(1) Constrain rail transport system configuration for unrestricted movement within CONUS, Western Europe, and so forth, according to MIL-STD-1366C.

(2) Require the system to withstand the forces encountered during rail impact as defined in MIL-STD-810.

d. *Marine.* Ensure that plans exist to constrain system configuration and weight for sea transport according to MIL-STD-1366C.

e. *Containerization.* Ensure that—

(1) The CBTDEV, in coordination with the MATDEV, the logistician, and MTMCTEA, has included appropriate (from an economic and operational view) containerization requirements and characteristics in the requirement document consistent with current doctrine and controlling container asset requirements.

(2) Contractual provisions have been established to require the system, if feasible, to be compatible with American National Standards Institute (ANSI) or International Standardization Organization (ISO) standard cargo containers and other standard containers and pallets identified in Federal or military specifications or standards.

f. *Airdrop/LAPES.* Ensure that—

(1) The CBTDEV, in coordination with the MATDEV, AMC (including the U.S. Army Troop Support Command (TROSCOM) and Natick RD&E Center), the logistician, and MTMCTEA, has included appropriate (from an economic and operational view) air-drop/LAPES requirements and characteristics in the requirement document consistent with current doctrine and controlling transportation asset requirements.

(2) Contractual provisions exist to ensure the system is air-transportable and meets the loading, tiedown, suspension, and extraction requirements of MIL-STD-669, MIL-STD-814, and MIL-STD-1791.

(3) Plans exist for the developer to obtain engineering and design assistance, as necessary, from Natick RD&E Center for those items that have an airdrop requirement.

g. *Aircraft.*

(1) *Fixed wing.* Ensure that there are contractual provisions for designing the system—

(a) For handling by the 463L Air Cargo Handling System (if feasible) and other design constraints of MIL-STD-1791.

(b) To meet the sectionalization or disassembly requirements of MIL-STD-1366C.

(c) To conform to fuselage zone and compartment floor loading limitations of proposed transport aircraft.

(d) To withstand load factors indicated in MIL-STD-1791.

(2) *Rotary wing (internal cargo).* Ensure that—

(a) There are contractual provisions for designing the system to—

1. Meet the sectionalization or disassembly requirements of MIL-STD-1366C.

2. Conform to fuselage zone and compartment floor loading limitations of proposed transport aircraft.

3. Withstand load factors indicated in MIL-STD-209.

(b) The developer has plans to obtain engineering and design assistance from the Natick RD&E Center and MTMCTEA, as necessary, for those items requiring internal cargo loading.

(3) *Rotary wing (external cargo).* Ensure that—

(a) Plans exist to obtain engineering and design assistance from the Natick RD&E Center, as necessary, for transporting externally suspended cargo by rotary wing aircraft.

(b) Contractual provisions exist to design the system suspension points to conform to MIL-STD-209.

## **2-36. Transportability report and engineering analysis**

Ensure that—

a. The MATDEV has provided a transportability report to MTMCTEA in accordance with AR 70-47 or MIL-STD-1367 for transportability problem items or items with stated transportability requirements.

b. MTMC has conducted an initial transportability engineering analysis and provided the results to the MATDEV as required by AR 70-47.

c. Plans exist for MTMCTEA to conduct an updated transportability engineering analysis of items with either transportability problems or stated transportability requirements. The analysis will be based on the MATDEV's report and must be distributed prior to MDR II as required by AR 70-47.

d. MTMC has prepared and distributed a unit deployment assessment for required systems, as determined by MTMCTEA and the CBTDEV.

## **Section XI Facilities**

### **2-37. Base operations and services support**

For base operations and services support facilities, ensure that—

a. Preliminary requirements have been determined, consistent with initial manpower estimates and system characteristics, and coordinated with potential gaining MACOMs.

b. There are plans (that is, tasks, milestones, and responsibilities) for updating preliminary requirements in coordination with affected MACOMs, including their submittal of Military Construction, Army (MCA) funding requests to the Chief of Engineers (COE).

c. Plans exist to provide the contractor with a description of existing facilities characteristics and availability at the projected system deployment locations for use in influencing system design and support planning.

### **2-38. Logistical**

a. *Maintenance.* For maintenance facilities, ensure that—

(1) Preliminary requirements (unit/AVUM through depot level) have been determined and coordinated with potential gaining MACOMs according to AR 700-127. Ensure these facilities have adequately been addressed as part of the OSCR program.

(2) There are plans (that is, tasks, milestones, and responsibilities) for updating preliminary requirements prior to MDR II in coordination with affected MACOMs, including their submittal of MCA funding requests to COE.

(3) Plans exist to provide the contractor with a description of existing (unit/AVUM through depot level) facilities characteristics/availability/capabilities for use in influencing system design and support planning.

b. *Supply and storage.* For supply and storage facilities, ensure that—

(1) Preliminary requirements (organizational through depot level) have been determined and coordinated with potential gaining MACOMs per AR 700-127. Ensure these facilities have adequately been addressed in the OSCR program.

(2) There are plans (that is, tasks, milestones, and responsibilities) for updating preliminary requirements prior to MDR II in coordination with affected MACOMs, including their submittal of MCA funding requests to COE.

(3) Plans exist to provide the contractor with a description of existing facilities characteristics/availability (including associated support resources) for use in influencing system design and support planning.

### **2-39. Training**

Ensure that—

a. Preliminary training (institutional and unit) facility requirements for system operator and support personnel have been determined and coordinated with potential gaining MACOMs. Ensure these facilities have been adequately addressed in the OSCR program.

b. There are plans (that is, tasks, milestones, and responsibilities) for updating preliminary training facility requirements in coordination with affected MACOMs, including their submittal of MCA funding requests to COE.

c. Plans exist to provide the contractor with a description of existing training facilities characteristics/availability at the projected training locations for use in influencing training equipment/device development.

### **2-40. Planning documentation—support facility annex**

Ensure the MATDEV has prepared an initial support facility annex (including training input from the CBTDEV) for systems having a potential facilities impact. This annex must have Office of the Chief of Engineers (COE) approval according to AR 700-127. Make certain all MACOMs and appropriate installations and Army staff elements have been provided this information for long-range planning data for MCA projects.

## **Section XII Standardization and Interoperability**

### **2-41. General**

For standardization and interoperability ensure that—

a. The evaluation of alternative system concepts has adequately considered all existing or programmed systems that could potentially satisfy the Army requirements; (for example, systems being developed by another Service, the North Atlantic Treaty Organization (NATO)), or a quadripartite country (United States, United Kingdom, Canada, or Australia).

b. The requirement document was coordinated with other services and, subject to national disclosure policy, with NATO and quadripartite countries.

c. There are plans and resources to ensure continued coordination and cooperation with NATO and quadripartite countries in the development of systems having standardization or interoperability implications.

d. For equipment contracts over \$25,000 and any other contract in which life cycle benefits are probable, there are plans and contractual provisions for a parts control program (AR 700-60) involving compliance with MIL-STD-965 and other applicable military standards and specifications (i.e., MIL-STD-680, MIL-P-11268). All systems that do not intend to apply the DOD parts control program require approval from HQAMC (AMCPD-SE).

e. For Acquisition Category (ACAT) I and II systems, an International Armaments Cooperative Opportunities Plan has been updated according to AR 70-41, and AR 34-1 by the program sponsor in coordination with the MATDEV.

f. Adequate consideration has been given to participation by military allied countries and other friendly foreign countries in the research, development, production, and acquisition process for the system.

### **2-42. Command, control and communications (CCC)**

a. Ensure that the CCC system requirement document and specification include the following:

(1) Interoperability requirements compatible with the Army Battlefield Interface Concept and the Army Command and Control Combat Development Plan.

(2) Identification of operational interfaces with other existing or developmental battlefield automated systems (Army, other Services, allies) including application of existing NATO Standardization Agreements (STANAGs), Quadripartite Standardization Agreements (QSTAGs), or other agreements. (See DA Pam 310-35 for a partial list of agreements. Contact U.S. Army Security Affairs Command, ATTN: AMSAC-MC/S, 5001 Eisenhower Avenue, Alexandria, VA 22333-0001 for further information.)

(3) Requirements to use common or compatible automatic data processing equipment (ADPE) and communications equipment.

(4) Requirements for two or more battlefield automated systems to directly exchange and process data.

b. Make certain the DT I/EUT&E test plans include provisions for determining conformance to mission essential CCC system interoperability requirements.

### **2-43. Battlefield surveillance and target designation and acquisition systems**

For battlefield surveillance and target designation and acquisition systems, ensure that—

a. The requirement document and specification contain the following:

(1) Provisions to ensure the system will be able to interoperate with friendly (that is, Army, other Service, and allies) existing and developmental identification, friend or foe (IFF) equipment.

(2) Appropriate requirements to directly exchange and process data with other Army, other Service, and allied country battlefield automated systems.

(3) Appropriate provisions for the system to interoperate with existing or developmental Army, other Services, or allied country systems.

b. The DT I/EUT&E test plans include provisions for determining conformance to mission essential system interoperability requirements.

### **2-44. Ammunition**

For ammunition ensure that—

a. The requirement document and contract specification contain provisions (including application of existing NATO STANAGs, QSTAGs, or other agreements) to ensure the system will be designed to effectively standardize or interoperate with existing or developmental ammunition used by Army, other Service, or allied country weapons that are or may be required to implement NATO or other operational plans.

b. The DT I/EUT&E test plans include provisions for determining conformance to mission essential ammunition interoperability requirements.

### **2-45. Petroleum, oils, and lubricants (POL)**

For POL, ensure that—

a. The requirement document and contract specification contain provisions (including application of existing NATO STANAGs, QSTAGs, or other agreements) to ensure the system will be designed to effectively standardize or interoperate with POL used by existing or developmental Army, other Service, or allied country equipment that is or may be required to implement NATO or other operational plans.

b. There are contractual provisions requiring the system to be designed to maximize use of Army-approved standard fuels and lubricants, including flexibility of use. (See AR 710-2, MIL-HDBK-113, MIL-HBK-114, and TB 703-1 for list of fuels and lubricants.) Unless approved by the Army Acquisition Executive, no equipment is acquired which uses gasoline-type fuels if the system is intended for deployment and/or employment outside the United States.

c. The DT I/EUT&E test plans include provisions for determining conformance to mission essential POL interoperability requirements (from the requirement document).

### **2-46. Components and repair parts**

Ensure that—

a. The requirement document and contract specification contain provisions (including application of existing NATO STANAGs, QSTAGs, or other agreements) to ensure the system will be designed to effectively standardize or interchange to the extent feasible with components/repair parts from existing or developmental Army, other Service, or allied country equipment.

b. The requirement document includes appropriate consideration

of the family concept of materiel system development (such as for generators) to promote maximum interchangeability of components within systems serving a common purpose.

c. The DT I/EUT&E test plans include provisions for determining conformance to mission essential component or repair parts standardization, interoperability and interchangeability requirements per AR 34-1.

d. There are contractual provisions to require the metric system to be used in all elements of the system unless the program decision authority has granted approval to deviate from this requirement to AR 700-1.

### **2-47. Aircraft servicing**

a. For aircraft ammunition and POL loading and dispensing equipment, ensure the requirement document and contract specification include provisions for the equipment to effectively interoperate with aircraft of other Services and allies to permit cross-servicing.

b. For aircraft systems, make certain the requirement document and contract specifications contain provisions to ensure the aircraft system design is compatible with ammunition, POL, and associated loading and dispensing equipment of other Services and allies to permit cross-servicing.

c. Make certain the DT I/EUT&E test plans include provisions for determining conformance to mission essential aircraft servicing interoperability requirements.

## **Section XIII**

### **Reliability, Availability, and Maintainability (RAM)**

#### **2-48. Reliability**

a. *General.* To ensure system reliability, make certain that—

(1) A failure definition/scoring criteria (FD/SC) consistent with the operational mode summary/mission profile (OMS/MP), and system reliability requirements have been developed and coordinated with required agencies according to AR 702-3. Also ensure the FD/SC includes an assessment of incidents related to logistics burden, durability, and mission success.

(2) There are contractual provisions for conducting a reliability program, including reliability growth, according to MIL-STD 785. This also includes appropriate engineering, test, and management or accounting tasks to balance LCC and system effectiveness.

(3) An OMS/MP has been developed consistent with the MNS and quantitative RAM requirements.

(4) The IPS contains tentative reliability operational and technical thresholds for MDR II, MDR III, and initial operational capability (IOC).

(5) The DT I/EUT&E test plans provide for sufficient RAM demonstration to furnish evidence of satisfactory progress toward meeting system mission and logistics-related reliability requirements, resolving technical risks and problems of similar fielded systems.

b. *Mission-related.*

(1) Ensure that appropriate tentative system reliability requirements have been established in the requirement document and contractual specifications and that the requirements are—

(a) Directly related to operational effectiveness.

(b) Consistent with the MNS, SROs, Army doctrine, cost and operational effectiveness analysis (COEA), current technology, and safety considerations.

(2) Make certain the tentative mission-related reliability requirements have been allocated and are consistent with proposed GFE, commercial items, and contractor-developed equipment.

(3) Make sure reliability-related operational effectiveness drivers of current systems have been identified and areas for improvement defined.

c. *Logistics-related.* Ensure that—

(1) Appropriate tentative system logistics-related reliability requirements have been established in the requirement document and contractual specifications and that the requirements are—

(a) Directly related to manpower and support resource costs.

(b) Consistent with the MNS, SROs, Army doctrine, organization, force structure, COEA, current technology, and safety considerations.

(2) The tentative logistics-related reliability requirements have been allocated and are consistent with proposed GFE, commercial items, and contractor-developed equipment.

(3) Reliability-related support cost drivers of current systems have been identified and areas for improvement defined.

d. *Durability*. Ensure that—

(1) Appropriate tentative system and major subsystems durability requirements have been established in the requirement document and contractual specifications and that the requirements are—

(a) Directly related to manpower and support resource costs.

(b) Consistent with the MNS, COEA, current technology, safety, and reliability centered maintenance (RCM) principles; and also consider technological obsolescence.

(2) The tentative durability requirements have been allocated and are consistent with proposed GFE, commercial items, and contractor-developed equipment.

(3) Durability-related support cost and readiness drivers of current systems have been identified and areas for improvement defined.

## 2-49. Availability and system readiness objective

Ensure that—

a. Initial SROs and availability criteria for both peacetime and wartime have been established consistent with the MNS and current technology.

b. The IPS contains tentative operational and technical SRO and availability thresholds for MDR II, MDR III, and IOC.

c. There are sufficient tests and engineering and support analysis planned to provide evidence of satisfactory progress toward meeting system SRO and availability requirements, resolving technical risks and problems of similar fielded systems.

d. The mean administrative and logistics downtime projected in the SROs (or operational availability) is consistent with the MNS and historical data on anticipated supply, maintenance, recovery, and evacuation responsiveness. (See the Logistics Intelligence File (refer to DA Pam 700-30 for further information), AR 700-18, and AR 725-50 for data on supply responsiveness.)

## 2-50. Maintainability

a. *General*. Ensure that—

(1) There are contractual provisions for conducting a maintainability program according to MIL-STD-470, including appropriate engineering, test, and management, or accounting tasks to balance LCC and system effectiveness.

(2) There are provisions for accomplishing applicable D&V phase testability program tasks per MIL-STD-2165 for electronic systems.

(3) DT I/EUT&E test plans provide for sufficient demonstration to furnish evidence of satisfactory progress toward resolving technical risks and problems of similar fielded systems and meeting system requirements for—

(a) Testability.

(b) Modularity.

(c) Accessibility.

(d) Built-in test (BIT) and built-in test equipment (BITE).

(e) On-system maintenance.

(f) Off-system maintenance.

b. *Qualitative*. Qualitative factors include the following:

(1) *Test points*. Ensure that—

(a) There are contractual provisions for the system design to provide test points that are safe, protected, accessible, and of sufficient quantity and sensitivity to permit interface with existing ATE and fault isolation to the desired level, including monitoring BIT circuits.

(b) Support cost and readiness drivers related to adequacy of test points of current systems have been identified and areas for improvement defined.

(2) *Modularity*. Ensure that—

(a) There are contractual provisions to design the system so that line replaceable units (LRUs) and shop replaceable units (SRUs) are physically and functionally modularized and independently testable to facilitate fault isolation and replacement by the using unit.

(b) Support cost and readiness drivers related to modularity of current systems have been identified and areas for improvement defined.

(3) *Accessibility*. Ensure that—

(a) There are contractual provisions to ensure system design provides for rapid access to each assembly or component for inspection, repair, replacement, or servicing.

(b) Support cost and readiness drivers caused by poor component accessibility of current systems have been identified and areas for improvement defined.

c. *Quantitative*. Quantitative factors include the following:

(1) *BIT and BITE*. Ensure that—

(a) Appropriate tentative system BIT and BITE requirements have been established in the requirement document and contractual specifications, and that the requirements are—

1. Directly related to operational effectiveness, manpower, and support resource costs.

2. Consistent with the MNS, SROs, COEA, current technology, safety, and RCM principles.

(b) Tentative BIT and BITE requirements have been allocated and are consistent with proposed GFE, commercial items, and contractor-developed equipment.

(c) BIT and BITE support cost and readiness drivers of current systems have been identified and areas for improvement defined.

(2) *On-system maintenance*. Ensure that—

(a) Appropriate tentative on-system maintenance requirements (for example, mean-time-to-repair (MTTR), maintenance ratio at unit/AVUM level) have been established in the requirement document and contractual specifications, and that the requirements are—

1. Directly related to operational effectiveness, manpower, and support resource costs.

2. Consistent with the MNS, SROs, COEA, current technology, and safety considerations.

(b) Tentative on-system maintenance requirements have been allocated and are consistent with proposed GFE, commercial items, and contractor-developed equipment.

(c) On-system maintenance-related drivers of current systems have been identified and areas for improvement defined.

(3) *Off-system maintenance*. Ensure that—

(a) Appropriate tentative off-system maintenance requirements (for example, maintenance ratio at GS/AVIM level) have been established in the requirement document and contractual specifications, and that the requirements are—

1. Directly related to manpower and support resource costs.

2. Consistent with the maintenance plan, Army organization and force structure, COEA, current technology, and RCM principles.

(b) Tentative off-system maintenance requirements have been allocated and are consistent with proposed GFE, commercial items, and contractor-developed equipment.

(c) Off-system maintenance-related support cost and manpower drivers of current systems have been identified and areas for improvement defined.

## Section XIV Support Management and Analysis

### 2-51. Support management

a. Logistics program planning documents.

(1) *ILSP*. Ensure that—

(a) An ILS management team (ILSMT) has been established for all ACAT I and II systems and selected ACAT III and IV programs as required by AR 700-127. An ILSMT or other appropriate procedure for coordinating overall ILS planning and execution has been established for other ACAT III and IV systems. Ensure the ILSMT includes membership according to AR 700-127, to include affected

commands (for example, MTMC, U.S. Army Depot System Command (DESCOM), and COE).

(b) An initial ILSP has been prepared, coordinated, and approved according to AR 700-127 and DA Pam 700-55, to include tasks, responsibilities, and milestones for accomplishing the ILS program.

(c) The LSA strategy has been documented in the ILSP as required by AR 700-127.

(d) Provisions of the System MANPRINT Management Plan have been integrated into the ILSP according to AR 700-127.

(e) ILS managers have been assigned by the MATDEV, PEO/PM, and by the supporting command (if different from the MATDEV) according to AR 700-127. Make certain they have participated with the CBTDEV ILS manager in concept exploration phase ILS activities.

(f) Detailed ILS program events and tasks have been documented in a milestone information system according to AR 700-127 and DA Pam 700-26. Make certain that the milestones are consistent with AR 700-127 and requirements and milestones addressed in the ILSP.

(2) *IPS*. Make certain an IPS has been prepared according to DOD 5000.2 to include the program baseline and acquisition strategy coordinated with the acquisition team.

(3) *Acquisition Strategy*. Acquisition strategy has been prepared, coordinated with the acquisition team and summarized in the IPS according to DOD 5000.2 to include a summary of plans for ILS, MANPRINT, RAM, supportability test and evaluation, standardization, and support cost control.

*b. System requirement document.*

(1) Ensure that a requirement document (such as an ORD) for the system has been prepared, coordinated, and approved according to AR 71-9, to include appropriate logistics provisions and RAM Rationale appendix. A CSA, AAE, or DCSOPS memorandum or message directive containing the information required by AR 70-1 to include identifying the essential characteristics of the requirement can serve in lieu of materiel requirements document.

(2) Ensure that a MNS has been prepared, coordinated, and approved according to AR 71-9, describing how the system will be integrated into the force structure, deployed, operated, and supported.

*c. System BOIP*. Make certain that plans (that is, tasks, responsibilities, and milestones) exist to develop, coordinate, and obtain HQDA approval of the BOIP prior to MDR II as required by AR 71-2.

*d. Test planning*. Ensure that a Test Integration Working Group (TIWG) has been chartered for ACAT I and II systems and selected other systems according to AR 73-1 and DA Pam 70-21. Make certain the TIWG includes principal and appropriate associate membership by logistics-oriented activities (for example, logistician, U.S. Army Training and Doctrine Command (USATRADOC), MTMC, and major subordinate commands (MSCs)).

(1) *TEMP*. Make certain a TEMP has been prepared according to DOD 5000.2-M, coordinated, and approved according to AR 70-1, AR 73-1 and DA Pam 70-21 to include DT I and EUT&E supportability test issues, test criteria, test requirements or scope, preliminary SSP availability, and special resources. (Review each section of this chapter and DA Pam 700-50 for potential supportability issues.)

(2) *DT outline test plan (OTP)*. If supplementary user troops are required, ensure that a DT OTP (see DA Pam 73-1 for format) has been prepared and coordinated per AR 73-1, include supportability test objectives or scope, support resources to be evaluated, and logistics data collectors as necessary.

(3) *Operational Test (OT) OTP*. Make certain an EUT&E OTP has been prepared and coordinated according to AR 73-1 and DA Pam 73-1, to include supportability test objectives or scope, support resources to be evaluated, and logistics data collectors as necessary.

(4) *DT test design plan (TDP)*. Ensure that a DT TDP has been prepared and coordinated per AR 73-1, to include test conditions,

test criteria, data requirements, and data analysis procedures applicable to evaluating supportability issues contained in the DT I independent evaluation plan (IEP) and the TEMP. (This is applicable after MDR I and prior to DT I.)

*e. Solicitation documents*. Ensure that the elements of ILS have been given sufficient weight in the source selection process.

(1) *Statement of work (SOW)*. Make certain the contractual (RFP) SOW for the D&V phase has been developed in coordination with the assigned MSC ILS organization, to include requirements to plan for and accomplish applicable ILS tasks and a System Support Package Components List (SSPCL) and to deliver a preliminary SSP for DT I/EUT&E. (See each section in this chapter for potential ILS tasks and MIL-HDBK-245 for guidance on preparing the SOW.)

(2) *Contract Data Requirements List (CDRL)*. For the D&V phase, ensure that DD Form 1423 (Contract Data Requirements List) has been developed in coordination with the assigned MSC ILS organization, to include the SSPCL and other data required for effective management of the ILS program.

(3) *Specification*. For the D&V phase, ensure that the system specification/purchase description (MIL-STD-490) has been developed in coordination with the assigned MSC ILS organization to include, consistent with the requirement document, ILS-related design and support resource technical development objectives and evaluation procedures (such as DT I/EUT&E). (See issues from each section in this chapter for potential technical development objectives.)

*f. Independent evaluation plan (IEPs)*.

(1) *DT IEP*. Ensure that a DT I IEP has been prepared and coordinated according to AR 73-1 to include supportability test issues (as developed from this pamphlet, the requirement document, AR 700-127, DA Pam 700-50, or other sources); evaluation of preliminary SSP; identification of data sources; and evaluation criteria/methodology that are related to operating and support (O&S) cost, manpower, or readiness. (This is applicable after MDR I and prior to DT I.)

(2) *OT Test and Evaluation Plan (TEP)*. Make sure an EUT&E TEP has been prepared and coordinated according to AR 73-1 and DA Pam 73-1, to include supportability test issues (as developed from this pamphlet, the requirement document, AR 700-127 requirements, DA Pam 73-1, TEMP or other sources); test conditions, identification of data requirements and sources; and evaluation criteria/methodology that are related to O&S cost, manpower, or readiness. (This is applicable after MDR I and prior to EUT&E.)

*g. Computer-aided acquisition and logistics support (CALS)*. Ensure solicitation documents require specific schedule and cost proposals for—

(1) Integration of contractor technical information systems and processes,

(2) Authorized Government access to contractor technical data bases, and

(3) Delivery of technical information in digital form in accordance with CALS standards (MIL-STD-1840, MIL-D-28000, MIL-M-28001, MIL-R-28002, MIL-D-28003, and MIL-HDBK59).

## 2-52. Support analysis

*a. Concept formulation*. Ensure the following documentation has been prepared according to AR 71-9 to document the evaluation of alternative system concepts:

(1) Tradeoff determination.

(2) Tradeoff analysis.

(3) Best technical approach.

(4) COEA. (See section XV.)

*b. Test data*. Ensure there are plans to prepare and distribute according to AR 73-1 the following reports prior to MDR II:

(1) DT test report (TR).

(2) DT independent evaluation report (IER).

(3) EUT&E TR.

(4) EUT&E IER.

*c. LSA*. Ensure an LSA review team of Government ILS functional and managerial representatives has been established according

to AR 700-127. See AR 700-127 for required MANPRINT integration with LSA.

(1) Ensure that appropriate LSA tasks (see MIL-STD-1388-1A for guidance in task selection) in each of the following sections have been accomplished for the concept phase:

- (a) Program planning and control.
  - (b) Mission and support systems definitions. For example, initiation of LSAR "A" sheet for each system for which maintenance objectives or constraints are imposed.
  - (c) Preparation and evaluation of alternatives.
  - (d) Supportability assessment.
- (2) Ensure there are plans, as shown in the ILSP and solicitation documents, for accomplishing the appropriate D&V phase LSA tasks in each of the sections below. (See MIL-STD-1388-1A for guidance in task selection.)
- (a) Program planning and control.
  - (b) Mission and support systems definition.
  - (c) Preparation and evaluation of alternatives.
  - (d) Determination of logistic support resource requirements.
  - (e) Supportability assessment.

## Section XV Cost Analysis and Funding

### 2-53. Logistics-related R&D

a. *LSA*. Ensure that adequate funds have been programmed to accomplish applicable D&V phase LSA tasks. (See MIL-STD-1388-1A for task listing.)

b. *SSP*. Ensure that adequate funds have been programmed for the following:

- (1) *Technical data*. Make certain adequate funds have been programmed for preparation of preliminary draft equipment publications for DT I/EUT&E. (See section VIII for areas of consideration.)
- (2) *Training services and equipment*. Ensure that adequate funds have been programmed for development, fabrication, and preparation of preliminary SSP training and training device elements for DT I/EUT&E. (See Sec VII for areas of consideration.)
- (3) *Support and test equipment*. Make certain adequate funds have been programmed for fabrication and delivery of preliminary SSP support and test equipment elements for DT I/EUT&E. (See section VI for areas of consideration.)
- (4) *Repair parts*. Ensure that adequate funds have been programmed to identify and provide the preliminary SSP repair parts elements for DT I/EUT&E.

### 2-54. Cost analysis documentation

a. Ensure that a BCE (planning estimate) has been prepared according to DA Pam 11-2, and DA Pam 11-3 to estimate system life cycle costs. Make sure ILS program funding requirements have been included.

b. Ensure that an ICE has been prepared by the Comptroller of the Army (COA) or AMC to test the reasonableness of the BCE.

c. For ACAT I and II programs, make certain that an Army cost position (ACP) has been prepared by Assistant Secretary of the Army Financial Management (ASA(FM)) to compare the BCE and ICE, including any recommended changes to the BCE.

d. For materiel system requirements specification (MSRS), ensure that—

- (1) An MSRS has been prepared according to AR 11-18 to provide data to support the ICE.
- (2) Milestones have been established to update the MSRS in a timely manner prior to MDR II and to provide the updated document to the organization responsible for the ICE.

e. For COEA/cost and training effectiveness analysis (CTEA), ensure that—

- (1) A COEA/CTEA has been prepared (ACAT I and II systems only) according to AR 71-9 and approved by HQDA (ODCSOPS) to document evaluation of alternative system and training concepts.
- (2) A cost benefit analysis has been conducted (for IPR programs) according to AR 71-9.

f. The elements of the OSCR program have been adequately implemented and achieved.

## Section XVI Materiel Fielding Planning

### 2-55. Developer

There are no materiel fielding planning assessment issues or criteria that apply to the developer at this milestone.

### 2-56. Gaining commands

There are no materiel fielding planning assessment issues or criteria that apply to the gaining commands at this milestone.

## Section XVII Environmental Planning

### 2-57. Safety

a. Make certain that the proposed requirement document has been coordinated with the HSC to ensure that adequate consideration is given to the prevention of health hazards from system operation or maintenance.

b. Make sure plans exist for the MATDEV to request preparation of a Health Hazard Assessment Report by TSG according to AR 40-10.

### 2-58. Design

Ensure the system is designed to minimize the use of strategic/scarc materials in system operation and maintenance and to reduce the generation of hazardous waste or other emissions or discharges.

### 2-59. Operation and support

For safe system operation and maintenance, and for avoidance of health hazards, ensure that—

a. A preliminary hazard analysis (MIL-STD-882) has been conducted to identify potentially hazardous or safety critical operating and maintenance aspects of the system(s) entering the D&V phase.

b. Contractual provisions exist to—

(1) Conduct system and subsystem hazard analyses (MIL-STD-882) and tests to further define potential system operation and maintenance problem areas.

(2) Design the system so that operator and maintenance actions can be performed to minimize hazardous conditions such as proximity to high voltage, radiation, moving parts, high temperature components, noise (MIL-STD-1474), toxic fumes, skin irritants, lasers, pressure vessels, and so forth. Also design the system to reduce or eliminate the amount of hazardous waste generated, as well as other emissions or discharges.

c. Ensure the requirement document and contractual documentation—

(1) Identify essential safety engineering design requirements (quantitative and qualitative).

(2) Identify significant development effort required to control foreseen safety and health hazards of system operation and maintenance.

(3) Have been reviewed by the safety office and environmental office supporting the MATDEV or program/project/product manager (PM).

(4) Include environmental statutory and regulatory requirements.

d. Historical safety and health data (for example, data from the Army Safety Management Information System and the Hazardous Materials Information System) and operation and maintenance issues of similar fielded systems have been documented. Make certain that plans exist to provide this information to the contractor to influence system design.

### 2-60. Testing

a. Ensure that—

(1) Plans exist for the MATDEV to provide the technical and user testing activities, Army Safety Center, and CBTDEV with a Safety Assessment Report at least 60 days prior to the start of

testing. The report must define hazards to operator and maintenance personnel involved with testing. Government system-level testing must not begin until the report is reviewed and accepted by the test organization.

(2) The program sponsor provides the environmental documentation, developed per AR 200-2, to the technical and operational testers prior to the commencement of testing at an Army or contractor facility or location.

(3) Plans are established to provide the operational test activity a safety release prior to EUT&E. (See AR 385-16 for format.)

*b.* Under the provisions of AR 200-1 and AR 200-2, consideration will be given in the early stages of the acquisition cycle to reducing or eliminating the use of toxic, hazardous or environmentally unacceptable materials in testing of new systems.

*c.* Ensure that the DT I and EUT&E test plans include provisions for estimating system operation and maintenance safety, health impacts and risks (for example, noise, radiation, or toxicological effects), in addition to environmental impacts.

### **2-61. Hazardous material**

Ensure plans and contractual provisions exist for identifying all hazardous material, as defined in AR 708-1, associated with system operation and support, and also for initiating development of related special requirements (for example, special handling and disposal procedures). Make certain that appropriate contingency or mitigation actions have been planned. These provisions include checking against the list of hazardous materials published in the Resource Conservation and Recovery Act (RCRA), Volume 40, Code of Federal Regulations, CFR 260 Series. If any material used or proposed for use is on this list, studies are required to find substitutes for them and that justification must be provided for continued use of these materials (AR 200-1 and AR 200-2).

### **2-62. Environmental documentation**

*a.* Ensure that potential or actual environmental impacts resulting from system operation and maintenance have been assessed and recorded in appropriate documentation, including an Environmental Assessment (EA) or Environmental Impact Statement (EIS) if applicable, as required by AR 200-2. If it is decided that an EA or EIS is not applicable, ensure appropriate documentation of the rationale for that decision according to AR 200-2.

*b.* Ensure that the appropriate environmental considerations have been documented in the Annex D (Risk Assessment) and Annex E (Environmental Analysis) of the Integrated Program Summary (IPS), according to DOD 5000.2-M.

### **2-63. Packaging, handling, and storage**

Ensure that there are plans and contractual provisions to maximize use of packaging material that is reusable, recyclable, degradable, or easily disposable as required by AR 700-15, AR 710-2 and AR 746-1. Ensure there are plans to conduct an environmental impact assessment for each new packaging material as required by AR 746-1 and AR 700-15. Ensure that there are plans and contractual provisions requiring the use of reusable containers when economically and logistically practicable as required by AR 710-2 and AR 746-1.

### **2-64. Demilitarization, EOD, and disposal**

*a.* If the system generates any requirement for EOD, ensure the requirement document (that is, the MNS, ORD,) has been reviewed by ARDEC. Make sure plans exist to prepare and obtain approval of EOD technical information (TI) prior to any movement or shipment within continental United States (CONUS) of new, improved, and modified U.S. and foreign ordnance for which published EOD procedures are not available.

*b.* Ensure that both the need for new EOD render safe procedures (RSP) and applicable techniques, tools, and equipment have been identified for materiel with explosive components, fuses, and fuse systems, including nuclear weapons. (Blow-in-place is not an RSP.)

### **2-65. Other**

Ensure compliance with other, environmental-related sections in this chapter, especially those related to safety, ammunition and explosives items, special packaging, handling, and storage procedures, and demil and disposal procedures.

## **Chapter 3 Milestone II Decision Review Issues/Criteria**

### **Section I Design Influence**

#### **3-1. Safety and health hazard assessment**

*a. General.* Ensure that—

(1) The System Safety Management Plan and System Safety Program Plan have been updated to reflect results of completed actions and plans for EMD phase activities.

(2) Safety Assessment Reports (per AR 385-16) were provided by the MATDEV to the technical and operational test activities and Army Safety Center prior to the completed DT I/EUT&E.

(3) If residual hazards to operator, maintenance, or other system support personnel exist, there are plans established for the MATDEV to provide decision review members a System Safety Risk Assessment per AR 385-16 at least 60 days prior to MDR III.

(4) For systems requiring medical advice to evaluate health hazards, plans exist for The Surgeon General (TSG) to provide a Health Hazard Assessment to the technical testing agency at least 60 days prior to the start of testing.

(5) There are plans for the MATDEV to provide the DT II and IOT&E testers, Army Safety Center, and CBTDEV with a Safety Assessment Report defining hazards to test operator, maintenance, or other system support personnel at least 60 days prior to the start of testing. Make sure that plans are established to provide the operational tester, prior to IOT&E, with a safety release. (See AR 385-16 for format.)

(6) There are plans established to develop the data required by the AMDF Hazardous Materials Data Segment (AR 708-1) whenever items are identified that meet the criteria per FED-STD-313 as hazardous material.

(7) The requirement document has been coordinated with the U.S. Army Health Services Command to ensure that adequate consideration is given to the prevention of health hazards from system operation, maintenance, or supply support.

*b. Operation.* Ensure that—

(1) DT I and EUT&E test reports and other safety and health analyses indicate that technical safety risks to operator personnel have been identified and no additional D&V phase effort is required to eliminate or control these risks.

(2) Essential verifiable safety engineering design requirements (quantitative and qualitative) and significant development effort required to control foreseen safety and health hazards with system operation have been identified in the requirement document (for example, ORD, joint service operational requirement (JSOR) or training device requirement (TDR)) and contractual documentation. Make sure they have been reviewed by the safety office supporting the development command.

(3) There are contractual provisions for conducting operating hazard analyses (MIL-STD-882) to identify hazardous functions and effects of personnel error.

(4) DT II and IOT&E test planning documents have been coordinated with TSG. Make sure the documents include provisions for demonstrating that safety and health characteristics of system design have eliminated or controlled operator personnel and equipment hazards.

(5) Plans have been developed (and approved by the Chief, Safety Office, Headquarters, AMC) to conduct tests (that is, DT II), or establish analogies with previously tested items, according to TB 700-2, in order to generate data sufficient for explosive hazard

classification for all new items of ammunition and explosives, as packaged for storage and transportation.

*c. Maintenance.* Ensure that—

(1) DT I and EUT&E test reports and other safety and health analyses indicate that technical safety and health risks to maintenance personnel have been identified and no additional D&V phase effort is required to eliminate or control these risks.

(2) Essential verifiable safety engineering design requirements (quantitative and qualitative) and significant development effort required to control foreseen hazards with system maintenance have been identified in the requirement document (for example, ORD/JSOR/TDR) and contractual documentation. Make sure that they have been reviewed by the safety office supporting the program office.

(3) There are contractual provisions to the design system so that maintenance actions can be performed to minimize hazardous conditions such as proximity to high voltage, radiation, moving parts, high temperature components, noise (MIL-STD-1474), toxic fumes, skin irritants, lasers, pressure vessels, and so forth.

(4) DT II and IOT&E test planning documents include provisions for demonstrating that safety and health characteristics of system design have eliminated or controlled maintenance personnel and equipment hazards.

(5) Environmental documentation prepared to support system development has been reviewed and updated to reflect impact from maintaining the system as required by AR 200-2.

### 3-2. Energy efficiency

Ensure that the following criteria have been met:

*a.* The system requirement document includes an assessment of system energy requirements, direct and indirect, to ensure that the system will be the most efficient consistent with prudent development risk and life cycle costs.

*b.* Firm energy-related goals and thresholds, consistent with support resource limitations, the MNS, and current technology, have been included in the ORD and specification.

*c.* There are provisions in the DT II and IOT&E test plans to evaluate system design for attainment of energy-related goals and thresholds.

### 3-3. Other design parameters

*a.* Other ILS-related design parameters, even though addressed as separate ILS assessment elements, should be assessed under this paragraph in order to provide a comprehensive evaluation of ILS program influence on system design. Additionally, where appropriate for each of these parameters, ensure the design elements of the OSCR program have been adequately implemented and achieved.

(1) MDR II issues for the following elements should be assessed:

*(a)* Transportation and transportability.

*(b)* Standardization and interoperability.

*(c)* RAM.

(2) System design-related issues affecting other ILS elements such as maintenance planning, manpower and personnel, supply support, training and training devices, facilities, and environmental considerations also need to be assessed. Specifically, consider requirements to design to facilitate easy repair in the forward battle area with minimum skill level and special equipment to include standard repair and, when appropriate per AR 750-1, Battlefield Damage Assessment and Repair (BDAR) procedures.

*b.* Other issues, not necessarily ILS-related, must be assessed in order to make an informed IPR or ASARC decision regarding the acceptability of an item for its intended mission. The status of establishing, implementing, and verifying achievement of design-related requirements such as the following should be assessed under this paragraph:

(1) Essential system operational performance characteristics.

(2) Human factors engineering considerations (other than those addressed under paragraph 3-1 and paragraph 3-51) which conform to the characteristics and capabilities of target audience operator/

crew and support personnel. (See AR 602-1, MIL-HDBK-759, and MIL-STD-1472 for program and design considerations.)

(3) NBC contamination survivability and supportability considerations.

(4) Requirements for prototype systems to use materiel which, as far as practicable, are the same as those envisioned for the production items.

## Section II Maintenance Planning

### 3-4. General

*a.* Inclusion of assessment issues for each maintenance level is not meant to imply that every acquisition program must utilize all maintenance levels.

*b.* Ensure that the minimum acceptable level of organic support posture for initial deployment has been established.

*c.* Ensure that there are plans to coordinate proposed maintenance allocation charts with the TRADOC proponent school and to submit to HQDA (DALO-SMP) for final approval prior to publication according to AR 700-127 and AR 750-1.

*d.* Ensure the elements of the OSCR program, as they relate to maintenance planning, have been adequately implemented and achieved.

### 3-5. Unit/AVUM level

Ensure that—

*a.* The baseline maintenance concept (BMC) (unit level) minimizes the need for the using unit to disassemble the equipment.

*b.* The BMC (unit level) is consistent with Army policy per AR 750-1 regarding the type tasks to be assigned to unit level. Be sure the concept is supported by documented analysis.

*c.* There are plans (as reflected in the logistics demonstration (LD)/maintainability demonstration (MD) plan and TEMP) to perform/evaluate all proposed unit level maintenance tasks during EMD as required by AR 700-127, with guidance from MIL-STD-471.

*d.* There are plans (as reflected in the ILSP and solicitation documents) to correct unit level maintenance plan shortcomings discovered during coordination with the CBTDEV and DT I and EUT&E.

*e.* There are plans (as reflected in the ILSP and solicitation documents) to perform level of repair analyses using an Army approved model to optimize/refine the unit level BMC and to verify any contractor unit level maintenance requirements. Requests for waivers to use other than Army approved level of repair analyses models are to be submitted to MRSA, ATTN: AMXMD-EL.

*f.* If contractor support is proposed in the unit level BMC, it is consistent with Army policy per AR 750-1, regarding use of this type support. Make sure the concept is supported by documented analysis.

*g.* If interim contractor support (ICS) or life-cycle contractor support (LCCS) is proposed, there are appropriate plans (as reflected in the ILSP and solicitation documents) for preparation of transition and wartime contingency plans.

*h.* The unit level BMC is compatible with the MNS, RAM requirements, and SROs established for the EMD phase.

*i.* If interservice support is an element of the unit level BMC, there are plans/milestones (ILSP) for timely preparation of necessary support agreements.

*j.* The BMC addresses the Army Battle Damage Assessment and Repair Program.

### 3-6. DS and GS (AVIM) levels

*a. DS.* Ensure that—

(1) There are plans (as reflected in the ILSP and solicitation documents) to correct DS level maintenance plan shortcomings discovered during coordination with the CBTDEV and DT I and EUT&E.

(2) There are plans (for example, in the LD plan and TEMP) to perform/evaluate all proposed DS level maintenance tasks during EMD.

(3) The BMC DS level provides for—  
(a) Use of mobile maintenance support teams.  
(b) Task assignments that are consistent with Army policy per AR 750-1. Be sure the concept is supported by documented analysis.

(4) There are plans (as reflected in the ILSP and solicitation documents) to perform level of repair analyses using an Army approved model to optimize/refine the DS level BMC and to verify any contractor DS level maintenance requirements. Requests for waivers to use other than Army approved level of repair analyses models are to be submitted to LOGSA, ATTN: AMXLS-AL.

(5) If interservice support is proposed in the DS level BMC, it is consistent with Army policy per AR 750-1 regarding the use of this type support.

(6) If contractor support is proposed in the DS level BMC, it is consistent with Army policy per AR 750-1, regarding the use of this type support. Make certain the concept is supported by documented analysis.

(7) If HNS is proposed in the DS level BMC, it is consistent with Army policy per AR 570-9, regarding the use of this type support.

(8) If interim or life cycle DS level contractor support is proposed, there are appropriate plans (as reflected in the ILSP and solicitation documents) for preparation of transition and wartime contingency plans.

(9) The DS level BMC is compatible with the MNS, RAM requirements, and SROs established for the EMD phase.

(10) If HNS or interservice support is an element of the DS level BMC, there are plans/milestones (ILSP) for timely preparation of necessary support agreements.

*b. GS. Ensure that—*

(1) There are plans (as reflected in the ILSP and solicitation document) to correct GS level maintenance plan shortcomings discovered during coordination with the CBTDEV and DT I and EUT&E.

(2) The GS level BMC is consistent with Army policy per AR 750-1 regarding the type tasks to be assigned to this level. Be sure the concept is supported by documented analysis.

(3) The GS level BMC is compatible with the MNS, RAM requirements, and SROs established for the EMD phase.

(4) There are plans (as reflected in the ILSP and solicitation documents) to perform level of repair analyses using an Army approved model to optimize/refine the GS BMC and to verify any contractor GS level maintenance requirements. Requests for waivers to use other than Army approved level of repair analyses models are to be submitted to LOGSA, ATTN: AMXLS-AL.

(5) There are plans for evaluating during DT II and IOT&E those proposed GS level maintenance tasks that are complex, difficult, or require special support and test equipment or computer resources support.

(6) If interservice support is proposed in the GS level BMC, it is consistent with Army policy per AR 750-1, regarding the use of this type support.

(7) If contractor support is proposed in the GS level BMC, it is consistent with Army policy per AR 750-1, regarding the use of this type support. Make certain this concept is supported by documented analysis.

(8) If interim GS level contractor support is proposed, there are plans (as reflected in the ILSP and solicitation documents) for preparation of a plan for efficient transition to organic support.

(9) If HNS is proposed in the GS level BMC, it is consistent with Army policy per AR 570-9, regarding the use of this type support.

(10) If HNS or interservice support is an element of the GS level BMC, there are plans/milestones (as reflected in the ILSP) for timely preparation of necessary support agreements.

### **3-7. Depot level**

Ensure that—

*a. The depot (CONUS and outside CONUS (OCONUS)) BMC is consistent with Army policy per AR 750-1 regarding the type tasks*

to be assigned to the depot level. Be sure the concept is supported by documented analysis.

*b. If interservice support is proposed in the BMC for depot maintenance (CONUS or OCONUS), it is consistent with Army policy per AR 750-1, and AR 750-2, regarding the use of this type support.*

*c. If HNS or interservice support is an element of the depot BMC, there are plans/milestones (ILSP) for timely preparation of necessary support agreements.*

*d. If contractor support is proposed in the depot (CONUS and/or OCONUS) BMC, it is consistent with Army policy per AR 750-1, and AR 750-2, regarding the use of this type support. Make certain the concept is supported by documented decision tree source of repair (SOR) analysis required by AR 750-2.*

*e. If interim depot (CONUS or OCONUS) contractor support is proposed, there are plans (ILSP, solicitation documents) for preparation of a plan for efficient transition to organic support.*

*f. There are plans (as reflected in the ILSP and solicitation documents) to perform level of repair analyses using an Army approved model to optimize/refine the depot BMC and to verify any contractor depot maintenance requirements. Requests for waivers to use other than Army approved level of repair analyses models are to be submitted to LOGSA, ATTN: AMXLS-AL.*

*g. The depot (OCONUS) BMC includes appropriate use of the NATO maintenance and supply organization consistent with Army support objectives and U.S. laws.*

*h. If HNS is proposed in the depot (OCONUS) BMC, it is consistent with Army policy per AR 570-9, regarding the use of this type support.*

*i. There are plans to prepare, early in the EMD phase, a depot maintenance support plan. (See DA Pam 700-55 for format.) Ensure there are plans to coordinate the plan with DESCOM, proponent development command, the joint depot maintenance analysis group, and, if required by AR 750-1, HQDA (DALO-SMM). For Class VIII materiel, depot maintenance planning is accomplished by the National Maintenance Point, U.S. Army Medical Materiel Agency, Frederick, MD 21701-5001.*

*j. If a weapon system or item of equipment is planned for depot level support, that it is submitted by the MATDEV for depot maintenance interservice study consideration to HQ AMC (AMCSM-MMD) within 90 days of EMD phase contract award.*

## **Section III Manpower and Personnel**

### **3-8. Operator/Crew**

Ensure that the following actions have been taken:

*a. Firm operator/crew manpower goals and thresholds have been established in the Integrated Program Summary (IPS).*

*b. The operator/crew manpower goals and thresholds have been compared to a contemporary baseline system and significant differences explained considering design, support concept, and employment objective.*

*c. Initial operator/crew manpower and skill estimates contained in the IPS, BCE, ICE and, if applicable, MER have been updated to reflect the results of D&V phase analyses (including tradeoff analyses) and DT I/EUT&E.*

*d. The results of D&V phase analyses and DT I/EUT&E are consistent with established operator/crew manpower goals and thresholds and with the estimates contained in the BOIP and QQPRI. If not, be sure corrective action has been programmed.*

*e. An analysis has been conducted to determine projected availability of required operator/crew manpower. Make sure plans have been established to resolve projected shortfalls.*

*f. The tentative operator/crew MOS, specialty skill identifier (SSI), and additional skill identifier (ASI) decisions have been established and approved according to AR 71-2.*

*g. Plans and contractual provisions have been established to conduct further tradeoff analyses to balance operator/crew manpower and skill requirements, hardware characteristics, and support concepts.*

h. Plans exist (for example, in the TEMP and IOT&E OTP) to provide operator/crew personnel representative of the field using units for IOT&E and technical manual verification.

i. There are plans for developing proposed operator/crew military position grades according to AR 310-49 and AR 71-2.

j. There are plans to compute operator/crew wartime manpower requirements consistent with DOD guidance and assumptions.

k. There are plans to update or finalize operator/crew manpower and skill requirements through the LSA process. Be sure this data will be provided to the training developer in a timely manner for preparation of training materials and draft plan TOE for IOT&E. Make certain the data will be available in time for updating QQPRI, BOIP, BCE, and ICE prior to MDR III.

### 3-9. Maintenance

a. *General.* Ensure that—

(1) Firm maintenance support manpower goals and thresholds have been established in the IPS. Make certain they have been related to logistics-related reliability and maintainability goals.

(2) The maintenance support manpower goals and thresholds have been compared to a contemporary baseline system. Be sure significant differences are explained, considering design, support concept, and employment objective.

(3) There are plans for developing proposed military and civilian maintenance support grades according to AR 310-49 and AR 71-2.

(4) Ensure the maintenance manpower elements of the OSCR program have been adequately addressed and achieved.

b. *Unit, DS, and GS (or AVUM and AVIM) levels.* Ensure that—

(1) Initial unit through GS level maintenance manpower and skill estimates contained in the IPS, BCE, ICE and, if applicable, MER have been updated to reflect the results of D&V phase LSA (including tradeoff analyses) and DT I/EUT&E.

(2) The results of D&V phase LSA activities and DT I/EUT&E are consistent with established (unit through GS level) maintenance manpower goals and thresholds and with the estimates contained in the BOIP and QQPRI. If not, be sure corrective action has been programmed.

(3) An analysis has been conducted to determine projected availability of required unit through GS level maintenance manpower. Make certain that plans have been established to resolve projected shortfalls.

(4) The tentative MOS, SSI, and ASI (or civilian occupational series if appropriate) decisions for unit through GS level maintenance personnel have been established and approved according to AR 71-2.

(5) Plans and contractual provisions have been established to conduct further tradeoff analyses to balance unit through GS-level maintenance manpower and skill requirements, hardware characteristics, and support concepts.

(6) Plans exist (for example, in the TEMP and IOT&E OTP) to provide unit through GS-level maintenance personnel representative of the field using and support units for IOT&E and technical manual verification.

(7) There are plans to update or finalize unit through GS-level maintenance manpower and skill requirements through the LSA process. Make sure this data will be provided to the training developer in a timely manner for preparation of training materials and draft plan TOE for IOT&E. Make certain the data will be available in time for updating the QQPRI, BOIP, BCE, ICE, and, if applicable, MER prior to MDR III.

(8) Plans exist (for example, as reflected in the TEMP, DT II TDP, and IOT&E TEP) for collecting sufficient manpower and skill data during the LD, DT II, and IOT&E to verify attainment of system unit through GS-level maintenance manpower goals and thresholds.

c. *Depot level.* Ensure that the following actions have been taken:

(1) Initial depot maintenance manpower and skill estimates contained in the IPS, BCE, ICE and, if applicable, MER have been updated to reflect the results of the D&V phase LSA (including tradeoff analyses) and DT I/EUT&E.

(2) The results of D&V phase LSA activities are consistent with established depot level maintenance manpower goals and thresholds. If not, be sure corrective action has been programmed.

(3) An analysis has been conducted to determine projected availability of required depot level maintenance manpower and plans established to resolve projected shortfalls.

(4) Plans and contractual provisions have been established to conduct further tradeoff analyses to balance depot level maintenance manpower and skill requirements, hardware characteristics, and support concepts.

### 3-10. Supply

Ensure that appropriate action has been taken as shown in the following categories:

a. *General.*

(1) Firm system-related supply support personnel manpower goals and thresholds have been established and compared to a contemporary baseline system.

(2) The results of D&V phase LSA activities and DT I/EUT&E are consistent with established supply support personnel manpower goals and thresholds. If not, be sure corrective action has been programmed.

(3) There are plans to compute wartime supply support personnel requirements consistent with DOD guidance and assumptions.

(4) The proposed use of non-U.S. supply support personnel (TOE Type B organization) is consistent with Army guidance per AR 71-31 and security considerations. Ensure that essential U.S. military command supervision, technical, and supply capabilities are retained.

(5) Plans exist (for example, as reflected in the TEMP, DT II TDP, and IOT&E TEP) for collecting supply support manpower and skill related data during DT II and IOT&E and conducting sufficient analyses to verify attainment of system supply support personnel manpower goals and thresholds.

(6) Ensure the supply manpower elements of the OSCR program have been adequately addressed and achieved.

b. *Organizational—unit supply.*

(1) Initial unit supply (for example, MOS 76Y) personnel manpower and skill estimates contained in the IPS, BCE, ICE and, if applicable, MER have been updated to reflect the results of D&V phase analyses (including trade-off analyses).

(2) An analysis has been conducted to determine projected availability of required unit supply support personnel manpower. Make sure plans have been established to resolve projected shortfalls.

(3) Plans and contractual provisions have been established to conduct further trade-off analyses to balance unit supply support personnel manpower and skill requirements, hardware characteristics, and support concepts.

c. *DS and GS/theater support.*

(1) *POL supply.*

(a) Initial DS and GS/theater POL supply (for example, MOS 76W) personnel manpower and skill estimates contained in the IPS, BCE, ICE and, if applicable, MER have been updated to reflect the results of D&V phase analyses (including trade-off analyses).

(b) An analysis has been conducted to determine projected availability of required DS and GS/theater POL supply personnel manpower. Make sure plans have been established to resolve projected shortfalls.

(c) Plans or contractual provisions have been established to conduct further trade-off analyses to balance DS and GS/theater POL supply personnel manpower and skill requirements, hardware characteristics, and support concepts.

(2) *Materials handling and storage.*

(a) Initial DS and GS/theater materials handling and storage personnel (for example, MOS 76V) manpower and skill estimates contained in the IPS, BCE, ICE and, if applicable, MER have been updated to reflect the results of D&V phase analyses (including trade-off analyses).

(b) An analysis has been conducted to determine projected availability of required DS and GS/theater materials handling and storage

personnel manpower and plans established to resolve projected shortfalls.

(c) Plans or contractual provisions have been established to conduct further trade-off analyses to balance DS and GS/theater materials handling and storage personnel manpower and skill requirements, hardware characteristics, and support concepts.

(3) *Ammunition.*

(a) Initial DS/ammunition supply point (ASP) and GS/theater ammunition support personnel (for example, MOS 55 series and 76Y) manpower and skill estimates contained in the IPS, BCE, ICE and, if applicable, MER have been updated to reflect the results of D&V phase analyses (including trade-off analyses).

(b) An analysis has been conducted to determine projected availability of required DS/ASP and GS/theater ammunition support personnel manpower. Be sure plans have been established to resolve projected shortfalls.

(c) Plans or contractual provisions have been established to conduct further trade-off analyses to balance DS/ASP and GS/theater ammunition support personnel manpower and skill requirements, hardware characteristics, and support concepts.

### 3-11. Transportation—vehicle operators

Ensure that appropriate action has been taken as shown in the following categories:

a. *General.*

(1) Firm ammunition and fuel distribution vehicle operator manpower goals and thresholds have been established and compared to a contemporary baseline system.

(2) The results of D&V phase analyses and DT I/EUT&E are consistent with established ammunition and fuel distribution vehicle operator manpower goals and thresholds. If not, be sure corrective action has been programmed.

(3) There are plans to compute wartime support vehicle operator manpower requirements consistent with DOD guidance and assumptions.

(4) The proposed use of non-U.S. support vehicle operator personnel (TOE Type B organization) is consistent with Army guidance per AR 71-31 and security considerations. Ensure that essential U.S. military command supervision, technical, and supply support capabilities are retained.

(5) Ensure the related elements of the OSCR program have been adequately addressed and achieved.

b. *POL resupply.*

(1) Initial fuel distribution vehicle operator manpower and skill estimates contained in the IPS, BCE, ICE and, if applicable, MER have been updated to reflect the results of D&V phase analyses (including trade-off analyses).

(2) An analysis has been conducted to determine projected availability of required fuel distribution vehicle operator manpower. Plans have been established to resolve projected shortfalls.

(3) Plans or contractual provisions have been established to conduct further trade-off analyses to balance fuel distribution vehicle operator personnel manpower and skill requirements, hardware characteristics, and support concepts.

(4) Plans exist (for example, as reflected in the TEMP, DT II TDP, and IOT&E TEP) for collecting enough system performance, manpower, and skill data during DT II and IOT&E and for conducting sufficient analysis to verify requirements for fuel distribution vehicle operators needed for system support.

c. *Ammunition resupply.*

(1) Initial ammunition resupply vehicle operator (for example MOS 64C) manpower and skill estimates contained in the IPS, BCE, ICE and, if applicable, MER have been updated to reflect the results of D&V phase analyses (including trade-off analyses).

(2) An analysis has been conducted to determine projected availability of required ammunition resupply vehicle operator manpower. Plans have been established to resolve projected shortfalls.

(3) Plans or contractual provisions have been established to conduct further trade-off analyses to balance ammunition resupply vehicle operator manpower and skill requirements, hardware characteristics, and support concepts.

(4) Plans exist (for example, as reflected in the TEMP, DT II TDP, and IOT&E TEP) for collecting enough system performance, manpower, and skill data during DT II and IOT&E and for conducting sufficient analysis to verify requirements for ammunition resupply vehicle operators needed for system support.

### 3-12. Analysis documentation

a. *QQPRI.*

(1) Ensure that a standard or condensed QQPRI, supported by documented LSA, has been approved by DCSPER (or Headquarters, TRADOC for condensed QQPRI) and distributed to MACOMS, U.S. Army Force Integration Support Agency (USAFISA), and interested activities according to AR 71-2.

(2) Ensure that plans (for example, tasks, responsibilities, or milestones) have been established to review the QQPRI as to any required changes and, as necessary, to recoordinate and obtain DCSPER approval of the amended QQPRI prior to MDR III according to AR 71-2.

b. *Manpower Estimate Report (MER).* Ensure that, for ACAT I programs, a MER has been prepared by HQDA (ODCSOPS) in coordination with ODCSPER reviewed by ASA (MRA) and submitted to OSD as required by AR 70-1.

## Section IV Supply Support

### 3-13. General

Ensure that—

a. A baseline supply support concept (for POL, ammunition, and repair parts) has been established per AR 700-127. Make certain it is consistent with the maintenance concept and based on documented analysis as the best balance with system characteristics and support resource requirements.

b. The baseline supply support concept makes optimum use of the existing or standard supply support system, and deviations are identified and approved through HQDA, ODCSLOG.

c. There are specific plans or contractual requirements for conducting further analyses and tradeoffs of system design, support resource requirements, and supply support concepts as required by AR 700-127. Ensure the elements of the OSCR program, as the relate to supply support, have been adequately addressed.

d. Firm goals and thresholds have been established for supply support related parameters (for example, fuel consumption rate, spares costs, and resupply time) and compared to an existing system according to AR 700-127 and AR 70-1.

e. Initial estimates of supply support costs have been updated with the results of D&V phase activities and included in the updated LCC analyses.

f. The baseline supply support concept (for POL, ammunition, and repair parts) adequately considers capabilities of other military Services and HNS. (See AR 570-9 for applicable policy.)

g. Provisioning technical documentation (PTD) and supplementary PTD requirements (MIL-STD 1561 and MIL-STD-1388-2B) have been established in coordination with affected Army commands, Defense Logistics Agency (DLA), and other Services per AR 700-18. Be sure they have been incorporated into the RFP.

h. If HNS or interservice support is envisioned in the system supply support concept make certain that responsibilities and milestones have been established for timely preparation of necessary support agreements.

i. If ICS or LCCS support is envisioned in the system supply support concept, it is feasible and beneficial to the Government based on readiness, economic analysis, and logistic risk or acquisition (production and administrative) lead time considerations according to AR 700-18 and AR 700-127. (See AR 11-18 for guidance on economic analysis.) Be sure provisions have been included in the RFP.

j. There are plans and contractual provisions to accomplish, for recommended support items, the necessary screening, selecting, coding, and cataloging actions as identified in AR 700-18 and AR 700-82.

k. There are plans and contractual provisions for timely identification of production long lead-time items (for example, parts, ammunition, packaged POL, or end items) required for system support and freezing system design in sufficient time to permit procurement for initial fielding.

l. Initial determination has been made of strategic/scarcce materials required for weapon system operation and maintenance and there are plans and contractual provisions to limit use of these materials and to ensure the materials will be available for system support.

m. Initial determination has been made and documented in the ILSP as to whether the system has a mobilization or surge requirement.

n. If a mobilization or surge requirement exists, ensure there are specific plans, resources, and contractual provisions to conduct industrial preparedness studies to support production surge and mobilization needs.

### 3-14. Retail

Ensure appropriate actions have been taken as shown in the following categories:

#### a. General.

(1) There are plans (responsibilities, milestones, and tasks) established to develop and deliver to the operational tester (IOT&E), as part of the doctrine and organization support package, a statement of the system supply (POL, ammunition, and repair parts) concepts for use in test planning according to AR 73-1 and DA Pam 71-3.

(2) There are plans and contractual provisions to identify and deliver to the DT II and IOT&E test sites recommended prescribed load list (PLL) and authorized stockage list (ASL) items for system support as required by AR 700-127.

(3) DT II and/or IOT&E test and evaluation planning (for example, TEMP, TDP, IEP and TEP) include provisions for verifying the adequacy of planned supply support concepts, and POL, ammunition, and repair parts resource requirements.

#### b. Organizational level.

##### (1) Class III (POL).

(a) *Packaged.* There are plans and contractual provisions to determine recommended unit level stockage requirements for packaged POL needed for system support.

(b) *Bulk.* There are plans to coordinate, per AR 710-2, with the gaining MACOMs to determine requirements for basic loads of bulk POL to support the system.

(2) *Class V (ammunition).* There are plans to coordinate, per AR 710-2, with the gaining MACOMs to determine ammunition procurement required to meet basic load objectives.

##### (3) Class IX (PLL).

(a) There are plans and contractual provisions to identify, through the LSA process, recommended repair parts to be stocked at the unit level for system support, consistent with the following:

###### 1. Maintenance plan.

2. Sparing to availability using the Selected Essential-Item Stockage for Availability Method (SESAME) model.

###### 3. Initial mandatory parts list (IMPL) stockage criteria.

4. Order ship times (OST) and SRO. (See AR 700-18 and Army materiel fielding policy for guidance on OST.)

5. Limitations on lines of stockage as specified in AR 710-2. If over the maximum number of lines, ensure approval has been granted by HQDA (DALO-SMP).

###### 6. Production configuration of the system.

(b) There are plans and contractual provisions to request and have assigned, in a timely manner, national stock numbers (NSNs) to each recommended new PLL item as required by AR 708-1.

(c) If an IMPL is envisioned for inclusion in the PLL, the necessary data has been provided to HQDA (DALO-SMP) and their approval of the IMPL concept obtained as required by AR 700-18.

#### c. DS.

##### (1) Class III (POL).

(a) *Packaged.* Ensure that there are plans and contractual provisions to determine recommended DS level stockage requirements for packaged POL needed for system support.

(b) *Bulk.* Ensure that there are plans and contractual provisions to determine recommended DS level stockage requirements for bulk POL needed for system support.

(2) *Class V (ammunition).* An initial estimate of ammunition requirements for stockage at the ASP has been established. Make sure there are plans or contractual provisions to conduct sufficient analysis to finalize requirements prior to MDR III.

(3) *Class VII operational readiness float (ORF).* An initial determination of the need for ORF items has been made. (See AR 750-1, AR 710-1, and DA Pam 710-2-2 for criteria and computation procedures.) Be sure there are plans to finalize distribution requirements and obtain HQDA (DALO-SMM) approval prior to MDR III.

##### (4) Class IX ASL.

(a) There are plans and contractual provisions to identify, through the LSA process, recommended repair parts to be stocked on the direct support unit (DSU) ASL for system support, consistent with the following:

###### 1. Production configuration of the system.

###### 2. Maintenance plan.

3. Sparing to availability using the Selected Essential-Item Stockage for Availability Method (SESAME) model.

4. ASL and IMPL stockage criteria. (See AR 700-18 and AR 710-2.)

5. OST and SROs. (See AR 700-18 and AR 700-142 for guidance on OST.)

###### 6. Demand satisfaction objectives as specified in AR 710-2.

7. ASL mobility and limitations on lines of stockage as specified in AR 710-2. If over the maximum number of lines, ensure approval has been granted by HQDA (DALO-SMP).

###### 8. Reparable exchange item criteria as specified in AR 710-2.

(b) There are plans and contractual provisions to request and have assigned, in a timely manner, NSNs to each recommended ASL item as required by AR 708-1.

(c) If an IMPL is envisioned for inclusion in the ASL, the necessary data has been provided to HQDA (DALO-SMP) and approval of the IMPL concept has been obtained from HQDA (DALO-SMP) as required by AR 700-18.

#### d. GS.

(1) *Class III (packaged POL).* There are plans and contractual provisions to determine recommended GS level stockage requirements for packaged POL needed for system support.

(2) *Class V (ammunition).* An initial estimate of ammunition requirements for stockage at the corps storage area has been established. Be sure there are plans or contractual provisions to conduct sufficient analysis to finalize requirements prior to MDR III.

##### (3) Class IX (repair parts).

(a) There are plans and contractual provisions to identify, through the LSA process, recommended repair parts to be stocked by the GS level supply support activity for system support, consistent with the following:

###### 1. Maintenance plan.

###### 2. Production configuration of the system.

###### 3. Sparing to availability using the SESAME model.

###### 4. GS level stockage policy per AR 700-18 and AR 710-2.

(b) There are plans and contractual provisions to request and have assigned, in a timely manner, NSNs to each recommended new system support item for GS level stockage as required by AR 708-1.

#### e. Theater.

##### (1) War reserves.

(a) *Class III (bulk POL).* An initial determination has been made as to the need for theater level stockage of bulk POL war reserves for the system. Make sure there are plans to establish procurement requirements according to the policies of AR 11-11, AR 710-1, and AR 710-2.

##### (b) Class V (ammunition).

1. An initial determination has been made as to the need for theater level stockage of ammunition war reserves for the system. There are plans to establish procurement requirements according to the policies of AR 11-11, AR 710-1, and AR 710-2.

2. There are plans to develop (through U.S. Army Concepts Analysis Agency (USACAA) studies) ammunition-theater combat rates for each weapon system.

(c) *Class VII (end items)*. An initial determination has been made as to the need for theater level stockage of the system and specified associated support items for war reserves. Make certain there are plans to establish procurement requirements according to the policies of AR 11-11, AR 710-1, and AR 710-2.

(d) *Class IX (repair parts)*. An initial determination has been made as to the need for theater level stockage of war reserves repair parts for the system and associated class VII items. Make sure there are plans to establish procurement requirements according to the policies of DOD 4140.42-1, AR 11-11, AR 710-1, and AR 710-2.

(2) *Prepositioning of materiel configured to unit sets (POMCUS)*. Make certain there are plans to establish procurement requirements, according to the policies of AR 11-11, AR 710-1, and AR 710-2. Ensure that—

(a) *Class VII (end items)*. An initial determination has been made as to the need for POMCUS stockage of the system or specified associated class VII items.

(b) *Class IX (repair parts)*. An initial determination has been made as to the need for POMCUS stockage of repair parts for the system and associated class VII items.

### 3-15. Wholesale

a. *War reserves*. Ensure war reserve requirements have been determined and there are plans to establish requirements for the following classes according to policies of AR 11-11 and AR 710-1:

(1) *Class III (POL)*. An initial determination has been made as to the need for wholesale level stockage of POL war reserves for the system.

(2) *Class V (ammunition)*. An initial determination has been made as to the need for wholesale level stockage of ammunition war reserves for the system.

(3) *Class VII (end items)*. An initial determination has been made as to the need for wholesale level stockage of the system and associated end items (class VII) war reserves.

(4) *Class IX (repair parts)*. An initial determination has been made as to the need for wholesale level stockage of war reserve repair parts for the system and associated items.

b. *Class VII (repair cycle float (RCF))*. Ensure that an initial determination of the need for RCF has been made for the system according to the criteria in AR 750-1 and AR 710-1. Make certain there are plans to establish distribution requirements and obtain HQDA (DALO-SMM) approval prior to MDR III.

c. *Repair parts (nonwar reserve)*. According to AR 710-1 and AR 700-18, ensure that—

(1) *Depot maintenance*. There are plans and contractual provisions to determine initial allowance quantities for depot level spares for depot maintenance actions anticipated during the demand development period.

(2) *Retail replenishment*. Ensure that there are sufficient plans (in addition to any required contractual provisions) to determine initial provisioning repair parts stockage requirements in the wholesale system.

d. *Other operational projects*. That an initial determination has been made of the need for wholesale level stockage of the system and specified associated support items for other DA-approved operational projects. Be sure there are plans to establish procurement requirements according to the policies of AR 11-11 and AR 710-1.

### 3-16. Planning documentation—provisioning plan (PP)

Ensure that—

a. The PP has been updated and coordinated with affected organizations to include tasks, responsibilities, and milestones for identifying, procuring, and delivering system support materiel for each gaining command.

b. Sufficient provisioning guidance meetings and conferences are scheduled (to include DLA, affected MSCs, other Services, and so forth) to manage the provisioning effort.

c. A provisioning milestone schedule and provisioning performance schedule have been prepared according to MIL-STD-1561 and AR 700-18.

d. The use of phased provisioning has been considered if the criteria of AR 700-18 are met. Make sure a copy of the phased provisioning availability schedule has been included in the PP. (See MIL-STD-1517 for preparation instructions for the phased provisioning availability schedule.)

e. A provisioning funding memorandum of agreement has been initiated according to AR 700-18.

## Section V Packaging, Handling, and Storage

### 3-17. Packaging

a. *General*. Ensure that there are contractual provisions—

(1) For developing preservation, packing, and marking requirements according to MIL-D-46845 and AR 746-1 for new missiles and rockets.

(2) To require new packaged petroleum products, if any, be packaged, packed, and marked according to MIL-STD-290. For each item subject to supply support, there are—

(3) For hazardous materials packaging to comply with performance oriented packaging requirements as codified in the International Maritime Dangerous Goods Code and the International Civil Aviation Organization Technical Instructions for Safe Transport of Dangerous Goods by Air.

(4) To adequately implement and achieve the related elements of the OSCR program.

b. *Preservation and packing*. Ensure that there are—

(1) Plans and contractual provisions requiring determination of preservatives and methods of preservation requirements for each item subject to supply support according to item characteristics, MIL-P-116, and AR 746-1.

(2) For each item subject to supply support, plans to assign levels of preservation and packing protection (that is, level A, B, or C) according to AR 700-15, AR 746-1, and MIL-STD-1190, or to obtain AMC Packaging, Storage, and Containerization Center (PSCC) approval for exceptions.

(3) Ensure environmental requirements for use of reusable, recyclable, degradable, or easily disposable packaging are met. See Section XVII.

(4) Contractual provisions for preservation and packaging requirements that will limit the number of types, grades, styles, sizes, methods, materials, and designs to simplify procurement and stockage requirements as required by AR 746-1.

(5) Contractual provisions for preparing packaging data prescriptions for each stocked item, according to AR 746-1, MIL-T-60530, and MIL-STD-2073 or other appropriate standards.

(6) DT II test planning provides, per AR 746-1 and AR 700-15, for testing the pack according to—

(a) MIL-P-116, Federal Standard (FED-STD) 101, test method 5017, or comparable tests (for level A requirements).

(b) MIL-P-116 (for level B requirements).

(c) MIL-STD-1190 (for level C requirements).

(7) Plans and contractual provisions requiring cleaning, packaging, and preservation data as identified in AR 708-1 that will be developed for each stocked item, as required for the AMDF.

c. *Unitization*. Ensure that there are plans and contractual provisions for—

(1) The use of a reusable container when economically and logistically practicable as required by AR 710-2 and AR 746-1.

(2) Each reusable container for system support to meet the design, preservation, and identification requirements of AR 746-1.

(3) The use and design of palletized unit loads consistent with the application criteria (such as weight and volume limits and meeting MIL-STD-147 requirements) of AR 746-1. (See DA Pam 746-1 for information on pallet selection for shipment and storage (for example, 4-way, 40 inch by 48 inch pallet is standard Army pallet for shipment and storage.))

(4) Requirements for proposed use or design of a reusable shipping and storage container to conform to Army guidelines in AR 746-1. This includes submission of design and function data in accordance with MIL-STD-1510 to the U.S. Air Force Armament Development and Test Center, Armament Systems Division, Container Design Retrieval System, Eglin AFB, FL 32542 for review prior to initiating development of a specialized reusable container.

### 3-18. Handling and storage

Ensure that there are plans and contractual provisions to—

#### a. Special handling.

(1) Assign, for each stocked item, appropriate special handling codes as required for the AMDF. (See AR 708-1 for codes.)

(2) Conduct sufficient analysis to identify all hazardous material, as defined in AR 708-1, required for system operation and support. Be sure there are plans to develop necessary storage and transportation data as required for the AMDF. (See AR 708-1 for data requirements.)

b. Shelf life. Assign, for each stocked item, appropriate shelf life codes as required for the AMDF. (See AR 700-89 and AR 708-1 for codes.)

### 3-19. Security.

Ensure that—

a. AMDF requirements. There are plans and contractual provisions to conduct sufficient analysis to assign, for each stocked item, appropriate physical security, sensitivity, and pilferage codes according to AR 708-1 and AR 740-26 for inclusion in the AMDF.

b. Physical security. System physical security requirements have been established to ensure—

(1) Inherent security to the maximum extent possible.

(2) Interoperability or application of available physical security equipment or systems.

(3) Replacement or reduction of requirements for security personnel.

## Section VI Support Equipment and TMDE

### 3-20. Supply

a. General. Ensure that—

(1) The proposed equipment to support system supply operations maximizes the use of equipment already available in the Army inventory. Be sure there are contractual provisions to extend this requirement to the EMD phase.

(2) There are plans and contractual provisions to—

(a) Conduct sufficient workload and other analysis to refine initial estimates of support equipment requirements range and quantity for system supply support. Additionally, ensure the related elements of the OSCR program are adequately addressed.

(b) Deliver the equipment for evaluation at LD, DT II, and IOT&E if required by AR 700-127, or to address support issues not resolvable by engineering or support analysis.

(3) For each proposed item of system peculiar supply support equipment, there are adequate provisions for establishing a support capability for these items. (Apply appropriate MDR II issues for each of the 17 ILS assessment considerations as they relate to supporting the support equipment.)

(4) For projected equipment shortfalls to support system supply requirements, there are provisions to determine the impact of the shortfall on readiness, cost, manpower, and other support considerations.

b. Fuel resupply vehicles and distribution equipment. Ensure that—

(1) An initial estimate has been made of the type and quantity of fuel resupply vehicles required for system support.

(2) If the estimated fuel resupply vehicle requirements exceed current TOE authorizations, adequate progress has been made toward resolving the shortfall using the BOIP, data interchange, or other appropriate processes. (See AR 71-2 for the BOIP process.)

(3) An initial estimate has been made of the type and quantity of fuel distribution equipment, such as pumps and storage bladders, required for system support.

(4) If the estimated fuel distribution equipment requirements exceed current TOE/TDA authorizations, adequate progress has been made toward resolving the shortfall using the BOIP, data interchange, or other appropriate processes. (See AR 71-2 for the BOIP process.)

c. Ammunition resupply vehicles. Ensure that—

(1) An initial estimate has been made of the type and quantity of ammunition resupply vehicles required for system support.

(2) If the estimated ammunition resupply vehicle requirements exceed current TOE authorizations, adequate progress has been made toward resolving the shortfall using the BOIP, data interchange, or other appropriate processes.

d. Repair parts storage vans or transport vehicles.

(1) An initial estimate has been made of the type and quantity of repair parts storage vans or transport vehicles required for system support and support unit mobility.

(2) If the estimated parts storage van or transport vehicle requirements exceeds current TOE authorizations, adequate progress has been made toward resolving the shortfall using the BOIP, data interchange, or other appropriate processes.

e. MHE.

(1) Ensure that there are adequate plans (as reflected in the TEMP, ILSP, LD Plan, DT II TDP and IEP, IOT&E TEP, and RFP) for conducting tests and/or engineering analyses to verify the adequacy of the proposed unit through theater level MHE in providing system supply support.

(2) For unit, DS, GS (or AVUM and AVIM), and theater levels, ensure that—

(a) An initial estimate has been made of the type and quantity of unit, DS, GS, and theater level MHE required for system supply support.

(b) If these requirements exceed those for the displaced system, adequate progress has been made toward resolving the shortfall using the BOIP, data interchange, or other appropriate processes.

(3) For POD and POE, ensure that—

(a) An initial estimate has been made of the type and quantity of MHE required at POD and POE (including logistics over the shore operations (LOTS) if appropriate) for system support.

(b) If these requirements are in excess of current capabilities, adequate progress has been made toward resolving the shortfall using the BOIP, data interchange, or other appropriate processes.

(4) For depot level, ensure that—

(a) There are plans and contractual provisions to conduct sufficient analysis to determine MHE requirements (type and quantity) to provide system depot level supply support.

(b) The planned analysis includes identifying shortfalls, if any, in current TDA authorizations.

### 3-21. Maintenance

a. General. Ensure that—

(1) The proposed tools, TMDE, MHE, calibration equipment, and shelters/trailers/vans/vehicles for system maintenance operations (operator/crew through depot level) maximize the use of items available in the Army inventory. Be sure there are contractual provisions to extend this requirement to the EMD phase.

(2) For each proposed item of system peculiar TMDE or calibration equipment, approval to initiate development has been obtained from the appropriate Army activity (USATA).

(3) There are plans and contractual provisions to—

(a) Refine estimates of support and test equipment requirements range and quantity for system maintenance (unit through depot

level) through the LSA process to include workload analysis. Additionally, ensure the related elements of the OSCR program are adequately addressed.

(b) Deliver the equipment for evaluation and use at LD, NET, DT, IOT&E, and other applicable tests, if required by AR 700-127, or to address support issues not resolvable by engineering or support analysis.

(4) For projected equipment shortfalls to support system maintenance requirements, there are provisions to determine the impact of the shortfall on readiness, cost, manpower, and other support considerations.

(5) For each proposed item of system peculiar support and test equipment for maintenance support, there are adequate provisions for establishing a support capability for these items. (Apply appropriate MDR II issues for each of the ILS assessment considerations as they relate to supporting the support equipment.)

*b. Tools.*

(1) *Operator and crew.* Ensure that there are adequate plans (as reflected in the TEMP, LD Plan, DT II TDP and IEP, IOT&E TEP, and RFP) for conducting tests and engineering analyses to verify the adequacy of the proposed tools for operator and crew maintenance. Make sure consideration has been given to developing tools and procedures for dealing with stuck rounds for the weapon under development.

(2) *Unit, DS, and GS (or AVUM and AVIM) levels.* Ensure that—

(a) An initial estimate has been made of the type and quantity of tools (including maintenance platforms) required at unit, DS, and GS levels for system support. If the requirements are in excess of current TOE, TDA, or technical manual (TM) authorizations, there are plans for resolving the shortfall.

(b) There are adequate plans (as reflected in the TEMP, LD Plan, DT II TDP and IEP, IOT&E TEP, and RFP) for conducting tests and engineering analyses to verify the adequacy of the proposed tools for unit level maintenance.

(3) *Depot.* Ensure that there are plans and contractual provisions to conduct sufficient analysis to determine tool requirements for system depot maintenance support.

*c. Test, measurement, and diagnostic equipment (TMDE).*

(1) If development of system peculiar TMDE is proposed, ensure that USATA approval has been obtained (or the Executive Director for TMDE, HQ AMC, and, as necessary, ODCSLOG (DALO-SMC) approval if USATA nonconcurs) according to AR 750-43.

(2) For system peculiar TMDE, ensure that adequate progress is being made toward establishing a support capability for these items. (Apply MDR II issues for each of the 17 ILS assessment considerations as they apply to supporting the system peculiar TMDE.)

(3) For unit level, ensure that—

(a) An initial estimate has been made of the type and quantity of unit level TMDE required for system support. If the requirement is in excess of current TOE/TDA authorizations, ensure that adequate progress has been made toward resolving the shortfall using the BOIP, data interchange, or other appropriate processes. For example, include requirement in the system BOIP feeder data. (See AR 71-2 for the BOIP process.)

(b) If use of the system or major subassemblies (that is, a hot mockup) in lieu of developing or procuring unit level TMDE is proposed, HQDA (DALO-SMC) has granted approval of this concept as required by AR 750-43.

(c) For proposed new unit level TMDE, a baseline support concept has been established according to AR 750-43 requirements.

(d) There are adequate plans (as reflected in the TEMP, ILSP, LD Plan, DT II TDP and IEP, IOT&E TEP, and RFP) for conducting tests and engineering analyses to verify the adequacy of proposed TMDE for unit level maintenance as required by AR 700-127.

(4) For DS and GS levels, if automatic test equipment is required for system support, the issues identified in paragraph 3-32 for the associated test program sets (TPS) must be addressed. Ensure that—

(a) If use of the system or major subassemblies (that is, a hot

mockup) in lieu of developing or procuring DS and GS level TMDE is proposed, HQDA (DALO-SMC) has granted approval of this concept as required by AR 750-43.

(b) For proposed new DS and GS level TMDE, a baseline support concept has been established according to AR 750-43 requirements.

(c) An initial estimate has been made of the type and quantity of DS and GS level TMDE required for system support. If requirement is in excess of current TOE/TDA authorizations, be sure adequate progress has been made toward resolving the shortfall using the BOIP, data interchange, or other appropriate processes. For example, include requirement in the system BOIP feeder data.

(d) There are adequate plans (as reflected in the TEMP, ILSP, LD Plan, DT II TDP and IEP, IOT&E TEP, and RFP) for conducting tests and engineering analyses to verify the adequacy of proposed TMDE for DS and GS level maintenance as required by AR 700-127.

(5) For depot level, ensure there are plans and contractual provisions to conduct sufficient analysis to determine TMDE requirements for system depot maintenance support.

*d. Calibration equipment and standards.* Ensure that—

(1) An initial estimate has been made of the type and quantity of calibration equipment required for system/TMDE (unit through GS level) support.

(2) If development of new calibration equipment is proposed, approval from USATA has been obtained.

(3) An initial determination has been made as to the type calibration facilities (for example, DS/GS unit, area TMDE support team, or ACRC/ACL) to be responsible for calibration support of the proposed unit through GS-level TMDE.

(4) If the estimated type and quantity of required calibration equipment for system/TMDE support is in excess of current TOE/TDA authorizations, adequate progress has been made toward resolving the shortfall using the BOIP, data interchange, or other appropriate processes.

(5) There are adequate plans (as reflected in the TEMP, LD Plan, ILSP, DT II TDP and IEP, IOT&E TEP, and RFP) for conducting tests and engineering analyses to verify the adequacy of the proposed calibration equipment for system or TMDE support.

*e. MHE.*

(1) *Recovery equipment.* Ensure that—

(a) An initial estimate has been made of the type and quantity of equipment (for example, M88, M578, M816, or M553) required for battlefield recovery of the system. If in excess of current TOE/TDA authorizations, be sure adequate progress has been made toward resolving the shortfall using the BOIP, data interchange, or other appropriate processes. (See AR 71-2 for the BOIP process.)

(b) There are adequate plans (as reflected in the TEMP, ILSP, DT II TDP and IEP, IOT&E TEP, and RFP) for conducting tests and engineering analyses to verify the adequacy of proposed recovery equipment.

(2) *Evacuation equipment.* Ensure that—

(a) An initial estimate has been made of the type and quantity of equipment (for example, heavy equipment transporter (HET) and transport stands/cases) required for battlefield evacuation of the system or reparable assemblies to higher echelons. If in excess of current TOE/TDA authorizations, be sure adequate progress has been made toward resolving the shortfall using the BOIP, data interchange, or other appropriate processes.

(b) There are adequate plans (as reflected in the TEMP, ILSP, DT II TDP and IEP, IOT&E TEP, and RFP) for conducting tests and engineering analyses to verify the adequacy of the proposed evacuation equipment.

(3) Other MHE. Ensure that—

(a) An initial estimate has been made of the type and quantity of other MHE (for example, cranes, forklifts, slings, hoists, maintenance stands, and EOD equipment) required for system maintenance support (unit through GS levels) and EOD.

(b) If estimates of other MHE requirements exceed current TOE or TDA authorizations, adequate progress has been made toward

resolving the shortfall using the BOIP, data interchange, or other appropriate processes.

(c) There are plans and contractual provisions to conduct sufficient analysis to determine MHE requirements for system depot maintenance support.

(d) There are adequate plans (as reflected in the TEMP, LD plan, ILSP, DT II TDP and IEP, IOT&E TEP, and RFP) for conducting tests and engineering analyses to verify adequacy of the other proposed MHE for unit through GS maintenance.

f. *Shelters/trailers/vans/vehicles.* Ensure that—

(1) An initial estimate has been made of the type and quantity of maintenance shelters/vans/trailers/vehicles required for system support (unit through GS levels) and maintenance unit mobility.

(2) If estimated maintenance shelter/van/trailer/vehicle requirements exceed current TOE or TDA authorizations, adequate progress has been made toward resolving the shortfall using the BOIP, data interchange, or other appropriate processes. (See AR 71-2 for the BOIP process.)

(3) There are adequate plans (as reflected in the TEMP, ILSP, DT II TDP and IEP, IOT&E TEP, and RFP) for conducting tests and engineering and logistic support analyses to verify the adequacy of the type and quantity of proposed shelters/trailers/vans/vehicles for unit through GS-level maintenance.

### 3-22. Ancillary operational equipment

a. *General.*

(1) Ensure that there are plans and contractual provisions to—

(a) Refine estimates of ancillary equipment requirements for system operation and support through engineering and logistic support analyses.

(b) Deliver the equipment for evaluation at the LD, DT II, and IOT&E, if required by AR 700-127 or to address support issues not resolvable by analysis.

(2) Ensure that the proposed ancillary equipment for system operation and support maximizes the use of equipment already available in the Army inventory. Make sure there are contractual provisions to extend this requirement to the EMD phase.

(3) Ensure coordination with supporting garrisons, state ARNG Headquarters, and major U.S. Army Reserve Commands is planned to ensure power, environmental, and communications support is available when needed.

b. *Power generation.* Ensure that—

(1) System battery and battery charger requirements have been determined. Make sure the U.S. Army Electronic Devices Research Center, CECOM, has approved the use or development of a non-standard battery or battery charger.

(2) An initial estimate has been made of the type and quantity of military standard power generation equipment required for system operation or support. Make sure the requirement has been compared to current TOE authorizations. Make certain the additional requirements are identified in the SSN system and appropriate forms have been provided to the support item manager.

(3) If the system proposes to use an MEPGS other than the DOD standard family of generators, deviation approval has been obtained from the PM-MEP. (See AR 700-101 for approval guidelines.)

c. *Environmental control.* Ensure that—

(1) An initial estimate has been made of the type and quantity of environmental control equipment (such as, air conditioners or heaters) required for system operation or support.

(2) The additional requirements are identified in the SSN system and appropriate forms have been provided to the support item manager.

d. *Communications.* Ensure that—

(1) An initial estimate has been made of the type and quantity of military standard communications equipment (such as, radios) required for system operation.

(2) The additional requirements are identified in the SSN system and appropriate forms have been provided to the support item manager.

e. *Prime mover.* Ensure that—

(1) An initial estimate has been made of the type and quantity of prime movers and trailers required for system operation.

(2) If in excess of current TOE or TDA authorizations, the additional requirements have been identified in the system BOIP feeder data.

f. *Other.* Ensure that—

(1) An initial estimate has been made of the type and quantity of other major common items of equipment or components required for system operation.

(2) The additional requirements are identified in the SSN system and required forms have been provided to the support item manager.

## Section VII Training and Training Devices

### 3-23. Institutional training

Ensure that criteria have been met as shown in the following categories:

a. *Operator training.* An initial front-end analysis (FEA) has been conducted to identify critical operator tasks requiring training.

(1) *Training material.*

(a) Initial estimates of institutional and Reserve Component Expandable training material (type and due dates) requirements have been established.

(b) There are plans for the development of draft training materials (for example, program of instruction (POI) and training aids) for system operator personnel. Make sure they will be available early enough to meet institutional instructor and IOT&E NET requirements.

(2) *Instructors.* Initial estimates have been made of system operator training instructor requirements (for at least the next 5 years) and availability.

(3) *Training equipment.*

(a) *System or end item.* Initial estimates have been made of system or end item (and subassemblies) requirements and proposed distribution plan. Make sure estimates are consistent with initial and sustainment operator training workload projections.

(b) *Training ammunition.*

1. The need for development of a new training round has been determined and performance requirements established.

2. The schedule for development and/or procurement of ammunition for training operator and crew personnel is compatible with the scheduled start of DT II and IOT&E operator and crew NET courses.

3. For systems requiring new ammunition items, plans exist to integrate explosive ordnance disposal procedures into applicable training programs.

4. The DT II and IOT&E test plans include adequate provisions for verifying the performance, safety, and supportability of each new system training round.

5. Initial estimates have been made of training ammunition requirements and proposed distribution plan consistent with initial and sustainment operator and crew institutional training workload projections.

(4) *Training devices.*

(a) TDRs have been prepared, including essential RAM and logistical information; coordinated; and approved according to AR 71-9 to support development of each new device judged to be required for institutional operator training. Make sure the requirement was based on a CTEA.

(b) For systems requiring ammunition, the system requirement document includes provisions for simulators (to include Multiple Integrated Laser Engagement System interoperable devices), sub-caliber devices, and blank firing adapters when appropriate.

(c) A BMC, consistent with Army policy, has been established for each proposed new device for institutional operator training according to AR 700-17 and AR 350-38.

(d) Initial estimates have been made of training device (common and peculiar) requirements and distribution plan for institutional and exportable training of operator personnel.

(e) There are adequate provisions for planning to support the

system-peculiar operator institutional training devices. (Apply appropriate MDR II issues from each of the 17 ILS assessment considerations as they apply to supporting these training devices.)

(f) The results of IOT&E have validated the concept for proposed system operator training devices.

(g) The schedule for development of new devices for institutional operator training allows sufficient time for design, fabrication, and validation prior to the NET courses for institutional instructors and IOT&E player personnel.

b. *Supporter training.* An initial FEA has been conducted to identify critical system support tasks requiring training.

(1) *Training material.*

(a) Initial estimates of training material requirements (type and due dates) have been established.

(b) There are plans to develop draft training materials (for example, POI) for system support personnel MOS in enough time to meet institutional instructor and IOT&E NET requirements.

(2) *Instructors.* Initial estimates have been made of system support personnel (supply and maintenance), institutional training instructor requirements (for at least the next 5 years), and availability.

(3) *Training equipment.*

(a) *System or end item.* Initial estimates have been made of system or end item (and major subassemblies) requirements and proposed distribution plan. Make sure estimates are consistent with initial and sustainment institutional training workload projections for system support personnel.

(b) *Support and test equipment.* Initial estimates have been made of support and test equipment (common and peculiar) and related computer resources support requirements and distribution plan. Make sure estimates are consistent with initial and sustainment institutional training of system support personnel. (For areas of consideration, see fig 1-7 (support and test equipment), fig 1-10 (computer resources support), and fig 1-4 (manpower and personnel).)

(4) *Training devices.*

(a) Initial estimates have been made of training device (common and peculiar) requirements and distribution plan for institutional training of system support personnel.

(b) TDRs have been prepared, coordinated, and approved according to AR 71-9 to support development of each new device judged to be required based on a CTEA for institutional training of support personnel.

(c) A BMC, consistent with Army policy, has been established for each proposed new device for institutional training of system support personnel according to AR 350-38 and AR 700-17.

(d) There are adequate provisions for planning to support the system-peculiar institutional training devices for training system support personnel. (Apply appropriate MDR II issues from each of the ILS assessment considerations as they apply to supporting these training devices.)

(e) The schedule for development of new devices for institutional training of system support personnel allows enough time for design, fabrication, and validation prior to the NET course institutional instructors and the course for IOT&E player personnel.

### 3-24. Unit training

a. *Individual.* Ensure appropriate requirements and plans for embedded training to accomplish individual sustainment training have been established. Ensure that the scope and duration of the system individual (operator and support personnel MOS) unit training program have been determined in the following areas:

(1) *ETM.*

(a) Initial estimates of new and revised ETM requirements resulting from introduction of the system have been determined.

(b) There are plans for developing necessary extension/exportable training materials (operator and support personnel) and providing draft materials in time to train IOT&E player personnel.

(2) *Soldiers manuals.*

(a) Initial estimates of new and revised soldiers manuals (operator and support personnel MOS) requirements have been determined.

(b) There are plans to develop draft soldiers manuals for each affected MOS and deliver as part of the IOT&E training support package.

(3) *Trainer guides.*

(a) Initial estimates of new and revised trainer guide requirements have been determined.

(b) There are plans to develop draft trainer guides for each affected MOS and deliver as part of the IOT&E training support package.

(4) *SQT.*

(a) Initial estimates of new and revised SQT requirements resulting from introduction of the system have been determined.

(b) There are plans to develop draft SQTs for each affected MOS and deliver as part of the IOT&E training support package.

(5) *Training devices.*

(a) Initial estimates have been made of training device (common and peculiar) requirements and distribution plan for unit individual training of operator and support personnel.

(b) TDRs have been prepared, coordinated, and approved according to AR 71-9 for each new device judged to be required based on a CTEA for unit individual training of system operator and support personnel.

(c) A BMC, consistent with Army policy, has been established for each proposed new device for unit individual training (operator and support personnel).

(d) There are adequate provisions for planning to support the system-peculiar unit individual training devices (operator and support personnel). (Apply appropriate MDR II issues from each of the 17 ILS assessment considerations as they apply to supporting these devices.)

b. *Collective.* Ensure that the following areas have been considered:

(1) *General.*

(a) The scope and duration of the system unit collective training program have been determined.

(b) There are plans for the training developer to conduct an FEA to establish a list of collective operational tasks to serve as a basis for refining the unit collective training program.

(c) Appropriate requirements and plans for embedded training to accomplish collective sustainment training have been established.

(2) *ARTEP.*

(a) Initial estimates of new and revised ARTEP requirements resulting from introduction of the new system have been identified.

(b) There are plans for preparing draft test edition ARTEPs and providing them as part of the IOT&E training support package.

(3) *Training ammunition.*

(a) Initial estimates have been made of system ammunition requirements and distribution plan for initial and sustainment system-related collective training.

(b) There are plans or contractual provisions to provide sufficient training ammunition, consistent with the System Training Plan (STRAP), to provide collective training for IOT&E player personnel.

(4) *Instructors.* Initial estimates have been made of system-related collective training instructor requirements (for at least the next 5 years) and their availability.

### 3-25. New Equipment Training (NET)

Ensure that criteria have been met as shown in the categories below.

a. *DT/OT personnel.*

(1) NET for EUT&E was conducted utilizing target audience operator and support personnel and the preliminary training package.

(2) There are plans to provide NET for IOT&E personnel representative of those required to operate and support the system when fielded.

(3) There are adequate plans and resources programmed to provide NET for DT II and IOT&E operator and support (unit through GS level) personnel.

*b. Institutional instructors.* Adequate plans and resources are programmed for training the institutional instructors (for system operator and support personnel MOS) prior to initiation of IOT&E NET.

*c. Depot maintenance personnel.* Plans (that is, responsibilities and milestones) have been established for identifying what, when, how, and by whom NET will be conducted for depot maintenance personnel.

*d. Using and support unit and other personnel.* Plans (that is, responsibilities and milestones) have been established for identifying what, when, how and by whom NET will be conducted for using and support unit personnel of each gaining command. Plans have been established to train Logistic Assistance Representatives (LAR).

### 3-26. Planning documentation

*a. NETP.* Ensure that the NETP has been—

(1) Updated with detailed training information for the EMD phase (for example, instructor and key personnel (I&KP), and DT II and IOT&E personnel).

(2) Coordinated, approved, and distributed according to AR 350-35 and DA Pam 350-40.

*b. STRAP.* Unless waived by USATSC, ensure that an STRAP has been prepared and approved by TRADOC (Army Modernization Information Memorandum (AMIM) systems) or Deputy Chief of Staff for Operations and Plans (DCSOPS) (as requested).

## Section VIII Technical Data

### 3-27. Equipment manuals

*a. Supply and storage.*

(1) *Bulletins.*

(a) *Consumption rates (ammunition).* Ensure that there are plans for developing ammunition consumption rates in coordination with U.S. Army Combined Arms Support Command (USACASCOM) and the DCSOPS according to AR 700-8.

(b) *Consumption rates (POL).* Ensure that there are plans for developing POL combat consumption rates in coordination with USACASCOM and U.S. Army General Materiel and Petroleum Activity (USAGMPA) according to AR 700-8.

(c) *Replacement and float factors.* Ensure that there are plans for—

1. Developing replacement or life expectancy factors (peacetime and wartime) for new end items, coordinating with USACASCOM and DCSOPS, and including factors in the SSN data file.

2. Establishing ORF and RCF factors according to AR 750-1, AR 750-2, and AR 710-1, obtaining HQDA (DALO-SMM) approval, and including factors in the SSN data file.

(2) *Supply catalogs—sets, kits, and outfits (SKO).* Ensure that there are contractual provisions requiring preparation, according to format and content specified in MIL-C-63013, of supply catalogs for each new SKO components list associated with system operation or maintenance.

(3) *Other publications.*

(a) *For loading and rigging procedures.* Ensure that—

1. The need for a Transportability Guidance Technical Manual(TGTM) according to MIL-M-63023 has been determined between the MATDEV and MTMCTEA.

2. There are plans for developing, if determined necessary, procedures (and obtaining MTMCTEA approval) in cooperation with the U.S. Air Force (USAF) for disassembly, loading, restraining, and offloading for internal air transport of materiel (transportability problem items) with format according to MIL-M-3023. Be sure there are plans for developing procedures, as necessary, for other required transport modes.

3. There are plans for developing, in cooperation with the USAF, rigging procedures for airdrop of materiel where such a requirement exists.

4. There are plans for developing and verifying outloading and storage drawings and procedures according to AR 740-1 and AR 746-1 for new ammunition and other hazardous materiel.

(b) *Packaging and preservation procedures.* Ensure that there are contractual provisions requiring that technical manuals or bulletins include appropriate packaging procedures based on requirements for like or similar items for the military levels of protection applicable to the user.

(c) *Security procedures.* Ensure that—

1. There are plans to identify, through the LSA process, the security classification or pilferage control associated with each item subject to supply support.

2. The SSCG has been reviewed and updated as necessary to reflect changing sensitivity of information involved.

*b. Operation and maintenance.*

(1) *Operators manual.*

(a) Ensure that there are plans—

1. To coordinate the draft operator manual with TRADOC.

2. For the system safety manager to review the draft operators manual for inclusion of appropriate warnings, cautions, and notes.

3. For convening maintenance literature conference, as necessary, prior to MDR III, to resolve comments resulting from coordination and evaluation of draft operator's manual.

(b) The required reading grade level for the operator's manual has been contractually established consistent with the target audience.

(c) There are contractual provisions—

1. Requiring the draft operator's manual be developed according to the content and format specified in AR 25-30, MIL-M-38784, and MIL-M-63000 series (TM), as applicable. This includes having warning instructions where safety analyses have identified a potential hazard.

2. For validating the technical accuracy and completeness of the draft operators manual prior to delivery for DT II.

(d) The DT II TDP includes provisions for verifying the draft operator's manual for technical accuracy, readability, format, and organization according to AR 25-30 requirements. (This is applicable after MDR II and prior to DT II.)

(e) The schedule for development of equipment operator's manual allows enough time for preparation, validation, and verification prior to MDR III.

(f) The LD plan, TM verification plan, DT II TDP, and IOT&E TEP provide for TM verification according to AR 25-30, AR 700-127, and AR 750-2 using operating personnel representative of the target audience. (This is applicable after MDR II and prior to the LD.)

(2) *Maintenance manuals (unit, DS, and GS (or AVUM and AVIM) levels).* Ensure that—

(a) There are plans—

1. To coordinate the draft maintenance manuals with TRADOC.

2. For the system safety manager to review draft maintenance manuals for inclusion of appropriate warnings, cautions, and notes.

3. For convening a maintenance literature conference, as necessary, prior to MDR III to resolve comments resulting from coordination and evaluation of draft maintenance manuals.

(b) The required reading grade level for maintenance manuals has been contractually established consistent with the target audience.

(c) There are contractual provisions—

1. Requiring draft maintenance manuals be developed according to the content and format specified in AR 25-30, MIL-M-38784, and MIL-M-63000 (TM) series, as applicable. This includes having warning instructions where safety analyses have identified a potential hazard.

2. For validating the technical accuracy and completeness of draft maintenance manuals prior to delivery for I&KP courses and DT II.

(d) The DT II TDP includes provisions for verifying draft maintenance manuals for technical accuracy, readability, format, and organization according to AR 25-30 requirements. (This is applicable after MDR II and prior to DT II.)

(e) The schedule for development of equipment publications allows enough time for preparation, validation, and verification of draft maintenance manuals prior to MDR III.

(f) The LD plan, TM verification plan, DT II TDP, and IOT&E

TEP provide for maintenance TM verification according to AR 25–30, AR 700–127, and AR 750–2 using support personnel representative of the target audience. (This is applicable after MDR II and prior to the LD.)

(3) *Repair parts and special tools list (RPSTL)*. Ensure that—

(a) There are contractual provisions for validating the technical accuracy and completeness of draft RPSTLs prior to delivery for DT II.

(b) The DT II TDP includes provisions for verifying draft RPSTLs for technical accuracy, readability, format, and organization according to AR 25–30. (This is applicable after MDR II and prior to DT II.)

(c) There are plans to develop and evaluate draft RPSTLs according to MIL–STD–335, AR 700–18, and AR 700–82. Be sure there are plans to conduct NSN verification according to AR 708–1.

(d) The development schedule allows enough time for preparation, validation, and verification of RPSTL manuals prior to MDR III.

(4) *MAC*. Ensure that—

(a) A PMAC or equivalent LSA data was provided for DT I/EUT&E, and plans have been established to correct identified shortcomings and deliver the updated PMAC for the LD.

(b) There are plans to provide a complete MAC according to MIL–M–63038 for inclusion in the appropriate draft equipment publication to be delivered for DT II/Initial Operational Test and Evaluation (IOT&E).

(5) *Calibration procedures*. Ensure that—

(a) There are contractual provisions requiring that calibration procedures—

1. Make maximum use of existing instruments at the area TMDE support team or supporting intermediate maintenance units as appropriate.

2. Be prepared, for special–purpose TMDE, according to MIL–M–38793 and coordinated with USATA.

(b) There are provisions for evaluating each calibration procedure in coordination with USATA during DT II and IOT&E.

(6) *Firing tables (FT)*. Ensure that requirements (such as, weapon, projectile, and fuse combinations) for new or revised FTs and trajectory charts (TCs) have been identified. If so, be sure the TEMP has been coordinated with the U.S. Army Research Laboratories (USARL), to include sufficient range firings during DT II and IOT&E for the development of interim FTs and TCs.

(7) *Demilitarization and EOD procedures*.

(a) *Demilitarization procedures*. Ensure that—

1. There are plans for developing demilitarization and disposal procedures to meet applicable environmental and security requirements, maximize recycling of resources, or prevent enemy use. Make certain these procedures will be included in appropriate TMs. Be sure there are plans to assign demilitarization codes (position 6 of the source, maintenance, and recoverability (SMR) code) for specified systems and, consumables (such as, new batteries and ammunition) consistent with AR 708–1.

2. For new ammunition items, there are plans to develop and obtain approval of a demilitarization/disposal plan prior to IOT&E. This plan should identify environmental impact and alternative methods, tools, and equipment requirements.

(b) *EOD procedures*. Ensure that—

1. Coordination has been maintained with the Army EOD office, ARDEC, ATTN: SMCAR–FSM–E, Dover, NJ 07801–5001, to provide guidance and assistance to the MATDEV, and to review and approve EOD TI, procedures, tools, equipment, and publications for all new, improved, and modified U.S. and foreign explosive ordnance.

2. The requirement documents (that is, the ORD, TDR, or JSOR) have been reviewed by the Army EOD office, ARDEC.

3. The EOD TI has been updated and approved. This information must accompany all movement or shipment within CONUS of new, improved, or modified U.S. and foreign ordnance for which published EOD procedures are not available.

4. Concurrent development of EOD RSP and applicable techniques, tools, and equipment is being accomplished to provide full EOD operational support for explosive ordnance items or systems, including nuclear systems. (Blow–in–place is not an RSP.)

(8) *Lubrication orders (LOs)*. Ensure that—

(a) There are contractual provisions for—

1. Preparing lubrication instructions according to MIL–M–63004 (either as separate LO or as part of TMs 10 or 20–series or permanently mounting instructions on the equipment.)

2. Providing draft instructions for DT II and IOT&E.

(b) There are plans to coordinate draft LOs with BRDEC (ATTN:STRBE–VF), Fort Belvoir, VA 22060–5606, for their technical approval.

### **3–28. Authorization documents for using units and support units.**

Ensure that the following actions have been taken:

a. For those systems requiring development of a new using or support organization (TOE), an AURS has been prepared and submitted to HQDA (DAMO–FDR) with the initial BOIP as required by AR 71–2.

b. A ZLIN and an SSN, if appropriate, have been assigned for the system and associated support items and training devices requiring type classification according to AR 710–1 and AR 70–1.

c. There are plans and schedules for preparing draft plan TOEs, based on the BOIP, for affected using units and support units. Make sure the draft plan TOEs will be provided to the operational tester for evaluation during IOT&E.

### **3–29. Drawings**

Ensure the following:

a. Developmental design engineering drawings and associated lists are available to document D&V phase system design.

b. If product engineering drawings will be required, there are plans to develop, evaluate, and deliver them.

## **Section IX**

### **Computer Resources Support**

#### **3–30. General**

Ensure that—

a. The RFP includes a requirement for either unlimited rights to all technical data and documentation for CPCI and associated support resources or at least limited rights with permission to use the data to prepare, modify, and maintain the same or similar CPCIs and associated support resources. Data rights should be acquired according to provisions of Part 27 of the FAR, DFARS and AFARS.

b. There are requirements for software CPCIs to be divided into small, manageable units to facilitate Government maintenance.

c. There are requirements for maximum use of common hardware and software materiel system computer resources for development and support cost savings.

d. The related elements of the OSCR program have been adequately implemented and achieved.

#### **3–31. System or end item operation**

For load modules (tape and program), ensure that—

a. A program performance specification has been prepared and a cross–reference made of operational requirements to computer program specifications.

b. A system design review has been completed, to include review of the program performance specification.

c. Plans exist for resolving software deficiencies discovered during DT I/EUT&E.

d. All operational computer software is nonproprietary. If not, ensure there are plans for resolving issues regarding proprietary rights.

e. Reliability, maintainability, or other related test standards or objectives have been established for operational computer programs.

f. There are plans and resources to develop and deliver load

modules for system operation according to the computer program development specifications for DT II and IOT&E. Be sure there are plans and resources to conduct preliminary and critical design reviews.

g. There are plans (in the TEMP, TDP and TEP) and resources to verify, over the range of data and conditions expected in the field, the operational computer programs.

h. There are plans to manage all operational computer programs as configuration items.

i. There are plans to conduct a physical configuration audit of the load modules prior to delivery for DT II and IOT&E.

j. There are requirements to minimize the number of different languages used and to use the Ada programming language to develop system operational software unless waiver approval is obtained from the Ada waiver control officer (HQDA (SAIS-PS) through, for AMC activities, HQ AMC (AMCDE-ATC)) and, for ACAT I D systems, DAE as required by DODD 3405.1, and DODI 5000.2, and AR 70-1.

### 3-32. System or end item maintenance

Ensure that appropriate action has been accomplished for the following categories:

#### a. ATE interconnecting devices.

(1) There are plans and resources to develop, validate, and deliver necessary ATE interface devices associated with the representative sample of maintenance computer programs for DT II and IOT&E.

(2) There are plans and resources to verify, over the range of data and conditions expected in the field, the representative sample of ATE interface devices.

(3) There are plans to establish a support capability for the peculiar ATE interface devices requiring development. (Apply appropriate MDR II issues from each of the 17 ILS assessment considerations as they relate to supporting these devices.)

#### b. Load modules (tape and program).

(1) There are requirements for use of the Common Abbreviated Test Language for all Systems (C/ATLAS) as specified in The Institute of Electrical and Electronics Engineers Standard 716 or to obtain a waiver as required by AR 750-43 in development of maintenance computer programs.

(2) There are contractual provisions for use of common data elements and message formats to promote maintenance software standardization.

(3) All maintenance support computer software is nonproprietary. If not, ensure there are plans for resolving issues regarding proprietary rights.

(4) Reliability, maintainability, or other related test standards or objectives have been established for maintenance support computer programs.

(5) There are plans to manage all maintenance support computer programs as configuration items.

(6) There are plans and resources to develop, validate, and deliver representative samples of maintenance computer programs (for use with ATE) for DT II and IOT&E.

(7) There are plans and resources to verify, over the range of data and conditions expected in the field, the representative maintenance support computer programs.

#### c. User instructions.

(1) There are plans and resources to—

(a) Develop, validate, and deliver draft user instructions (for interfacing with ATE) for DT II and IOT&E.

(b) Verify, over the range of data and conditions expected in the field, the representative draft user instructions for interfacing with ATE.

(2) There are plans for preparation of displayed user instructions (for interfacing with ATE) according to MIL-STD-334.

### 3-33. PDSS

a. *General.* Ensure that the CRMP includes milestones and responsibilities for conducting an analysis to determine the most appropriate assignment of PDSS. Make sure there are plans for establishing transition milestones for Government support (if applicable).

b. *Equipment.* Ensure that there are plans and resources to identify PDSS center support equipment requirements for establishing an organic software support capability.

c. *Software documentation.* Ensure that—

(1) There are plans and resources to develop computer program product specifications and other documentation (such as data item index) required to maintain both operational and maintenance support computer programs. Be sure there are plans and resources to conduct preliminary and critical design reviews.

(2) Quality standards and objectives have been established for the software documentation.

### 3-34. Management planning

a. *CRMP.* Ensure that—

(1) Management procedures and contractual reporting requirements have been established to control software development, costs, and schedule. Make sure the acquisition schedule allows sufficient time for software development and validation prior to DT II.

(2) The CRLCMP has been updated according to AR 70-1 to define EMD phase activities, coordinated with the responsible Life Cycle Software support (LCSS) Engineering Center (LCSEC), and, for AMC activities, it has been provided to Headquarters AMC (AMCDE-SB) prior to submission for approval by the program decision authority.

b. *Computer resources working group (CRWG).* Ensure that a CRWG has been established to assist in the management of computer resources support development.

c. *Test Program Set Management Plan (TPSMP).* Ensure that the TPS management plan has been updated if required, coordinated and submitted to AMCPM-TMDE.

## Section X

### Transportation and Transportability

#### 3-35. Mobility—strategic and tactical

Ensure that—

a. A unit deployment analysis has been conducted to indicate transportation asset requirements for strategic and tactical mobility of the system (including ASIOE). Make sure the requirements are within established constraints. If constraints are not met, be sure appropriate modification of the MNS, system design, and/or prepositioning of equipment has been programmed as corrective actions.

b. The DT II and IOT&E test plans include provisions for evaluating compliance with stated transportability requirements related to strategic and tactical mobility of the system and ASIOE, including both tactical and logistical configurations.

c. From an economic and operational view, appropriate transportability requirements and characteristics, consistent with current doctrine and controlling strategic and tactical transportation asset requirements, have been included in the requirement document (such as ORD or JSOR) by the CBTDEV in coordination with the MATDEV, logistician, and MTMCTEA.

d. Appropriate transportability constraints, analysis, and reporting requirements related to strategic and tactical mobility of the system and ASIOE have been included in the RFP.

e. Ensure the related elements of the OSCR program have been adequately addressed.

#### 3-36. Transportability

a. *General.* Ensure that—

(1) There are plans to correct lifting and tiedown deficiencies

discovered during the initial MTMCTEA transportability engineering analysis and there are contractual provisions for designing system lifting and tiedown provisions to comply with MIL-STD-209, to include the requirement for a transportability data plate or decal.

(2) In order to enhance strategic deployability, the requirement document and RFP include transportability constraints related to the amount of system disassembly permitted or the maximum allowable time to return the system to mission status.

*b. Highways, rail, and marine. Ensure that—*

(1) There are plans to correct highway, rail, and marine transportability deficiencies discovered during the initial MTMCTEA transportability engineering analysis.

(2) The DT II and IOT&E test plans include provisions for evaluating compliance with stated highway, rail, and marine transportability requirements including both tactical and logistical configurations.

(3) From an economic and operational view, appropriate highway, rail, and marine transportability requirements and characteristics, consistent with current doctrine and controlling transportation asset requirements, have been included in the requirement document (such as ORD or JSOR) by the CBTDEV in coordination with the MATDEV, logistician, and MTMCTEA.

(4) Appropriate highway, rail, and marine transportability analysis and reporting requirements have been included in the RFP. Make sure these requirements include provisions for obtaining technical data so that MTMCTEA can conduct an engineering analysis.

(5) The planned highway and rail transport test loadings and test shipments are consistent with AR 746-1 requirements.

(6) There are contractual provisions to constrain system design for highway transport to meet the dimensional and weight limitations of MIL-STD-1366C, and, if feasible, the more restrictive legal limits (available from MTMC) of specific states and foreign countries.

(7) There are plans to coordinate all proposed rail car impact and loading tests with MTMC. Rail impact test will be in accordance with MIL-STD-810.

(8) There are contractual provisions to constrain system configuration for rail transport to conform to MIL-STD 1366C for unrestricted movement within CONUS, Western Europe, and so forth.

(9) There are contractual provisions to constrain system configuration and weight for sea transport to conform to MIL-STD 1366C.

*c. Containerization. Ensure that—*

(1) There are plans to correct system design problems related to containerization that were discovered during the initial MTMCTEA transportability engineering analysis.

(2) The DT II and IOT&E test plans include provisions for evaluating system compliance with stated containerization requirements, including both tactical and logistical configurations.

(3) From an economic and operational view, appropriate containerization requirements and characteristics, consistent with current doctrine and controlling container asset requirements, have been included in the requirement document (such as ORD/JSOR) by the CBTDEV in coordination with the MATDEV, the logistician, and MTMCTEA.

(4) Appropriate containerization analysis and reporting requirements have been included in the RFP.

(5) Contractual provisions have been established to require the system, if feasible, to be compatible with ANSI or ISO standard cargo containers and other standard containers and pallets identified in Federal or military specifications or standards.

*d. Airdrop or LAPES. Ensure that—*

(1) There are plans to correct deficiencies related to meeting airdrop or LAPES requirements as discovered during the initial MTMCTEA transportability engineering analysis.

(2) The DT II and IOT&E test plans include provisions for evaluating system compliance with stated airdrop or LAPES requirements, including both tactical and logistical configurations.

(3) From an economic and operational view, the requirement document contains appropriate consideration of system airdrop requirements, including the required technique(s). (This includes

standard airdrop and LAPES, container delivery system bundles, and individual parachutists.)

(4) Appropriate airdrop or LAPES analysis and reporting requirements have been included in the RFP.

(5) There are plans for the developer to obtain engineering and design assistance from Natick R&D Center, as necessary, for those items to be air dropped.

(6) There are contractual provisions to ensure the system is air transportable and meets the loading, tie down, suspension, and extraction requirements of MIL-STD-669, MIL-STD-814, and MIL-STD-1791.

*e. Aircraft.*

(1) *Fixed wing. Ensure the following:*

(a) There are plans to correct fixed wing aircraft transportability deficiencies as discovered during the initial MTMCTEA transportability engineering analysis.

(b) The DT II and IOT&E test plans include provisions for evaluating system compliance with stated fixed wing aircraft transportability requirements, including both tactical and logistical configurations.

(c) From an economic and operational view, appropriate fixed wing aircraft (for example, C-130, C-141, C-5, or C-17) transportability requirements, consistent with current doctrine and controlling transportation asset requirements, have been included in the requirement document (such as ORD or JSOR) by the CBTDEV in coordination with the MATDEV, logistician, and MTMCTEA.

(d) Appropriate fixed wing aircraft transportability analysis and reporting requirements have been included in the RFP.

(e) For items requiring aircraft transportability and meeting criteria of AR 70-44 and AR 70-47, an air test loading by USAF has been planned.

(f) There are contractual provisions for designing the system for—

1. Handling by the 463L Air Cargo Handling System, if feasible, and other design constraints of MIL-STD-1791.

2. Meeting the sectionalization or disassembly requirements of MIL-STD-1791 for air transport.

3. Conforming to the dimensions and compartment floor loading limitations of proposed transport aircraft.

4. Withstanding load factors indicated in MIL-STD-1791.

(2) *Rotary wing.*

(a) *Internal. Ensure the following:*

1. There are plans to correct rotary wing aircraft (internal cargo) deficiencies discovered during initial MTMCTEA transportability engineering analysis.

2. The DT II and IOT&E test plans include provisions for evaluating system compliance with stated aircraft rotary wing (internal cargo) transportability requirements, including both tactical and logistical configurations.

3. From an economic and operational view, appropriate rotary wing (internal cargo) transportability requirements and characteristics, consistent with current doctrine and controlling transportation asset requirements, have been included in the requirement document (such as ORD or JSOR) by the CBTDEV in coordination with the MATDEV, logistician, and MTMCTEA.

4. Appropriate rotary wing aircraft (internal cargo) transportability analysis and reporting requirements have been included in the RFP.

5. There are contractual provisions for designing the system to meet the sectionalization or disassembly requirements of MIL-HDBK-157 for air transport.

6. There are contractual provisions for designing the system to conform to fuselage zone and compartment floor loading limitations of proposed transport aircraft.

7. There are contractual provisions for designing the system to withstand load factors indicated in MIL-STD-209.

8. There are plans to obtain engineering and design assistance from Natick R&D Center and MTMCTEA, as necessary, for those items requiring internal cargo loading.

(b) *External. Ensure the following:*

1. There are plans to correct rotary wing aircraft (external cargo)

transportability deficiencies discovered during initial MTMCTEA transportability engineering analysis.

2. The DT II and IOT&E test plans include provisions for evaluating system compliance with stated aircraft rotary wing (external cargo) transportability requirements, including both tactical and logistical configurations.

3. From an operational and economic view, the requirement document specifies appropriate external air transport requirements by type aircraft and system configuration (such as operational, partially disassembled).

4. Appropriate rotary wing aircraft (external cargo) transportability analysis and reporting requirements have been included in the RFP.

5. There are plans to obtain engineering and design assistance from Natick R&D Center and MTMCTEA, as necessary, for items to be air transported as externally suspended cargo by rotary wing aircraft.

6. There are contractual provisions to design the system suspension points to conform to MIL-STD-209.

### **3-37. Transportability report and engineering analysis**

Ensure that—

*a.* An updated transportability report has been provided to MTMCTEA in accordance with AR 70-47 or MIL-STD-1367.

*b.* A transportability engineering analysis has been prepared by MTMCTEA and distributed according to AR 70-47.

*c.* Transportability approval has been granted by MTMC.

*d.* For transportability problem items or items with stated transportability requirements, there are plans to provide a supplemental transportability report to MTMCTEA presenting all changes to an item's transportability characteristics resulting from redesign during EMD.

*e.* For items having a previously conducted unit deployment assessment, a unit deployment analysis has been prepared and distributed by MTMCTEA as required by AR 70-47.

## **Section XI Facilities**

### **3-38. Base operations and services support**

*a. General.* Ensure that—

(1) There are plans to conduct site surveys or other coordination with affected MACOMs to assist in updating or refining projected new or modified base operations and services support facility requirements.

(2) The DT II and IOT&E test plans include provisions to collect necessary data (for example, utilization rates, space and utility requirements, environmental control, and manpower requirements) for evaluating adequacy of facilities planning.

*b. System operations center.* Ensure that—

(1) Preliminary facility requirements for system operation (for example, telecommunications center) have been updated in coordination with affected MACOMs. Be sure budget estimates have been prepared for projected new or modified facility requirements within the Future Years Defense Program (FYDP) period.

(2) There are plans (that is, tasks, milestones, and responsibilities) and resources for developing system operation center facility requirement estimates for the production configuration system design. Make sure there are plans for providing the data to affected MACOMs in a timely manner to support preparation of DD Form 1390 (FY, Military Construction Program) and DD Form 1391 (FY, Military Construction Project Data), site plans, and other data required by AR 415-15 for new construction.

*c. Aviation.* Ensure that—

(1) Preliminary aircraft operation facility requirements have been updated in coordination with affected MACOMs. Be sure budget estimates have been prepared for projected new or modified facility requirements within the FYDP period.

(2) There are plans (that is, tasks, milestones, and responsibilities) and resources for developing aircraft operation facility requirement estimates for the production configuration system design. Make sure there are plans for providing the data to affected MACOMs in a timely manner to support preparation of DD Form 1390 and DD Form 1391, site plans, and other data required by AR 415-15 for new construction.

*d. Administrative or headquarters.* Ensure that—

(1) Preliminary system-related administrative or headquarters facility requirements have been updated in coordination with affected MACOMs. Make sure budget estimates have been prepared for projected new or modified facility requirements within the FYDP period.

(2) There are plans (that is, tasks, milestones, and responsibilities) and resources for revising system-related administrative or headquarters facility requirement estimates as deployment plans are finalized. Make sure there are plans for providing the data to affected MACOMs in a timely manner to support preparation of DD Form 1390 and DD Form 1391, site plans, and other data required by AR 415-15 for new construction.

*e. Troop barracks or housing.* Ensure that—

(1) Preliminary system-related troop barracks or housing facility requirements have been updated in coordination with affected MACOMs. Be sure budget estimates have been prepared for projected new or modified facility requirements within the FYDP period.

(2) There are plans (that is, tasks, milestones, and responsibilities) and resources for refining system-related troop barracks or housing facility requirement estimates during the EMD phase. Make sure there are plans for providing the data to affected MACOMs in a timely manner to support preparation of DD Form 1390 and DD Form 1391, site plans, and other data required by AR 415-15 for new construction.

*f. Military family housing.* Ensure that—

(1) Preliminary facility requirements for military family housing have been updated with current system manpower requirement estimates and in coordination with affected MACOMs.

(2) Budget estimates have been submitted to the COE for projected new or modified military family housing facility requirements within the FYDP period.

(3) There are plans (that is, tasks, milestones, and responsibilities) and resources for refining military family housing facility requirement estimates during the EMD phase. Be sure there are plans for providing the data to affected MACOMs in a timely manner to support preparation of DD Form 1390 and DD Form 1391, site plans, and other data required by AR 415-15 for new construction.

*g. Morale, welfare, and recreation.* Ensure that—

(1) Preliminary morale, welfare, and recreation facility requirements have been updated consistent with current system manpower requirement estimates and in coordination with affected MACOMs.

(2) Budget estimates have been submitted to the COE for projected new or modified morale, welfare, and recreation facility requirements within the FYDP period.

(3) There are plans (that is, tasks, milestones, and responsibilities) and resources for refining morale, welfare, and recreation facility requirement estimates during the EMD phase. Be sure there are plans for providing the data to affected MACOMs in a timely manner to support preparation of DD Form 1390 and DD Form 1391, site plans, and other data required by AR 415-15 for new construction.

### **3-39. Logistical**

*a. Maintenance.* Ensure that there are plans to conduct site surveys and/or other coordination with affected MACOMs to assist in updating/refining projected new or modified maintenance (unit through depot level) facility requirements. Ensure the related areas of the OSCR program have been adequately addressed.

(1) *Unit, DS, and GS (or AVUM and AVIM) levels.* Ensure that—

(a) Preliminary unit through GS level maintenance facility requirements have been updated consistent with the BMC and in coordination with affected MACOMs.

(b) Budget estimates have been submitted to the COE for projected new or modified unit through GS level maintenance facility requirements within the FYDP period.

(c) There are plans to identify and document new or modified unit through GS level maintenance facility requirements through the LSA/logistic support analysis record (LSAR) process. Ensure that the documentation is provided to affected MACOMs for timely submittal of MCA requests.

(d) The DT II and IOT&E test plans include provisions to collect necessary data (for example, utilization rates, utility requirements, and environmental control requirements) for evaluating adequacy of (unit through GS level) maintenance facilities planning.

(2) *Depot level.* Ensure that—

(a) Preliminary depot maintenance facility requirements have been updated consistent with the BMC and in coordination with affected MACOMs.

(b) Budget estimates have been submitted for projected new or modified depot maintenance facility requirements within the FYDP period.

(c) There are plans to identify and document new or modified depot maintenance facility requirements through the LSA/LSAR process, and plans to ensure the documentation will be provided to affected MACOMs for timely submittal of MCA requests.

b. *Supply/storage.* Ensure that there are plans to conduct site surveys or other coordination with affected MACOMs to assist in updating or refining projected new or modified supply or storage (organizational through depot level) facility requirements. Ensure the related elements of the OSCR program have been adequately addressed.

(1) *Organizational.* Ensure preliminary organizational level supply or storage facility requirements have been updated in coordination with affected MACOMs. Be sure budget estimates have been prepared for projected new or modified facility requirements within the FYDP period.

(a) *PLL.* That there are plans (that is, tasks, milestones, and responsibilities) and resources for refining PLL supply facility requirement estimates during the EMD phase. Make sure there are plans for providing the data to affected MACOMs in a timely manner to support preparation of DD Form 1390 and DD Form 1391, site plans, and other data required by AR 415–15 for new construction.

(b) *Arms room.* There are plans (that is, tasks, milestones, and responsibilities) and resources for refining unit arms room facility requirement estimates during the EMD phase. Make sure there are plans for providing the data to affected MACOMs in a timely manner to support preparation of DD Form 1390 and DD Form 1391, site plans, and other data required by AR 415–15 for new construction.

(c) *Basic load ammunition.* Ensure that—

1. There are plans (that is, tasks, milestones, and responsibilities) and resources for refining organizational level ammunition supply facility requirement estimates during the EMD phase. Be sure there are plans for providing the data to affected MACOMs in a timely manner to support preparation of DD Form 1390 and DD Form 1391, site plans, and other data required by AR 415–15 for new construction.

2. If new or major modification to existing organizational level ammunition storage facilities is anticipated, there are plans for submitting site layout and design data to the DOD Explosives Safety Board for approval according to AR 385–60.

3. There are plans for providing ammunition delivery schedules and hazard classification data (such as quantity–distance class, storage compatibility group, Department of Transportation (DOT) class, and conveyor spacing distances) to those using units having an ammunition storage mission for use in facilities planning.

(d) *Basic load—POL.* Ensure that there are plans (that is, tasks, milestones, and responsibilities) and resources for refining organizational level POL storage facility requirement estimates during the EMD phase. Be sure there are plans for providing the data to affected MACOMs in a timely manner to support preparation of DD

Form 1390 and DD Form 1391, site plans, and other data required by AR 415–15 for new construction.

(2) *Direct support.* Ensure that preliminary direct support supply or storage facility requirements have been updated in coordination with affected MACOMs. Make sure budget estimates have been prepared for projected new or modified facility requirements within the FYDP period.

(a) *Ammunition supply point (ASP).* Ensure that—

1. There are plans (that is, tasks, milestones, and responsibilities) and resources for refining ASP facility requirement estimates during the EMD phase. Be sure there are plans for providing the data to affected MACOMs in a timely manner to support preparation of DD Form 1390 and DD Form 1391, site plans, and other data required by AR 415–15 for new construction.

2. If new or major modification to existing ammunition storage facilities at the ASP is anticipated, there are plans for submitting site layout and design data to the DOD Explosives Safety Board for approval according to AR 385–60.

3. There are plans for providing ammunition delivery schedules and hazard classification data (such as quantity–distance class, storage compatibility group, DOT class, and conveyor spacing distances) in a timely manner to those organizations operating the ASP for use in facilities planning.

(b) *ASL.* Ensure that there are plans (that is, tasks, milestones, and responsibilities) and resources for refining ASL supply facility requirement estimates during the EMD phase. Be sure there are plans for providing the data to affected MACOMs in a timely manner to support preparation of DD Form 1390 and DD Form 1391, site plans, and other data required by AR 415–15 for new construction.

(c) *Operational readiness float (ORF).* Ensure that there are plans (that is, tasks, milestones, and responsibilities) and resources for refining ORF supply or storage facility requirement estimates during the EMD phase. Be sure there are plans for providing the data to affected MACOMs in a timely manner to support preparation of DD Form 1390 and DD Form 1391, site plans, and other data required by AR 415–15 for new construction.

(3) *GS/theater.* Ensure that preliminary GS/theater supply or storage facility requirements have been updated in coordination with affected MACOMs. Be sure budget estimates have been submitted for projected new or modified facility requirements within the FYDP period.

(a) *War reserves.* Ensure that—

1. There are plans (that is, tasks, milestones, and responsibilities) and resources for refining theater war reserve storage (classes III, VII, and IX) facility requirement estimates during the EMD phase. Be sure there are plans for providing the data to affected MACOMs in a timely manner to support preparation of DD Form 1390 and DD Form 1391, site plans, and other data required by AR 415–15 for new construction.

2. If new or major modification to existing theater war reserve ammunition or toxic chemical storage facilities is anticipated, there are plans for submitting site layout and design data to the DOD Explosives Safety Board for approval according to AR 385–60.

3. There are plans for providing theater war reserve ammunition delivery schedules and hazard classification data (such as quantity–distance class, storage compatibility group, DOT class, and conveyor spacing distances) in a timely manner to those organizations having an ammunition storage mission for use in facilities planning.

(b) *POMCUS.* Ensure that there are plans (i.e., tasks, milestones, and responsibilities) and resources for refining theater war reserve storage (classes III, VII, VIII, and IX) facility requirement estimates during the EMD phase. Be sure there are plans for providing the data to affected MACOMs in a timely manner to support preparation of DD Form 1390 and DD Form 1391, site plans, and other data required by AR 415–15 for new construction.

(c) *Selected nonwar reserves.* Ensure that—

1. There are plans (that is, tasks, milestones, and responsibilities) and resources for refining GS selected nonwar reserve storage

(classes III, VII, and IX) supply facility requirement estimates during the EMD phase. Be sure there are plans for providing the data to affected MACOMs in a timely manner to support preparation of DD Form 1390 and DD Form 1391, site plans, and other data required by AR 415-15 for new construction.

2. If new or major modification to existing theater war reserve ammunition or toxic chemical storage facilities is anticipated, there are plans for submitting site layout and design data to the DOD Explosives Safety Board for approval according to AR 385-60.

3. There are plans for providing GS supply base ammunition delivery schedules and hazard classification data (such as quantity-distance class, storage compatibility group, DOT class, and conveyor spacing distances) in a timely manner to those organizations having an ammunition storage mission for use in facilities planning.

(4) *Depot.* Ensure that preliminary depot supply and storage facility requirements have been updated consistent with the baseline supply and storage concept and in coordination with affected MACOMs. Be sure budget estimates have been submitted for projected new or modified facility requirements within the FYDP period.

(a) *War reserves.* Ensure that—

1. There are plans (that is, tasks, milestones, and responsibilities) and resources for refining depot war reserve storage facility requirement estimates during the EMD phase. Be sure there are plans for providing the data to affected MACOMs in a timely manner to support preparation of DD Form 1390 and DD Form 1391, site plans, and other data required by AR 415-15 for new construction.

2. If new or major modification to existing war reserve ammunition or toxic chemical storage facilities is anticipated, there are plans for submitting site layout and design data to the DOD Explosives Safety Board for approval according to AR 385-60.

3. There are plans for providing war reserve ammunition delivery schedules and hazard classification data (such as quantity-distance class, storage compatibility group, DOT class, and conveyor spacing distances) in a timely manner to those organizations having an ammunition storage mission for use in facilities planning.

(b) *Repair cycle float (RCF).* Ensure that there are plans (that is, tasks, milestones, and responsibilities) and resources for refining RCF storage facility requirements estimates during the EMD phase. Be sure there are plans for providing the data to affected MACOMs in a timely manner to support preparation of DD Form 1390 and DD Form 1391, site plans, and other data required by AR 415-15 for new construction.

(c) *Other operational projects.* Ensure that there are plans (that is, tasks, milestones, and responsibilities) and resources for refining other operational projects depot storage facility requirement estimates during the EMD phase system design. Be sure there are plans for providing the data to affected MACOMs in a timely manner to support preparation of DD Form 1390 and DD Form 1391, site plans, and other data required by AR 415-15 for new construction.

### **3-40. Training**

Ensure that there are plans to conduct site surveys or other coordination with affected MACOMs to assist in updating or refining projected new or modified training (institutional and unit) facility requirements. Ensure the related elements of the OSCR program have been adequately addressed.

a. *Ranges.* Ensure that—

(1) Preliminary training range facility requirements (institutional and unit) and range safety data have been updated in coordination with affected MACOMs. Make sure budget estimates have been prepared for projected new or modified facility requirements within the FYDP period.

(2) There are plans (that is, tasks, milestones, and responsibilities) and resources for refining training range facility requirement estimates and range safety data during the EMD phase. Make sure there are plans for providing the data to affected MACOMs in a timely manner to support preparation of DD Form 1390 and DD

Form 1391, site plans, and other data required by AR 415-15 for new construction.

b. *Buildings.* Ensure that preliminary training (institutional and unit) buildings facility requirements have been updated in coordination with affected MACOMs. Be sure budget estimates have been prepared for projected new or modified facility requirements within the FYDP period.

(1) *Classrooms.* Ensure that there are plans (that is, tasks, milestones, and responsibilities) and resources for refining training (institutional and unit) classroom facility requirement estimates during EMD phase. Be sure there are plans for providing the data to affected MACOMs in a timely manner to support preparation of DD Form 1390 and DD Form 1391, site plans, and other data required by AR 415-15 for new construction.

(2) *Training equipment and devices.* Ensure that there are plans (that is, tasks, milestones, and responsibilities) and resources for refining training equipment and device facility requirement estimates during the EMD phase. Be sure there are plans for providing the data to affected MACOMs in a timely manner to support preparation of DD Form 1390 and DD Form 1391, site plans, and other data required by AR 415-15 for new construction.

### **3-41. Planning documentation—support facility annex**

a. For systems having potential facilities impact, ensure the initial support facility annex to the ILSP has been updated by the MATDEV (with training input from the CBTDEV) and approved by the OCE. Make sure the updated information has been distributed to all MACOMs and appropriate installations and HQDA staff elements to provide long-range planning data for MCA projects.

b. For systems having potential facilities impact, ensure there are plans (that is, tasks, milestones, and responsibilities) to further update the facilities support annex during the EMD phase. Make sure there are plans to distribute the updated information in sufficient time to assist gaining commands in programming funds for MCA projects if necessary.

## **Section XII Standardization and Interoperability**

### **3-42. General**

Ensure that there are plans and resources to ensure continued coordination and cooperation with NATO and quadripartite countries in the development of systems having standardization or interoperability implications.

### **3-43. Command, Control, and Communication (CCC)**

Ensure that—

a. The results of DT I and EUT&E and other analyses indicate that CCC system standardization and interoperability objectives are being met.

b. There are plans and resources to correct CCC system standardization and interoperability problem areas discovered during DT I and EUT&E and other analyses.

c. There are provisions in the DT II and IOT&E test plans for evaluating each CCC system standardization and interoperability requirement (from ORD or specification) and adhering to other standardization objectives.

d. The system requirement document (such as ORD/JSOR) and specification include—

(1) Interoperability requirements compatible with the Army Battlefield Interface Concept and the Army Command and Control Combat Development Plan.

(2) Identification of operational interfaces with other existing and developmental battlefield automated systems (Army, other Services, or allies) including application of existing NATO STANAGs, QSTAGs, or other agreements. (See DA Pam 310-35 for a partial list of agreements.) Contact U.S. Army Security Affairs Command, ATTN: AMSAC-MC/S 5001 Eisenhower Ave., ALEX VA 22333-0001, for further information.

(3) Requirements to use common or compatible ADPE and communications equipment.

(4) Requirements for two or more battlefield automated systems to directly exchange and process data.

### **3-44. Battlefield surveillance and target designation and acquisition systems**

To assess these systems, ensure the following:

*a.* The results of DT I/EUT&E and other analyses indicate that battlefield surveillance and target designation and acquisition system standardization and interoperability objectives are being met.

*b.* There are plans and resources to correct battlefield surveillance and target designation and acquisition system standardization and interoperability problem areas discovered during DT I/EUT&E and other analyses.

*c.* There are provisions in the DT II and IOT&E test plans for testing to assess each battlefield surveillance and target designation and acquisition system standardization and interoperability requirement (from ORD or specification) and adherence to other standardization objectives.

*d.* For battlefield surveillance and target designation systems, the requirement document (such as ORD or JSOR) and contract contain provisions to ensure the system will be able to interoperate with friendly (that is, Army, other Service, and allies) existing and developmental IFF equipment.

*e.* For battlefield surveillance and target designation and acquisition systems, the requirement document (such as ORD/JSOR) and specification include appropriate requirements to directly exchange and process data with other Army, other Service, and allied country battlefield automated systems.

*f.* The requirement document (such as ORD/JSOR) and specification include appropriate provisions for the weapon system to interoperate with existing or developmental Army, other Service, or allied country battlefield surveillance and target designation and acquisition systems.

### **3-45. Ammunition**

Ensure the following:

*a.* The results of DT I and EUT&E and other analyses indicate that weapon system ammunition standardization and interoperability objectives are being met.

*b.* There are plans and resources to correct weapon system ammunition standardization and interoperability problem areas discovered during DT I/EUT&E and other analyses.

*c.* There are provisions in the DT II and IOT&E test plans for testing to assess each weapon system ammunition standardization and interoperability requirement (from ORD or specification) and adherence to other standardization objectives.

*d.* The system requirement document (such as ORD or JSOR) and contract specification contain provisions to ensure the weapon system will be designed to effectively standardize or interoperate with ammunition used by existing or developmental Army, other Service, and allied nation equipment that is or may be required to implement NATO or other operational plans. Ensure these provisions include application of existing NATO STANAGs, QSTAGs, or other agreements. (See DA Pam 310-35 for a partial list of agreements.) Contact U.S. Army Security Affairs Command, ATTN:AMSAC-MC/S, 5001 Eisenhower Avenue, ALEX VA 22333-0001, for further information.

### **3-46. Petroleum, oils, and lubricants (POL)**

Ensure that—

*a.* The results of DT I/EUT&E and other analyses indicate that system POL standardization and interoperability objectives are being met.

*b.* There are plans and resources to correct system POL standardization and interoperability problem areas discovered during DT I/EUT&E and other analyses.

*c.* There are provisions in the DT II and IOT&E test plans for testing to assess each system POL standardization and interoperability requirement (from ORD or specification) and adherence to other standardization objectives.

*d.* The system requirement document (such as ORD or JSOR) and contract specification contain provisions to ensure the system will be designed to effectively standardize or interoperate with POL used by existing or developmental Army, other Service, and allied nation equipment that is or may be required to implement NATO or other operational plans. Ensure these provisions include application of existing NATO STANAGs, QSTAGs, or other agreements. (See DA Pam 310-35 for a partial list of agreements.) Contact U.S. Army Security Affairs Command, ATTN: AMSAC-MC/S, 5001 Eisenhower Ave., ALEX VA 22333-0001, for further information.

*e.* There are contractual provisions requiring the system to be designed to maximize use of Army-approved standard fuels and lubricants as listed in AR 710-2, AMDF, MIL-HDBK-113, MIL-HDBK 114, and TB 703-1. Unless approved by the AAE, there are provisions to prohibit the system from being designed to use gasoline-type fuels if the system is intended for deployment and/or employment outside the United States.

*f.* If a new fuel is proposed for entry into the Army logistics system, the proposal has been approved by the DCSLOG and the Assistant Secretary of Defense for Production and Logistics.

*g.* There are plans and contractual provisions to select, if no standard lubricant is considered acceptable for the intended application, the recommended lubricant according to the procedures (such as mandatory coordination with BRDEC (STRBE-VF) in MIL-STD-838 and MIL-HDBK-113 as required by AR 710-2.

### **3-47. Components and repair parts**

Ensure that—

*a.* The results of DT I/EUT&E and other analyses indicate that component and repair parts standardization and interoperability objectives are being met.

*b.* There are plans and resources to correct component and repair parts standardization, interoperability and interchangeability problem areas discovered during DT I/EUT&E and other analyses.

*c.* There are provisions in the DT II and IOT&E test plans for testing to assess each component and repair parts standardization and interoperability requirement (from ORD or specification) and adherence to other standardization objectives in AR 34-1.

*d.* The system requirement document (such as ORD or JSOR) and contract specification contain provisions to ensure the system will be designed to effectively standardize or interchange to the extent feasible with components and repair parts from existing or developmental Army, other Service, and allied nation equipment that is or may be required to implement NATO or other operational plans. Ensure these provisions include application of existing NATO STANAGs, QSTAGs, or other agreements. (See DA Pam 310-35 for a partial list of agreements. Contact U.S. Army Security Affairs Command, ATTN: AMSAC-MC/S, 5001 Eisenhower Avenue, ALEX VA 22331-0001, for further information.)

*e.* There are contractual provisions to require use of metric components and repair parts unless the program decision authority has approved an exception in accordance with AR 700-1.

*f.* Optimum use has been made of military standard parts and components; specifically for equipment contracts over \$25,000 and any other contract in which life cycle benefits are probable, there are plans and contractual provisions for a parts control program (AR 700-60) involving compliance with MIL-STD-680, MIL-STD-965, and MIL-P-11268. All systems which do not intend to apply the DOD parts control program require approval from HQAMC (AMCPD-SE).

*g.* The requirement document adequately considers standardization using existing vehicle chassis, airframes, and radars.

### **3-48. Aircraft servicing**

Ensure the following:

*a.* The results of DT I/EUT&E and other analyses indicate that aircraft cross-servicing standardization and interoperability objectives are being met.

*b.* There are plans and resources to correct aircraft cross-servicing standardization and interoperability problem areas discovered during DT I/EUT&E and other analyses.

c. There are provisions in the DT II and IOT&E test plans for testing to assess each aircraft cross-servicing standardization and interoperability requirement (from ORD or specification) and adherence to other standardization objectives.

d. For aircraft ammunition and POL loading/dispensing equipment, the requirement document (such as ORD or JSOR) and contract specification contain provisions for the equipment to effectively interoperate with aircraft of other Services and allies to permit cross-servicing.

e. For aircraft systems, the requirement document (such as ORD or JSOR) and contract specifications contain provisions to ensure the aircraft system design is compatible with ammunition, POL, and associated loading and dispensing equipment of other services and allies to permit cross-servicing according to AR 34-1.

## **Section XIII Reliability, Availability, and Maintainability**

### **3-49. Reliability**

a. *General.* To assess reliability, ensure the following:

(1) An FD/SC, consistent with the operational mode summary/mission profile (OMS/MP) and RAM requirements (including assessment of incidents related to logistics burden), has been updated as necessary and coordinated with required agencies according to AR 702-3.

(2) The OMS/MP has been updated as necessary to be consistent with the MNS and quantitative RAM requirements.

(3) There are contractual provisions for conduct of a reliability program, according to MIL-STD-785, including appropriate engineering, test, and management/accounting tasks to balance LCC and system effectiveness.

(4) Firm operational and technical reliability thresholds for MDR III and IOC have been included in the IPS.

b. *Mission related.* Ensure that—

(1) Appropriate firm system reliability requirements related to operational effectiveness or mission success have been included in the requirement document and contractual specification for the EMD phase. Be sure the requirements have been compared to a baseline system.

(2) The results of DT I/EUT&E and engineering analysis indicate satisfactory progress (in comparison with the previously established MDR II threshold) toward meeting the system mission-related reliability requirements, resolution of problems typical of similar fielded systems, and identification of manageable technical risks or areas for improvement.

(3) Mission-related reliability growth plans have been established (ACAT I and II systems as a minimum) consistent with historical experience of similar development efforts and programmed research, development, test, and evaluation (RDTE) funding, and development and test times.

(4) There are plans and resources to correct mission-related reliability deficiencies and shortcomings found during DT I/EUT&E.

(5) The DT II test planning includes sufficient RAM testing and test resources to—

(a) Evaluate achievement of contractual mission-related reliability requirements (for example, threshold value achieved at a high confidence level).

(b) Balance users' and producers' risks within available test resources.

(c) Evaluate RAM requirements under basic climatic conditions and those extreme conditions associated with a relatively high frequency of use in the OMS.

(d) Collect data according to LSA requirements.

(6) The IOT&E test planning includes enough RAM testing and test resources to—

(a) Evaluate achievement of the mission-related reliability requirement according to the OMS/MP and under field support conditions.

(b) Balance users' and producers' risks within available test resources.

(c) Collect data according to LSA requirements.

c. *Logistics-related.* Ensure that—

(1) Appropriate firm system reliability requirements related to logistics resource requirements and costs have been included in the requirement document and contractual specification for the EMD phase. Make sure requirements have been compared to a baseline system.

(2) The results of DT I/EUT&E and engineering analysis indicate satisfactory progress (in comparison with the previously established MDR II threshold) toward meeting system logistics-related reliability requirements, resolution of problems typical of similar fielded systems, and identification of manageable technical risks or areas for improvement.

(3) There are plans and resources to correct logistics-related reliability deficiencies and shortcomings found during DT I/EUT&E.

(4) Logistics-related reliability growth plans have been established (ACAT I and II systems as a minimum) consistent with historical experience of similar development efforts and programmed RDTE funding, and development and test times.

(5) The DT II test planning includes enough RAM testing and test resources to—

(a) Evaluate achievement of contractual logistics-related reliability requirements (for example, threshold value achieved at a high confidence level).

(b) Balance users' and producers' risks within available test resources.

(c) Evaluate RAM requirements under basic climatic conditions and those extreme conditions associated with a relatively high frequency of use in the OMS.

(d) Collect data according to LSA requirements.

(6) The IOT&E test planning includes enough RAM testing and test resources to—

(a) Evaluate achievement of each logistics-related reliability requirement according to the OMS/MP and under field support conditions.

(b) Balance users' and producers' risks within available test resources.

(c) Collect data according to LSA requirements.

d. *Durability.* Ensure that—

(1) Appropriate firm system and major subsystem durability requirements have been included in the requirement document and contractual specification for the EMD phase. Be sure the requirements have been compared to a baseline system.

(2) The DT II test planning includes sufficient RAM testing and test resources to—

(a) Provide data to assess achievement of contractual durability requirements (for example, threshold value achieved at a high confidence level).

(b) Balance users' and producers' risks within available test resources.

(c) Evaluate durability requirements under basic climatic conditions and those extreme conditions associated with a relatively high frequency of use in the OMS.

(d) Collect data according to LSA requirements.

(3) The IOT&E test planning includes enough durability testing and test resources to—

(a) Provide data to assess achievement of each durability requirement according to the OMS/MP and under field support conditions.

(b) Balance users' and producers' risks within available test resources.

(c) Collect data according to LSA requirements.

### **3-50. Availability and system readiness objective**

Ensure the following have been met:

a. Firm SRO thresholds and availability criteria have been established in the requirements document and IPS consistent with the MNS and current technology.

b. The results of DT I/EUT&E and engineering analysis indicate satisfactory progress (in comparison with the previously established MDR II threshold) toward meeting system SRO and availability

requirements, resolution of problems typical of similar fielded systems, and identification of manageable technical risks or areas for improvement.

c. There are plans and resources to correct SRO deficiencies and shortcomings found during DT I/EUT&E.

d. The mean administrative and logistics downtime projected in the SROs (or operational availability) is consistent with the MNS and historical data regarding anticipated supply, maintenance, and recovery and evacuation responsiveness. (See AR 700-18, and AR 725-50 for data regarding supply responsiveness.)

### 3-51. Maintainability

#### a. General.

(1) Ensure that there are contractual provisions for conducting a maintainability program according to MIL-STD-470 and MIL-STD-471, including appropriate engineering, test and management, or accounting tasks to balance LCC and system effectiveness.

(2) For electronic systems, make sure applicable D&V phase testability program tasks per MIL-STD-2165 have been accomplished and applicable EMD phase tasks programmed to be accomplished.

b. *Qualitative.* Ensure qualitative requirements have been met as shown in the following areas:

##### (1) *Test points.*

(a) There are contractual provisions for system design to provide test points that are safe, protected, accessible, and of sufficient quantity and sensitivity to permit interface with existing ATE and fault isolation to the desired level, including monitoring BIT circuits.

(b) The results of DT I/EUT&E and engineering analysis indicate satisfactory progress toward meeting system testability requirements, resolution of problems typical of similar fielded systems, and identification of manageable technical risks or areas for improvement.

(c) There are plans and resources to correct testability deficiencies and shortcomings found during DT I/EUT&E.

(d) The DT II test planning includes sufficient RAM testing and test resources to evaluate adequacy of system test points.

(e) The IOT&E test planning includes sufficient RAM testing and test resources to provide data for evaluation of design for testability.

##### (2) *Modularity.*

(a) There are contractual provisions to design system so that LRUs and SRUs are physically and functionally modularized and independently testable to facilitate fault isolation and replacement by the using unit.

(b) The results of DT I/EUT&E and engineering analysis indicate satisfactory progress toward meeting system modularity requirements, resolution of problems typical of similar fielded systems, and identification of manageable technical risks or areas for improvement.

(c) There are plans and resources to correct system modularity deficiencies and shortcomings found during DT I/EUT&E.

(d) The IOT&E test planning includes sufficient maintainability testing and test resources to evaluate adequacy of system design for modularity.

(e) The IOT&E test planning includes sufficient maintainability testing and test resources to provide data for evaluation of design for modularity.

##### (3) *Accessibility.*

(a) There are contractual provisions to ensure system design provides for rapid access to each assembly or component for inspection, repair or replacement, or servicing.

(b) If the system is a candidate for inclusion in the Army Oil Analysis Program, there are plans and contractual provisions for designing oil sampling valves for the engine, transmission, and so forth.

(c) The results of DT I/EUT&E and engineering analysis indicate satisfactory progress toward meeting system component accessibility

requirements, resolution of problems typical of similar fielded systems, and identification of manageable technical risks or areas for improvement.

(d) There are plans and resources to correct component accessibility deficiencies and shortcomings found during DT I/EUT&E.

(e) The DT II test planning includes sufficient maintainability testing and test resources to evaluate adequacy of system design for accessibility of components and assemblies under basic climatic conditions and those extreme conditions associated with a relatively high frequency of use in the OMS.

(f) The IOT&E test planning includes sufficient maintainability testing and test resources to provide data for evaluation of design for accessibility of components and assemblies.

c. *Quantitative.* Ensure that an FD/SC, consistent with the OMS/MP (including assessment of incidents related to assessing the quantitative maintainability requirements) has been updated as necessary and coordinated with required agencies. Ensure that quantitative requirements have been met as shown in the following areas:

##### (1) *BIT/BITE.*

(a) Appropriate firm system BIT/BITE effectiveness requirements have been included in the requirement document and contractual specification or EMD phase. Be sure the requirements have been compared to a baseline system and thresholds for MDR III and IOC have been included in the IPS.

(b) The results of DT I/EUT&E and engineering analysis indicate satisfactory progress toward meeting BIT/BITE effectiveness requirements, resolution of problems typical of similar fielded systems, and identification of manageable technical risks or areas for improvement.

(c) There are plans and resources to correct BIT/BITE effectiveness deficiencies and shortcomings found during DT I/EUT&E.

(d) The DT II test planning includes enough BIT/BITE effectiveness testing and test resources to evaluate achievement of requirement document (such as ORD, JSOR, or TDR) and contractual requirements (for example, threshold value met at a high confidence level).

(e) The IOT&E test planning includes enough RAM testing and test resources to provide data for evaluation of BITE effectiveness requirements.

##### (2) *On-system maintenance.*

(a) Appropriate firm system maintainability (on-system) requirements have been included in the requirement document and contractual specification for the EMD phase. Be sure the requirements have been compared to a baseline system and thresholds for MDR III and IOC have been included in the IPS.

(b) The results of DT I/EUT&E and engineering analysis indicate satisfactory progress toward meeting system maintainability (on-system) requirements, resolution of problems typical of similar fielded systems, and identification of manageable technical risks or areas for improvement.

(c) There are plans and resources to correct maintainability (on-system) deficiencies and shortcomings found during DT I/EUT&E.

(d) The DT II test planning includes enough RAM testing and test resources to—

1. Evaluate achievement of contractual maintainability (on-system) requirements (for example, threshold value met at a high confidence level).

2. Balance users' and producers' risks within available test resources.

3. Evaluate RAM requirements under basic climatic conditions and those extreme conditions associated with a relatively high frequency of use in the OMS.

4. Collect data according to LSA requirements.

(e) The IOT&E test planning includes enough RAM testing and test resources to—

1. Evaluate achievement of each maintainability (on-system) requirement according to the OMS/MP and under field support conditions.

2. Balance users' and producers' risks within available test resources.

3. Collect data according to LSA requirements.

(f) There are contractual provisions to implement RCM principles and methodology in the selection of scheduled maintenance requirements and to document RCM logic results according to MIL-STD-1388-2B.

(3) *Off-system maintenance.*

(a) Appropriate firm system maintainability (off-system) requirements have been included in the requirement document and contractual specification for the EMD phase. Be sure the requirements have been compared to a baseline system and thresholds for MDR III and IOC have been included in the IPS.

(b) The results of DT I/EUT&E and engineering analysis indicate satisfactory progress toward meeting system maintainability (off-system) requirements, resolution of problems typical of similar fielded systems, and identification of manageable technical risks or areas for improvement.

(c) There are plans and resources to correct maintainability (off-system) deficiencies and shortcomings found during DT I/EUT&E.

(d) The DT II test planning includes enough RAM testing and test resources to—

1. Evaluate achievement of contractual maintainability (off-system) requirements (for example, threshold value met at a high confidence level).

2. Balance users' and producers' risks within available test resources.

3. Evaluate RAM requirements under basic climatic conditions and those extreme conditions associated with a relatively high frequency of use in the OMS.

4. Collect data according to LSA requirements.

(e) The IOT&E test planning includes enough RAM testing and test resources to—

1. Evaluate achievement of each maintainability (off-system) requirement according to the OMS/MP and under field support conditions.

2. Balance users' and producers' risks within available test resources.

3. Collect data according to LSA requirements.

## Section XIV

### Support Management and Analysis

#### 3-52. Support management

a. *Logistics program planning documents.* Ensure appropriate action has been taken regarding the following:

(1) *ILSP.*

(a) The ILSP has been updated, coordinated, and approved according to AR 700-127 and DA Pam 700-55, to include necessary tasks, responsibilities, and milestones for subsequent acquisition phases.

(b) Provisions of the current System MANPRINT Management Plan have been integrated into the ILSP according to AR 700-127.

(c) (Applies only to the displaced systems.) The systems being displaced, if any, have been identified and a manager has been designated by the supporting command to conduct support planning for the displaced system.

(d) (Applies only to the displaced systems.) Key ILS management milestones for those displaced systems that are to be included in the AMIM have been established and included in the Acquisition Management Milestone System according to DA Pam 700-26.

(e) (Applies only to the displaced systems.) A first unit equipped date (FUED) and other key intermediate ILS milestones for displaced systems not included in the AMIM have been established and added to existing milestone management information systems according to DA Pam 700-26.

(f) Detailed ILS program events and tasks for the system have been updated, as necessary, in the Acquisition Management Milestone System according to AR 700-127 and DA Pam 700-26. Be sure the updated milestones are consistent with AR 700-127 and

materiel fielding planning time-phasing requirements and with those milestones addressed in the updated ILSP.

(2) *Configuration management plan.* The configuration management plan and technical data package management plan have been updated, as necessary, to define procedures and responsibilities for managing the system configuration and developing the data package according to AR 70-1. (See MIL-STD-1456 for configuration management plan format.)

(3) *IPS.* An IPS has been prepared according to DOD 5000.2-M, to include the program baseline and acquisition strategy coordinated with the acquisition team.

(4) *Acquisition strategy.* The acquisition strategy has been updated, coordinated with the acquisition team, and summarized in the IPS according to DOD 5000.2 to include a summary of ILS, MANPRINT, RAM, supportability test and evaluation, standardization, and support cost control plans.

b. *Requirement document.* A CSA, AAE or DCSOPS memorandum or message directive containing the information identifying the essential characteristics of the requirement can serve in lieu of a materiel requirements document. Ensure required action has been taken in the following categories:

(1) *System.*

(a) A system requirement document (such as ORD or JSOR) has been prepared according to DOD 5000.2, coordinated and approved according to AR 71-9 to include logistic requirements and support cost estimates.

(b) The MNS has been updated (as necessary), coordinated, and approved according to AR 71-9 to reflect changes in threat, technology, or doctrine.

(2) *Training devices.* TDRs/commercial training device requirements (CTDRs) have been prepared, coordinated and approved according to AR 71-9 for each new device that has been identified as necessary to increase the effectiveness and reduce the cost of training system operator or support personnel.

(3) *Support and test equipment.* A requirement document (such as ORD or JSOR) has been prepared, coordinated, and approved according to AR 71-9 for each new item of equipment required for system support and requiring type classification.

c. *BOIP.* Ensure appropriate action has been taken in the following categories:

(1) *System.*

(a) A BOIP (if required by AR 71-2) has been approved by the Office of the Deputy Chief of staff for Operations and Plans (ODCSOPS) and distributed to MACOMs, USAFISA, logistician, and other interested activities.

(b) Plans (that is, tasks, responsibilities, and milestones) have been established to review the BOIP as to any required changes and, as necessary, to recoordinate and obtain ODCSOPS approval of the amended BOIP prior to MDR III, according to AR 71-2.

(2) *Support and test equipment.*

(a) If required by AR 71-2, a BOIP for the support and test equipment required by the system has been approved by ODCSOPS and distributed to MACOMs, USAFISA, logistician, and other interested activities.

(b) Plans have been established to review the BOIP as to any required changes and, as necessary, to recoordinate and obtain ODCSOPS approval of the amended BOIP prior to MDR III for the support and test equipment required by the system.

(3) *Training devices.*

(a) If required by AR 71-2, a BOIP for the training devices required by the system has been approved by ODCSOPS and distributed to MACOMs, USAFISA, logistician, and interested activities.

(b) Plans have been established according to AR 71-2 to review the BOIP as to required changes and, as necessary, to recoordinate and obtain ODCSOPS approval of an amended BOIP prior to MDR III for the training devices required by the system.

d. *Test planning.* Ensure required actions have been taken as shown below.

(1) *LD plan.* An LD plan has been prepared. Make sure the plan

includes provisions to accomplish the objectives specified in AR 700-127. (This is applicable after MDR II and prior to LD.)

(2) *TEMP*. The TEMP has been updated, coordinated, and approved according to AR 73-1, AR 70-1, and DA Pam 70-21. Make sure the TEMP includes appropriate LD, DT II, IOT&E, and production testing supportability test issues, criteria, objectives/scope, SSP availability, and special resources (for example, dedicated test article) requirements.

(a) *DT OTP*. If supplementary user troops are required, a DT II OTP has been prepared and coordinated according to AR 73-1 and DA Pam 73-1 to include supportability test objectives/scope, support resources to be evaluated, and logistics data collectors, as necessary.

(b) *OT OTP*. An IOT&E OTP has been prepared and coordinated according to AR 73-1 and DA Pam 73-1 to include supportability test objectives/scope, support resources to be evaluated, and logistics data collectors.

(c) *DT TDP*. The DT II TDP has been prepared and coordinated to AR 73-1 to include test conditions, test criteria, data requirements, and data analysis procedures applicable to evaluating supportability issues contained in the TEMP and DT II IEP. (This is applicable after MDR II and prior to DT II.)

e. *Solicitation documents*. Ensure that the elements of ILS have been given enough weight in the source selection process as required by AR 700-127. Ensure required actions have been taken as shown below.

(1) *SOW*. The contractual (RFP) SOW for the EMD phase has been developed in coordination with the assigned major subordinate command (MSC) ILS organization to include requirements to plan for and accomplish applicable ILS tasks. (Consider issues from each of the 17 ILS assessment considerations.) Be sure there are provisions to deliver a system support package components list (SSPCL) and elements of the system support package for LD, DT II, and IOT&E.

(2) *CDRL*. The CDRL for the EMD phase has been developed in coordination with the assigned MSC ILS organization to include delivery of the SSPCL and other data required for effective management of the ILS program.

(3) *Specifications*.

(a) The system specification/purchase description (including those for significant developmental support and test equipment and training devices) for the EMD phase has been developed in coordination with the assigned MSC ILS organization. Be sure it includes, consistent with the requirement document(s), ILS-related design and support resource technical development goals/thresholds. (See related issues from each of the 17 ILS assessment considerations and evaluation procedures (for example, DT II/IOT&E).)

(b) The system specification/purchase description clearly defines a baseline operational scenario, BMC, and readiness/employment objectives.

f. *IEP*. Ensure required actions have been taken as shown below.

(1) *DT IEP*. A DT II IEP has been prepared and coordinated according to AR 73-1. Be sure it includes supportability test issues (as developed from ORD/TDR/JSOR and AR 700-127 requirements, DA Pam 700-50, TEMP, specifications or other sources), SSP evaluation, identification of data sources, and evaluation criteria/methodology (related to O&S cost, manpower, or readiness). (This is applicable after MDR II and prior to DT II.)

(2) *OT TEP*. An IOT&E TEP has been prepared and coordinated according to AR 73-1 and DA Pam 73-1. Be sure it includes supportability test issues (as developed from ORD, JSOR or TDR and AR 700-127 requirements, DA Pam 71-3, TEMP, specification, or other sources), SSP evaluation, test conditions, identification of data requirements and sources, and evaluation criteria/methodology (related to O&S cost, manpower, or readiness). (This is applicable after MDR II and prior to IOT&E.)

g. *CALS*. Ensure required actions have been taken as shown below.

(1) CALS standards have been applied during the D&V phase for

those systems determined to have cost savings and/or quality improvements from changing weapon system paper deliverables to digital data delivery or access using the CALS standards.

(2) Solicitation documents for the EMD phase require specific schedule and cost proposals for:

(a) Integration of contractor technical information systems and processes,

(b) Authorized Government access to contractor technical data bases, and

(c) Delivery of technical information in digital form in accordance with CALS standards (MIL-STD-1840, MIL-D-28000, MIL-M-28001, MIL-R-28002, MIL-D-28003, and MIL-HDBK 59).

### 3-53. Support analysis

a. *Test data*. Ensure required actions have been taken as shown below.

(1) *DT TR*.

(a) The DT I TR has been provided to those organizations specified in AR 73-1 for their use in developing MDR II IPR/ASARC recommendations.

(b) There are plans to prepare and distribute the DT II TR according to AR 73-1 prior to MDR III.

(2) *DT IER*.

(a) The DT I IER has been provided to those organizations specified in AR 73-1 for their use in developing MDR II IPR/ASARC recommendations.

(b) There are plans to prepare and distribute the DT II IER according to AR 73-1 prior to MDR III.

(3) *OT TR*.

(a) The EUT&E TR is available to those organizations specified in AR 73-1 for their use in developing MDR II IPR/ASARC recommendations.

(b) There are plans to prepare and distribute the IOT&E TR according to AR 73-1 prior to MDR III.

(4) *OT IER*.

(a) The EUT&E IER has been provided to those organizations specified in AR 73-1 for their use in developing MDR II IPR/ASARC recommendations.

(b) There are plans to prepare and distribute the IOT&E IER according to AR 73-1 prior to MDR III.

(5) *LD report*. There are plans to provide the LD report to those organizations involved in the MDR process prior to MDR III.

b. *LSA*. Ensure required actions have been taken in the areas shown below. (See AR 700-127 for required MANPRINT integration with LSA.)

(1) *Program planning and control*.

(a) Applicable D&V phase program planning and control LSA tasks have been accomplished. (See MIL-STD-1388-1A guidance and the approved ILSP to determine applicable tasks.)

(b) There are plans to accomplish applicable EMD phase program planning and control LSA tasks. (See MIL-STD-1388-1A for guidance regarding task selection.)

(2) *Mission and support system definition*.

(a) Applicable D&V phase mission and support system definition LSA tasks have been accomplished. (See MIL-STD-1388-1A.)

1. The results of the comparative analysis are being used to identify the items with the greatest logistics burden.

2. Maximum use is being made of technological opportunities in system design to reduce the logistics burden, including those items identified by the comparative analysis.

(b) There are plans to accomplish applicable EMD phase mission and support system definition LSA tasks. (See MIL-STD-1388-1A for guidance regarding task selection.)

(3) *Preparation and evaluation of alternatives*.

(a) Applicable D&V phase preparation and evaluation of alternative LSA tasks have been accomplished. (See MIL-STD-1388-1A guidance and the approved ILSP to determine applicable tasks.)

(b) There are plans to accomplish applicable EMD phase preparation and evaluation of alternative LSA tasks. (See MIL-STD-1388-1A for guidance regarding task selection.)

(4) *Support resources identification.*

(a) There are plans to provide LSA data sheets and summaries to TRADOC on a timely basis to satisfy their needs.

(b) Applicable D&V phase support resources identification LSA tasks have been accomplished. (See MIL-STD-1388-1A guidance and the approved ILSP to determine applicable tasks.)

(c) There are plans to accomplish applicable EMD phase support resources identification LSA tasks. (See MIL-STD-1388-1A for guidance regarding task selection.)

1. The LSA/LSAR data are scheduled to be available in time to serve as source data for each of the ILS products being developed (for example, TMs, MAC, RPSTL, QQPRI, and provisioning). Make sure the schedule is realistic.

2. The EMD contract specifies a quality control program for the LSAR data.

(5) *Supportability assessment.*

(a) Applicable D&V phase supportability assessment LSA tasks have been accomplished. (See MIL-STD-1388-1A guidance and the approved ILSP to determine applicable tasks.)

(b) There are plans to accomplish applicable EMD phase supportability assessment LSA tasks. (See MIL-STD-1388-1A for guidance regarding task selection.)

## Section XV

### Cost Analysis and Funding

#### 3-54. Logistics-related research and development

Ensure adequate funds have been programmed for the purposes stated below.

a. *Logistic support analysis (LSA).* Accomplish applicable EMD phase LSA tasks. (See MIL-STD-1388-1A for guidance regarding task selection.)

b. *Logistics demonstration (LD).* Fabricate a prototype and provide the resources to conduct an LD for the system and any peculiar support and test equipment requiring type classification.

c. *System support package (SSP).* Develop/prepare SSP elements for delivery at DT II and IOT&E for the items below. (See AR 700-127 for detailed definition of SSP elements.)

- (1) Technical data.
- (2) Training services and equipment.
- (3) Support and test equipment.
- (4) TPSs.
- (5) Repair parts.

#### 3-55. Logistics-related investment—procurement

a. Ensure that adequate funds have been programmed for procurement of the long lead time items for the following:

- (1) End item/system.
- (2) Ammunition.
- (3) Support and test equipment.
- (4) Training devices.

b. Ensure that plans have been established to obtain necessary fund approval prior to obligation for long lead time items mentioned in a above.

#### 3-56. Cost analysis documentation

Ensure the following have been updated:

a. *BCE.* The BCE (development estimate) has been updated consistent with results of D&V phase activities. Be sure ILS program funding requirements have been included.

b. *ICE.* The ICE has been updated to test the reasonableness of the BCE (development estimate).

c. *ACP.* For ACAT I and II programs, the ACP has been updated by ASA(FM) to compare latest BCE and ICE.

d. *MSRS.*

(1) The MSRS has been updated consistent with results of D&V phase activities. (See AR 11-18 for MSRS format.)

(2) Milestones have been established to update the MSRS in a timely manner prior to MDR III and to provide the updated document to the organization responsible for the ICE.

e. *COEA/CTEA.*

(1) The COEA/CTEA (ACAT I and II systems only) has been updated, as required, to reflect the current MNS, threat, DT I/EUT&E results, and other program changes since initial COEA/CTEA was prepared.

(2) The cost and benefit analysis (for IPR programs) has been updated, as required, to reflect the MNS, threat, DT I/EUT&E results, and so forth.

f. *OSCR.* Ensure the elements of the OSCR program have been adequately implemented and achieved.

## Section XVI

### Materiel Fielding Planning

#### 3-57. Developer

a. *AMIM.* If the system will have a resource impact (for example, repair parts, POL, training, personnel, or facilities) on gaining MACOMs and meets other selection criteria per DA Pam 5-25, ensure that the system has been included in DA Pam 5-25 according to the format and information requirements published by HQDA (DAMO-FDR) to facilitate MACOM budget submittals.

b. *Memorandum of notification (MON).* Ensure there are plans to forward the MON to gaining MACOMs at least 26 months prior to anticipated deployment dates and 8 months prior to the projected production contract award date in accordance with AR 700-142 and DA Pam 700-142.

c. *Materiel fielding plan (MFP).* If the system will have a support impact on the gaining MACOM, ensure there are plans for preparing a draft MFP. Make sure there are plans for coordinating the draft MFP with gaining MACOMs and ILS program participants at least 26 months prior to anticipated deployment dates and 8 months before the projected production contract award date. *Note:* Gaining command concurrence is required to waive the requirement for an MFP.

d. *Materiel transfer plan (MTP).* (Applies only to the displaced system.) For each displaced system that may have a support impact on the gaining MACOM and is being fielded to that MACOM for the first time, ensure there are plans for preparing and coordinating a draft MTP at least 26 months prior to the anticipated redeployment or transfer date. If an MTP is not required, insure that milestones have been established between gaining and losing MACOMs to formulate a Memorandum of Agreement (MOA) prior to system transfer.

#### 3-58. Gaining commands—mission support plans

a. Ensure there are plans for MACOMs receiving the new system to provide mission support plans (MSPs) 22 months (proposed MSP) and 11 1/3 months (final MSP) prior to anticipated deployment dates and 4 months (for proposed MSP) before the projected production contract award date according to AR 700-142 and DA Pam 700-142.

b. Ensure there are plans for gaining MACOMs (receiving the displaced system) to provide MSPs 22 months (proposed MSP) and 11 1/3 months (final MSP) before the anticipated redeployment or transfer date. (Applies only to the displaced system).

## Section XVII

### Environmental Planning

#### 3-59. Safety

a. Ensure plans are established to develop the data required by the AMDF Hazardous Materials Data Segment (see AR 708-1) whenever items are identified which meet the criteria per FED-STD-313 as hazardous material.

b. Ensure material used or anticipated for use in new systems has been checked against the list of hazardous material published in the Resource Conservation and Recovery Act, Volume 40, Code of Federal Regulations, (CFR) 260 Series. If any material used or proposed for use is on this list, ensure studies have been made to find substitutes for them. Ensure justification has been provided for continued use of these materials (AR 200-1 and AR 200-2). Ensure

there are plans and contractual provisions to extend this requirement to the EMD phase.

c. Ensure that there are contractual provisions for conducting operation and maintenance hazard analysis (MIL-STD-882) including assessment of safety hazard codes (MIL-STD-1388-2B) to identify hazardous functions and effects of personnel error.

### 3-60. Technical data

a. Ensure that there are plans for developing and verifying out-loading and storage drawings and procedures according to AR 740-1 and AR 746-1 for new ammunition and other hazardous materiel.

b. Ensure that there are contractual provisions requiring that the draft operator's manual be developed according to the content and format specified in AR 25-30, MIL-M-38784, and MIL-M-63000 series, as applicable. This includes having warning instructions where safety analyses have identified a potential hazard.

### 3-61. Operation and support

Ensure that—

a. DT I and EUT&E test reports and other safety and health analyses indicate that technical safety risks to operator and maintenance personnel have been identified and no additional Demonstration and Validation (DV) phase effort is required to eliminate or control those risks.

b. There are contractual provisions to design the system so that operator and support actions can be performed to minimize hazardous conditions, noise (MIL-STD-1474), toxic fumes, skin irritants, lasers, pressure vessels, and so forth. Also, ensure there are provisions for reduction or elimination of hazardous waste generation or emissions/discharges in the system design.

c. Environmental documentation prepared to support system development has been reviewed and updated to reflect the impact of system operation and support as required by AR 200-2.

### 3-62. Packaging, handling, and storage

a. Ensure that there are contractual provisions for hazardous materials packaging to comply with performance-oriented packaging requirements as codified in the International Maritime Dangerous Goods Code and the International Civil Aviation Organization Technical Instructions for Safe Transport of Dangerous Goods by air.

b. Ensure that there are plans and contractual provisions to maximize use of packaging material which is reusable, recyclable, degradable, or easily disposable as required by AR 700-15 and AR 746-1. Be sure that there are plans to conduct an assessment of environmental impact for each new packaging material as required by AR 700-15 and AR 746-1.

c. Ensure that there are plans and contractual provisions to conduct sufficient analysis to identify all hazardous material, as defined in AR 708-1, required for system operation and support. Be sure that there are plans to develop necessary storage and transportation data as required for the AMDF. (See AR 708-1 for data requirements.)

### 3-63. Demil, EOD, and disposal

Ensure that—

a. There are plans for developing demil and disposal procedures to meet applicable environmental and security requirements, maximize recycling of resources, or prevent enemy use. (See AR 200-1 for environmental statutes). Make sure these procedures will be included in appropriate Technical Manuals (TMs). Be sure there are plans to assign demilitarization codes (position 6 of the source, maintenance, and recoverability (SMR) code) for specified systems and consumables (such as, new batteries and ammunition) consistent with AR 708-1.

b. For new ammunition items, there are plans to develop and obtain approval of a demil/disposal plan prior to IOT&E. This plan should identify environmental impact and alternative methods, tools, and equipment requirements.

### 3-64. Other

Ensure adherence to other environmental-related guidance in this pamphlet, especially as addressed in sections on health and safety, development of ammunition and explosive items, operation and maintenance of equipment, testing, manuals and drawings for ammunition and hazardous materiel, and packaging, handling and storage of materiel.

## Chapter 4 Milestone III Decision Review Issues/Criteria

### Section I Design Influence

#### 4-1. Safety and health hazard assessment

Ensure that appropriate action has been taken as shown in the categories below.

##### a. General.

(1) The U.S. Army Health Services Command has updated the Health Hazard Assessment Report.

(2) In those cases where safety or health hazards to operator or support personnel still exist, the proposed course of action adequately considers the hazard category, as defined in MIL-STD-882, the likelihood of occurrence; engineering risks; and impact on operational effectiveness, acquisition or procurement costs, and schedules as required by AR 40-10.

(3) Acceptance of risk associated with residual safety or health hazards, if any, by the Army Acquisition Executive or other appropriate management level of risk acceptance has been documented. (See AR 385-16.)

(4) The U.S. Army Safety Center, CBTDEV, U.S. Army Medical Research and Development Command, and for acquisition category (ACAT) I and II systems, Office of the Deputy Chief of Staff for Personnel and Office of the Assistant Secretary of the Army (Research, Development, and Acquisition) have provided recommendations on acceptability of those risks as specified in AR 385-16.

(5) The MATDEV has prepared an SSRA as documentation for accepting risk associated with residual hazards, if any. (See AR 385-16 for format.)

(6) A Nuclear Regulatory Commission (NRC) license or DA authorization, as appropriate, has been obtained for items containing radioactive materiel.

(7) A Food and Drug Administration (FDA) license and/or TSG authorization, as appropriate, has been acquired for items as required by law.

##### b. Operation.

(1) All health hazards to system operators (for example, noise, vibrations, toxicants, and radioactive and laser emissions) have been evaluated by TSG and corrective action taken on those findings according to AR 70-1.

(2) Hazard analyses and DT II and IOT&E results indicate that system operator safety requirements have been met and all Category III (critical) and IV (catastrophic) hazards have been eliminated or controlled to an acceptable degree.

(3) For each new ammunition and explosives item—

(a) Sufficient data per TB 700-2 has been generated for explosive hazard classification.

(b) The Director, AMC Field Safety Activity has approved a final hazard classification.

(4) Safety confirmation letters from the DT II and IOT&E test activities and the safety and health data sheet have been approved by the MATDEV's safety office certifying safety of operator personnel.

(5) The production phase RFP includes provisions for testing the production item for compliance with essential design requirements related to operator safety.

##### c. Maintenance.

(1) All health hazards to system maintainers (for example, noise, vibrations, toxicants, and radioactive and laser emissions) have been evaluated by TSG and corrective action taken on those findings.

(2) Hazard analyses and DT II and IOT&E results indicate that system maintainer safety requirements have been met and all Category III (critical) and IV (catastrophic) hazards have been eliminated or controlled to an acceptable degree.

(3) Safety confirmation letters from the DT II and IOT&E test activities and the safety and health data sheet have been approved by the MATDEV certifying safety of maintenance personnel.

(4) The production phase RFP includes provisions for testing the production item for compliance with essential design requirements related to safety of maintenance personnel.

#### 4-2. Energy efficiency

Ensure that the results of DT II and IOT&E confirm attainment of energy-related thresholds. If not, make certain that the proposed course of action reflects the proper balance between acquisition costs and schedule, support costs, and mission effectiveness.

#### 4-3. Other design parameters

*a.* Other ILS-related design parameters, even though addressed as separate ILS assessment elements, should be assessed under this paragraph in order to provide a comprehensive evaluation of ILS program influence on system design. Additionally, ensure the design elements of the OSCR program have been adequately implemented and achieved.

(1) MDR III issues for the following elements should be assessed.

- (a) Transportation and transportability.
- (b) Standardization and interoperability.
- (c) RAM.

(2) System design-related issues affecting other ILS elements such as maintenance planning, manpower and personnel, supply support training and training devices, and facilities also need to be assessed. Specifically consider requirements for the design to facilitate easy repair in the forward battle area with minimum skill level and special equipment to include standard repair and, as appropriate per AR 750-1, battlefield damage assessment and repair (BDAR) procedures.

*b.* Other issues, not necessarily ILS-related, must be assessed in order to make an informed IPR or ASARC decision regarding the acceptability of an item for its intended mission. Achievement of design-related requirements such as the following should be assessed under this paragraph:

- (1) Essential system operational performance characteristics.
- (2) Human factors engineering considerations (other than those addressed under paragraphs 4-1 and 4-49). (See AR 602-1, MIL-HDBK-759, and MIL-STD-1472 for program and design considerations.)
- (3) NBC survivability and supportability considerations.

## Section II Maintenance Planning

#### 4-4. General

*a.* Inclusion of assessment issues for each maintenance level is not meant to imply that every acquisition program must utilize all maintenance levels.

*b.* Ensure the following issues/criteria have been met for maintenance planning:

(1) (Applies only to the displaced system.) The current maintenance plan for the displaced system has been reviewed. Plans are established to revise existing or develop new support agreements (contractor, interservice support, or HNS) as appropriate/necessary to support the system when transferred.

(2) The proposed use of contractor support in the system maintenance plan (unit through depot level) is consistent with Army policy/support objectives as stated in AR 750-1, AR 700-127.

(3) Each system has been reviewed to determine if it is a warranty candidate according to AR 700-139. For items considered as weapon systems, either a warranty waiver has been requested or action has been initiated to obtain a warranty as required by AR 700-139.

(4) For items meeting the criteria as warranty candidates, there are plans to conduct a cost effectiveness analysis per AR 11-18 prior to negotiated procurement of the warranty as required by AR 700-139.

(5) If a warranty is proposed, there are plans to include warranty application procedures in the MFP, appropriate technical bulletins (TBs) prepared according to MIL-M-63034, or other authorized media.

(6) The maintenance allocation chart has been coordinated with the TRADOC proponent school and plans exist to submit to HQDA(DALO-SMT) for final approval prior to publication as specified in AR 700-127 and AR 750-1.

(7) The maintenance planning elements of the OSCR program have been adequately implemented and achieved.

#### 4-5. Unit, DS, and GS (or AVUM and AVIM) levels

Ensure that—

*a.* DT II, IOT&E, LD test and evaluation, and related repair level analyses affirm adequacy (in relation to cost and operational effectiveness and verification of optimum repair level analysis (ORLA) input parameters) of the unit, DS, and GS (or AVUM and AVIM) level maintenance plans.

*b.* There are adequate plans for revising the unit, DS, and GS (or AVUM and AVIM) level maintenance concepts when an adequate maintenance plan is not in existence. Such plans would include the ILSP, sample data collection (SDC) plan, and follow-on test and evaluation (FOT&E) TEP. Also, ensure that the revised concept is verified through retesting (DT/OT) (if significant deficiencies) or during FOT&E or field data collection as necessary.

*c.* If a reliability improvement warranty is proposed for items repairable at unit, DS, or GS (or AVUM and AVIM) level, it is feasible, cost effective, and advantageous to the Army.

*d.* Realistically achievable activation dates, acceptable to the user, have been established for organic unit, DS, and GS (or AVUM and AVIM) level maintenance capability.

*e.* A plan has been prepared for smooth transition from contractor to organic unit, DS, and GS (or AVUM and AVIM) level maintenance support (if applicable) and for wartime contingency.

#### 4-6. Depot level

Ensure that—

*a.* There are plans for conducting a pilot depot overhaul program to validate the depot maintenance concept, including verification of the depot maintenance parts requirement list.

*b.* System depot maintenance tasks have been determined based on documented analysis. Make certain the responsible organization (that is, Army depot, other Service, contractor, or other country) has been identified by the decision tree logic process required by AR 750-2.

*c.* A plan has been prepared for efficient transition from contractor to organic depot support (if applicable).

*d.* A depot maintenance support plan has been prepared and coordinated. (See DA Pam 700-55 for format.) For Class VIII materiel, depot maintenance support planning is coordinated through the National Maintenance Point, USAMMA, Frederick, MD 21701-5001.

*e.* The need and schedule have been established (applies only to the displaced system) for supporting command depot level refurbishment of the displaced system prior to issue to the gaining MACOM.

## Section III Manpower and Personnel

#### 4-7. Operator/Crew

For crew manpower requirements, ensure that—

- a.* The results of DT II, IOT&E, LD, and LSA performed during

the EMD phase demonstrate that operator/crew manpower (numbers and skills) thresholds have been achieved.

b. The results of DT II, IOT&E, LD, and LSA and application of manpower requirement criteria (MARC) during the EMD phase are consistent with operator/crew manpower and skill data contained in the draft plan TOE, BOIP, QQPRI, IPS, MER, and updated LCC estimates (BCE and ICE). (See AR 570-2 for MARC procedures.)

c. The MOS decision for system operator/crew personnel has been approved by the Deputy Chief of Staff for Personnel (DCSPER).

d. System operator/crew manpower requirements have been programmed into the Army personnel recruiting and training systems, as necessary, to meet deployment milestones.

e. If unverified design modifications or support concept revisions affecting operator/crew manpower or skill requirements remain to be implemented, an FOT&E or other operational evaluation has been scheduled to evaluate the impact on programmed operator/crew manpower and skill requirements.

f. Projected modification table of organization and equipment (MTOE)/TDA operator/crew manpower requirements can be supported by Army programmed resources (FYDP, consolidated guidance and supporting program guidance), or an acceptable level of readiness can be maintained with assets programmed to be available.

g. Job specifications have been prepared, coordinated, and approved according to AR 71-2 for each approved new or revised operator/crew MOS, SSI, or ASI.

h. A comparison of currently available and required system operator/crew manpower (applies only to the displaced system) has been conducted for the displaced system. Make certain that plans are established to resolve any shortfall prior to the system transfer date.

#### 4-8. Maintenance

If unverified design modifications or support concept revisions affecting maintenance support manpower or skill requirements remain to be implemented, ensure that an FOT&E or other operational evaluation has been scheduled to evaluate the impact on programmed manpower and skill requirements. Ensure the appropriate issues/criteria have been met at the levels shown below.

##### a. Unit, DS, and GS (or AVUM and AVIM) levels.

(1) The results of DT II, IOT&E, LD, and LSA performed during the EMD phase demonstrate that unit through GS level maintenance manpower numbers and skills thresholds have been achieved.

(2) The results of DT II, IOT&E, LD, and LSA, and application of MARC during the EMD phase are consistent with unit through GS level maintenance manpower and skill data in the draft plan TOE, BOIP, QQPRI, IPS, MER, and updated LCC estimates (BCE and ICE). (See AR 570-2 for MARC procedures.)

(3) The MOS decision for system unit through GS level maintenance personnel has been approved by DCSPER.

(4) System unit through GS level maintenance manpower requirements have been programmed into the Army personnel recruiting and training systems, as necessary, to meet deployment milestones.

(5) Projected MTOE/TDA unit through GS level maintenance manpower requirements can be supported by Army programmed resources (FYDP, consolidated guidance, and supporting program guidance), or an acceptable level of readiness can be maintained with assets programmed to be available.

(6) Job specifications have been prepared, coordinated, and approved according to AR 71-2 for each approved new or revised unit through GS level maintenance MOS, SSI, or ASI (and civilian occupational series, if appropriate).

(7) (Applies only to the displaced system.) A comparison of currently available and required unit through GS level maintenance manpower has been conducted for the displaced system. Ensure there are plans established to resolve the shortfall, if any.

(8) Maintenance manpower elements of the OSCR program have been adequately addressed.

##### b. Depot level.

(1) The results of DT II, IOT&E, LD, and LSA during the EMD phase are consistent with depot maintenance manpower and skill data in the depot maintenance support plan, QQPRI, IPS, MER, and updated LCC estimates (BCE and ICE).

(2) Projected TDA depot maintenance manpower requirements can be supported by Army programmed resources (FYDP, consolidated guidance, and supporting program guidance), or an acceptable level of readiness can be maintained with assets programmed to be available.

(3) There are adequate plans to—

(a) Update depot maintenance manpower and skill requirements on completion of depot maintenance work requirements (DMWRs).

(b) Revise affected TDAs and job specifications as necessary.

(c) Recruit personnel in time to meet projected organic depot workload requirements.

(4) Maintenance manpower elements of the OSCR program have been adequately addressed.

#### 4-9. Supply

Ensure that appropriate action has been taken as shown in the categories below.

##### a. General.

(1) The results of DT II, IOT&E, and LSA performed during the EMD phase demonstrate that system-related supply support personnel manpower numbers and skills thresholds have been achieved.

(2) Job specifications have been prepared, coordinated, and approved according to AR 71-2 for each approved new or revised supply support personnel MOS, SSI, ASI, or civilian occupational series.

(3) Each proposed new or revised MOS, SSI, or ASI for system supply support personnel has been approved by the DCSPER.

(4) Related elements of the OSCR program have been adequately addressed.

##### b. Organizational level—unit supply.

(1) The results of DT II, IOT&E, LSA, and application of MARC during the EMD phase are consistent with unit supply (for example, MOS 76Y) personnel manpower and skill data in the draft plan TOE, MER, IPS, and updated LCC estimates (BCE, ICE). (See AR 570-2 for MARC procedures.)

(2) System unit supply personnel manpower requirements have been programmed into the Army personnel recruiting and training systems, as necessary, to meet deployment milestones.

(3) Projected MTOE/TDA unit supply personnel requirements can be supported by Army programmed resources (FYDP, consolidated guidance, and supporting program guidance), or an acceptable level of readiness can be maintained with assets programmed to be available.

(4) (Applies only to the displaced system.) A comparison of currently available and required unit supply (for example, MOS 76Y) personnel manpower for the displaced system has been conducted and plans established to resolve the shortfall, if any.

##### c. DS.

##### (1) POL supply.

(a) The results of DT II, IOT&E, LSA, and application of MARC during the EMD phase are consistent with DS POL supply personnel (for example, MOS 76W) manpower and skill data in the draft plan TOE, MER, IPS, and updated LCC estimates (BCE, ICE). (See AR 570-2 for MARC procedures.)

(b) System DS POL supply personnel manpower requirements have been programmed into the Army personnel recruiting and training systems, as necessary, to meet deployment milestones.

(c) Projected MTOE/TDA DS POL supply personnel requirements can be supported by Army programmed resources (FYDP, consolidated guidance, and supporting program guidance), or an acceptable level of readiness can be maintained with assets programmed to be available.

##### (2) Materials handling and storage.

(a) The results of DT II, IOT&E, LSA, and application of MARC during the EMD phase are consistent with DS materials handling and storage personnel (for example, MOS 76V) manpower

and skill data in the draft plan TOE, IPS, MER, and updated LCC estimates (BCE, ICE). (See AR 570-2 for MARC procedures.)

(b) System DS materials handling and storage personnel manpower requirements have been programmed into the Army personnel recruiting and training systems, as necessary, to meet deployment milestones.

(c) Projected MTOE/TDA DS materials handling and storage personnel requirements can be supported by Army programmed resources (FYDP, consolidated guidance, and supporting program guidance), or an acceptable level of readiness can be maintained with assets programmed to be available.

(3) *Ammunition.*

(a) The results of DT II, IOT&E, LSA, and application of MARC during the EMD phase are consistent with DS ammunition support personnel (for example, 55 series MOS; 76Y MOS) manpower and skill data in the draft plan TOE, IPS, MER, and updated LCC estimates (BCE and ICE). (See AR 570-2 for MARC procedures.)

(b) System DS ammunition support personnel manpower requirements have been programmed into the Army personnel recruiting and training systems, as necessary, to meet deployment milestones.

(c) Projected MTOE/TDA DS ammunition support personnel requirements can be supported by Army programmed resources (FYDP, consolidated guidance, and supporting program guidance), or an acceptable level of readiness can be maintained with assets programmed to be available.

(d) *GS/theater.*

(1) *POL supply.*

(a) The results of DT II, IOT&E, LSA, and application of MARC during the EMD phase are consistent with GS/theater POL supply personnel (for example, MOS 76W) manpower and skill data in the draft plan TOE, MER, IPS, and updated LCC estimates (BCE and ICE). (See AR 570-2 for MARC procedures.)

(b) System GS/theater POL supply personnel manpower requirements have been programmed into the Army personnel recruiting and training systems, as necessary, to meet deployment milestones.

(c) Projected MTOE/TDA GS/theater POL supply personnel manpower requirements can be supported by Army programmed resources (FYDP, consolidated guidance, and supporting program guidance), or an acceptable level of readiness can be maintained with assets programmed to be available.

(2) *Materials handling and storage.*

(a) The results of DT II, IOT&E, LSA, and application of MARC during the EMD are consistent with GS/theater materials handling and storage personnel (for example, 76Y MOS) manpower and skill data in the draft plan TOE, IPS, MER, and updated LCC estimates (BCE and ICE). (See AR 570-2 for MARC procedures.)

(b) System GS/theater materials handling and storage personnel manpower requirements have been programmed into the Army personnel recruiting and training systems, as necessary, to meet deployment milestones.

(c) Projected MTOE/TDA GS/theater materials handling and storage personnel manpower requirements can be supported by Army programmed resources (FYDP, consolidated guidance, and supporting program guidance), or an acceptable level of readiness can be maintained with assets programmed to be available.

(3) *Ammunition.*

(a) The results of DT II, IOT&E, LSA, and application of MARC during the EMD phase are consistent with GS/theater ammunition support personnel (for example, 55 series MOS; 76Y MOS) manpower and skill data in the appropriate draft plan TOE, IPS, MER, and updated LCC estimates (BCE and ICE). (See AR 570-2 for MARC procedures.)

(b) System GS/theater ammunition support personnel manpower requirements have been programmed into the Army personnel recruiting and training systems, as necessary, to meet deployment milestones.

(c) Projected MTOE/TDA GS/theater ammunition support personnel manpower requirements can be supported by Army programmed resources (FYDP, consolidated guidance, and supporting

program guidance), or an acceptable level of readiness can be maintained with assets programmed to be available.

#### 4-10. Transportation—vehicle operators

Ensure that the results of DT II, IOT&E, LSA, and application of MARC performed during the EMD phase demonstrate that ammunition and fuel distribution vehicle operator manpower (numbers and skills) thresholds have been achieved. (See AR 570-2 for MARC procedures.) Additionally, ensure that related elements of the OSCAR program have been adequately addressed. Ensure that appropriate action has been taken as shown in the categories below.

a. *POL resupply.*

(1) The results of DT II, IOT&E, LSA, and application of MARC during the EMD phase are consistent with fuel distribution vehicle operator personnel (for example, MOS 64C) manpower and skill data in the draft plan TOE, IPS, MER, and updated LCC estimates (BCE and ICE).

(2) System fuel distribution vehicle operator requirements have been programmed into the Army personnel recruiting and training systems, as necessary, to meet deployment milestones.

(3) Projected MTOE/TDA fuel distribution vehicle operator manpower requirements can be supported by Army programmed resources (FYDP, consolidated guidance, and supporting program guidance), or an acceptable level of readiness can be maintained with assets programmed to be available.

b. *Ammunition resupply.*

(1) The results of DT II, IOT&E, LSA, and application of MARC during the EMD phase are consistent with ammunition resupply vehicle operator personnel (for example, MOS 64C) manpower and skill data in the draft plan TOE, IPS, MER, and updated LCC estimates (BCE and ICE).

(2) System ammunition resupply vehicle operator manpower requirements have been programmed into the Army personnel recruiting and training systems, as necessary, to meet deployment milestones.

(3) Projected MTOE/TDA ammunition resupply vehicle operator manpower requirements can be supported by Army programmed resources (FYDP, consolidated guidance, and supporting program guidance), or an acceptable level of readiness can be maintained with assets programmed to be available.

#### 4-11. Analysis documentation

a. *QQPRI.* Ensure that the QQPRI has been reviewed and, as necessary, amended and reapproved by DCSPER or DCSPER has granted to defer QQPRI submission according to AR 71-2.

b. *MER.* For ACAT I systems, ensure an MER has been prepared, coordinated, approved and submitted to the ASD(FM&P) in accordance with AR 70-1, AR 602-2 and DOD 5000.2-M.

### Section IV Supply Support

#### 4-12. General

Ensure that—

a. If required, there are plans to establish a U.S. production base for combat essential foreign developed systems.

b. All items recommended for procurement have been screened against the Defense Logistics Services Center (DLSC) Total Item Record to determine availability of existing NSNs and other logistics information according to AR 708-1.

c. For each support item required in the provisioning of the system, the following coding and cataloging have been accomplished per AR 700-18:

(1) SMR codes have been assigned according to AR 700-82 and consistent with the maintenance plan.

(2) Essentiality codes have been assigned consistent with MIL-STD-1388-2B and the failure modes, effect, and criticality analysis.

(3) Item management codes have been assigned according to DOD 4140.26-M, Vol 1, and AR 710-1.

(4) Federal item identification and national item identification number have been assigned according to DOD guidance.

(5) The appropriate Federal supply classification code has been assigned according to DOD guidance and cataloging handbooks.

(6) Failure factors/maintenance replacement rates have been assigned according to AR 700-18.

*d.* If system design changes are proposed or anticipated during the production phase, there are adequate plans for analyzing their impact on supply support requirements and performing the actions necessary to meet the FUE supply support criteria and objectives.

*e.* An initial post-production support (PPS) plan has been prepared and included as an annex to the ILSP according to AR 700-127 and DA Pam 700-55. Ensure there are contractual provisions to prepare a final PPS plan through the LSA process prior to production phaseout.

*f.* Industrial preparedness has been considered for surge and mobilization capability. Methods to overcome or reduce constraints on capability, if any, have been developed.

*g.* Related elements of the OSCR program have been adequately addressed.

#### **4-13. Retail**

Ensure appropriate actions have been taken as shown in the following categories:

##### *a. General.*

(1) Project codes, weapon system designator, and the method of support item distribution (free-flow or packaged) have been determined and entered in the draft MFP according to AR 700-120.

(2) If ICS or LCCS supply support is proposed, (applies to both the new and displaced systems) it has been determined to be feasible and beneficial to the Government based on readiness, economic analysis (AR 11-18), and logistic risk or acquisition leadtime considerations according to AR 700-18. Ensure approval has been granted by HQDA (DALO-SMP).

(3) If interim contractor supply support (class IX) and/or warranty is anticipated, contractual provisions for repair or spare parts demand data are being provided to the Government in order to update provisioning data.

(4) For commercial items, there are plans to provide supply support (class IX) according to policies of AR 700-18.

##### *b. Organizational level.*

###### (1) *Class III (POL).*

*(a) Packaged.* To provide system support, unit level stockage requirements for packaged POL have been determined and procurement programmed consistent with the system deployment plan.

*(b) Bulk.* According to AR 710-2, the gaining MACOMs have designated the units that are required to keep basic loads of bulk POL, and the method of establishing stockage level.

###### (2) *Class V (ammunition).*

*(a)* According to AR 710-2, the gaining MACOMs have designated the units that are required to keep basic loads of ammunition and the method of establishing stockage level.

*(b)* Sufficient ammunition has been programmed for procurement to meet unit basic load requirements.

*(c)* (Applies only to the displaced system). The plans and current status for identification and procurement or transfer of required ammunition (organizational level stockage) not currently authorized to the receiving unit are compatible with the established transfer date.

###### (3) *Class IX (PLL).*

*(a)* The need for an IMPL of parts to be included on the PLL has been determined according to AR 700-18. Make certain that it has been coordinated with the gaining command and approved by HQDA (DALO-SMP).

*(b)* If the IMPL is approved, the proposed stockage quantities have been determined through application of an optimization model approved by HQDA (DALO-SMP) and other requirements of AR 700-18.

*(c)* The OST, operational availability, and SRO used in computation of the recommended PLL stockage levels are consistent with

the requirements of AR 700-18, AR 700-142, and DA Pam 700-142.

*(d)* NSNs have been assigned to recommended PLL items according to criteria of AR 708-1.

*(e)* The projected number of lines of authorized repair parts and maintenance-related items to be stocked at unit level are within the objectives specified in AR 710-2. If over the maximum number of lines, ensure approval has been granted by HQDA (DALO-SMP).

*(f)* (Applies to both the new and displaced systems.) Recommended PLL items have been computed and procurement programmed for each unit to receive the system.

*(g)* There are plans to update provisioning estimates for PLL items with the results of DT II and IOT&E according to AR 700-18.

*(h)* The plans and current status (applies only to the displaced system) for identification and procurement or transfer of required repair parts (listed on the PLL) not currently authorized to the receiving unit are compatible with the established transfer date.

##### *c. DS.*

###### (1) *Class III (POL).*

*(a) Packaged.* To provide system support, DS level stockage requirements for packaged POL have been determined and procurement programmed consistent with the system deployment plan.

*(b) Bulk.* DS level bulk POL stockage requirements have been determined for system support.

###### (2) *Class V (ammunition).*

Ammunition requirements for stockage at the ASP to support the system have been determined and sufficient procurement has been programmed consistent with the system deployment plan.

###### (3) *ORF (class VII).*

*(a)* ORF factors have been determined according to AR 750-1, AR 750-2, and AR 710-1. Make certain they have been approved by HQDA (DALO-SMM), procurement has been programmed, and distribution requirements have been entered in the Total Army Equipment Distribution Program (TAEDP) data base.

*(b)* The plans and current status (applies only to the displaced system) for identification and procurement or transfer of required ORF not currently authorized to the support unit are compatible with the established transfer date.

###### (4) *ASL (class IX).*

*(a)* The need for an IMPL to be stocked on the ASL (applies to both the new and displaced systems) has been determined according to AR 700-18. Make certain it has been coordinated with the gaining command and approved by HQDA (DALO-SMP).

*(b)* If IMPL is approved, the proposed stockage quantities have been determined through application of an optimization model approved by HQDA (DALO-SMP) and other requirements of AR 700-18.

*(c)* The OST, operational availability, and SRO used in computation of the ASL stockage levels are consistent with the requirements of AR 700-18, AR 700-120, and AR 700-142.

*(d)* NSNs have been assigned to recommended ASL items according to criteria of AR 708-1.

*(e)* The results of DT II and IOT&E indicate that the planned DS level repair parts stockage is sufficient to meet the stockage objectives of AR 700-18 and AR 710-2. If not, ensure there are plans to adjust or revise provisioning levels to meet these objectives.

*(f)* The proposed size and mobility of the ASL is within objectives specified in AR 710-2 or steps have been taken to meet these objectives. If over the maximum limit, ensure approval has been granted by HQDA (DALO-SMP).

*(g)* The recommended DS level repair parts stockage (applies to both the new and displaced systems) has been constructed to balance equipment readiness with mobility and fiscal constraints according to AR 710-2.

*(h)* The range and quantity of items to be stocked at DS level as reparable exchange items have been identified. Ensure they meet the criteria in AR 710-2.

*(i)* There are plans to update provisioning estimates for ASL items with the results of DT II and IOT&E.

*(j)* (Applies only to the displaced system.) The plans and current

status for identification and procurement or transfer of required repair parts (ASL) not currently authorized to the support unit are compatible with the established transfer date.

*d. GS.*

(1) *Class III (packaged POL).* To provide system support, GS level stockage requirements for packaged POL have been determined and procurement has been programmed consistent with the system deployment schedule.

(2) *Class V (ammunition).* Ammunition requirements for stockage at the corps storage area have been determined and sufficient procurement has been programmed consistent with the system deployment plan.

(3) *Class IX (repair parts).*

(a) The range and quantity of repair parts (applies to both the new and displaced systems) recommended to be stocked at GS level have been determined according to AR 700-18. Ensure that procurement has been programmed consistent with the system deployment plan.

(b) NSNs have been assigned according to criteria of AR 708-1 for repair parts recommended for stockage at GS level.

(c) The results of DT II and IOT&E indicate that the planned GS stockage of items is sufficient to meet the stockage objectives of AR 700-18 and AR 710-2. If not, ensure there are plans to adjust provisioning levels to meet these objectives.

(d) The range and quantity of items to be stocked at GS level as repairable exchange items have been identified. Ensure they meet the criteria listed in AR 710-2.

(e) The plans and current status for identification and procurement or transfer of required repair parts (applies only to the displaced system (GS level stockage)) not currently authorized to the support unit are compatible with the established transfer date.

*e. Theater.*

(1) *War reserves.*

(a) *Class III (bulk POL).* Bulk POL theater war reserve requirements have been determined according to the Army Guidance and AR 11-11.

(b) *Class V (ammunition).* Ammunition theater war reserve requirements have been determined, approved by ODCSOPS, and procurement has been programmed according to AR 11-11.

(c) *Classes VII and VIII (end items).* Class VII and VIII (for example, system and specified support and test equipment) war reserve requirements for theater stockage have been determined. Ensure that they have been approved by ODCSOPS and, for Class VIII items, by TSG, entered in the TAEDP data base, and procurement programmed according to AR 11-11, AR 700-120, and AR 710-1.

(d) *Class VIII (medical stockage items).* War reserve medical stockage items requirements (for identified Class VIII end items) for theater stockage have been determined and procurement has been programmed according to AR 11-11, AR 40-60, and TSG guidance.

(e) *Class IX (repair parts).* War reserve repair parts requirements (for identified class VII items) for theater stockage have been determined and procurement has been programmed according to AR 11-11 and AR 710-1.

(2) *POMCUS.*

(a) *Class VII (end items).* Class VII (for example, system and specified support and test equipment) POMCUS stockage requirements have been determined. Ensure that they have been approved, procurement has been programmed, and requirements entered in the TAEDP data base according to AR 11-11, AR 700-120, and AR 710-1.

(b) *Class VIII (medical items).* Selection of medical stockage items for POMCUS has been determined and procurement programmed.

(c) *Class IX (repair parts).* Selection of repair parts for POMCUS stockage has been determined and procurement programmed according to AR 11-11. Ensure that the determination is based on sparing to availability using the selected essential item stockage for

availability method (SESAME) model, combat PLL/ASL program, and IMPL criteria.

#### **4-14. Wholesale**

For commercial items, ensure there are plans to provide wholesale supply support (for class IX items) according to the policies of AR 700-18.

*a. War reserves.* Ensure that revisions, to include system requirements, to the War Reserve Stockage List (SB 700-40) have been determined, coordinated, and approved according to AR 710-1 criteria and procedures. Ensure war reserve requirements have been determined for the following classes:

(1) *Class III (POL).* System POL war reserve stockage (CONUS) requirements have been determined according to AR 11-11 and AR 10-1. Make certain plans are established to ensure their availability according to the system deployment plan.

(2) *Class V (ammunition).* Ammunition war reserve (CONUS stockage) requirements have been determined, approved by ODCSOPS, and procurement programmed according to the Army Guidance, AR 11-11, AR 710-1.

(3) *Class VII (end items).* Distribution requirements for wholesale level stockage of war reserve (class VII) have been determined. Ensure that they were approved by ODCSOPS, entered in the TAEDP data base, and procurement programmed according to the Army Guidance, AR 11-11, AR 700-120, and AR 710-1.

(4) *Class IX (repair parts).* War reserve repair parts requirements for CONUS stockage have been determined and procurement programmed according to AR 11-11 and AR 710-1.

*b. RCF (class VII).* Ensure RCF factors and distribution requirements have been determined according to AR 750-1 and AR 710-1. Make sure they were approved by ODCSLOG (DALO-SMM), procurement was programmed, and requirements were entered in the TAEDP data base.

*c. Repair parts (nonwar reserve).* Ensure there are plans to update repair parts (nonwar reserve) wholesale stockage provisioning estimates with the results of DT II and IOT&E according to AR 700-18.

(1) *Depot maintenance.* Ensure that initial issue allowance quantities for depot level spares have been determined and programmed for depot maintenance actions anticipated during the demand development period.

(2) *Retail replenishment.* Make sure identification of repair parts for wholesale stockage has been determined and procurement programmed consistent with the criteria of AR 700-18 and AR 710-1.

*d. Operational projects.* Ensure that class VII distribution requirements to support other non-POMCUS DA-approved operational projects have been determined according to AR 710-1. Make certain that procurement has been programmed and requirements entered in the TAEDP data base.

#### **4-15. Planning documentation—Provisioning Plan (PP)**

Ensure that the PP has been updated and coordinated with affected organizations to include remaining tasks, responsibilities, and milestones for procuring and delivering system support materiel to gaining commands.

### **Section V**

#### **Packaging, handling, and storage**

#### **4-16. Packaging**

*a. Preservation and packing.*

(1) Ensure that the results of DT II, IOT&E, and other analyses have verified the adequacy of packaging and preservation methods, materials, and designs for the intended shipping, handling, and storage environment/period.

(2) See environmental planning issues, paragraph 4-58, related to packaging, handling, and storage requirements.

*b. Unitization.* Requirements for (reusable) containers for repairable system components have been determined and procurement or distribution programmed to meet deployment requirements.

#### 4-17. Handling and storage

*a. Special handling.* Ensure that—

(1) For each stocked item, appropriate special handling codes have been assigned according to AR 708-1 for inclusion in the Army Master Data File (AMDF).

(2) All hazardous materials required for system operation and support have been identified. Make certain that necessary storage and transportation data have been developed as required for the AMDF. (See AR 708-1 for data requirements.)

*b. Shelf life.* Ensure that for each stocked item, appropriate shelf life codes have been assigned according to AR 700-89 and AR 708-1 for inclusion in the AMDF.

#### 4-18. Security

Ensure that—

*a.* For new arms, ammunition, explosives, communications security (COMSEC) devices, and other support items, appropriate physical security, sensitivity, and pilferage codes have been assigned as required by AR 708-1 for the AMDF.

*b.* The results of DT II and IOT&E and other analyses confirm attainment of system physical security requirements.

*c.* If security requirements have not been met, the proposed course of action reflects the proper balance between acquisition costs and schedule, mission effectiveness, and support costs.

### Section VI

#### Support Equipment and TMDE

#### 4-19. Supply

*a. General.* Ensure that—

(1) If system design changes are proposed or anticipated during the production phase, there are plans to assess the impact on programmed support equipment requirements for system supply support.

(2) A support capability has been developed for each item of system-peculiar equipment and increased authorizations of common items required for supply support (*b* through *e* below). (Apply MDR III issues as they apply to supporting the support equipment.)

(3) The related elements of the OSCR program have been adequately implemented and achieved.

*b. POL resupply vehicles and distribution equipment.* Ensure that—

(1) Bulk fuel distribution vehicle requirements (type and quantity) to provide system support have been determined, consistent with the supply concept and DT II and IOT&E results. If requirements are in excess of current TOE/TDA authorizations, ensure that procurement or other action is programmed to correct the shortfall according to the system deployment plan.

(2) Bulk fuel distribution and storage equipment requirements (type and quantity) to provide system support have been determined, consistent with the supply concept and DT II and IOT&E results. If requirements are in excess of current TOE/TDA authorizations, ensure that procurement or other action is programmed to correct the shortfall according to the system deployment plan.

*c. Ammunition resupply vehicles.* Ensure that ammunition resupply vehicle requirements (type and quantity) to provide system support have been determined, consistent with the supply concept and DT II and IOT&E results. If requirements are in excess of current TOE/TDA authorizations, ensure that procurement or other action is programmed to correct the shortfall according to the system deployment plan.

*d. Repair parts storage vans and transport vehicles.* Ensure that—

(1) Repair parts storage van or transport vehicle requirements (type and quantity) to provide system support and support unit mobility have been determined, consistent with the supply concept and DT II and IOT&E results.

(2) If projected repair parts storage van or transport vehicle requirements are in excess of current TOE/TDA authorizations, procurement or other action is programmed to correct the shortfall according to the system deployment plan.

(3) The plans and current status (applies only to the displaced system) for identification and procurement or transfer of required repair parts storage vans or transport vehicles for the displaced system, not currently authorized to the receiving or support unit, are compatible with the established transfer date.

*e. MHE.*

(1) *Unit, DS, and GS levels.* Ensure that—

(a) MHE requirements (type and quantity) to provide system support at the unit, DS, and GS levels have been determined, consistent with the supply concept and DT II and IOT&E results. If requirements are in excess of current TOE/TDA authorizations, ensure that procurement or other action is programmed to correct the shortfall according to the system deployment plan.

(b) For the displaced system, the plans and current status (applies only to the displaced system) for identification and procurement or transfer of required MHE (for unit, DS, and GS levels supply support) not currently authorized to the receiving or support unit are compatible with the established transfer date.

(2) *Theater level.* Ensure that MHE requirements (type and quantity) to provide system support at the theater level have been determined, consistent with the supply concept and DT II and IOT&E results. If requirements are in excess of current TOE/TDA authorizations, ensure that procurement or other action is programmed to correct the shortfall according to the system deployment plan.

(3) *POD/POE.* Ensure that MHE requirements (type and quantity) to provide system support at anticipated POD/POE have been determined, consistent with the supply concept and DT II and IOT&E results. If requirements are in excess of current TOE/TDA authorizations, ensure that procurement or other action is programmed to correct the shortfall according to the system deployment plan.

(4) *Depot level.* Ensure that MHE requirements (type and quantity) to provide system depot level supply support have been determined, consistent with the deployment or distribution plan. If requirements are in excess of current TOE/TDA authorizations, ensure that procurement or other action is programmed to correct the shortfall according to the system deployment plan.

#### 4-20. Maintenance

*a. General.* Ensure that—

(1) If system design changes are proposed or anticipated during the production phase, there are plans to assess the impact on programmed support and test equipment requirements for system maintenance support, including maintenance unit mobility.

(2) A support capability has been developed for system-peculiar support equipment (for example, TMDE, calibration equipment and standards, MHE, and shelters/trailers/vans/vehicles) required for maintenance support. Make sure a support capability has been developed for increased authorization of common items, if any, required for maintenance support. (Apply MDR III issues as they apply to supporting the new support and test equipment.)

(3) The related elements of the OSCR program have been adequately implemented and achieved.

*b. Tools.* Ensure that proper actions have been taken as shown in (1) through (3) below.

(1) *Operator/crew.*

(a) Operator/crew tool requirements (type and quantity) to provide system support have been identified and verified, consistent with the maintenance concept, LD, and DT II and IOT&E results. If requirements are in excess of current authorizations, make sure that procurement or other action is programmed to correct the shortfall according to the system deployment plan.

(b) The plans and current status (applies only to the displaced system) for identification and procurement or transfer of required tools (for operator/crew maintenance) not currently authorized to the receiving unit are compatible with the established transfer date.

(2) *Unit, DS, and GS (or AVUM and AVIM) levels.*

(a) Tool requirements (type and quantity), including maintenance platforms, to provide system unit, DS, and GS level maintenance support have been identified and verified, consistent with the maintenance concept, LD, and DT II and IOT&E results. If requirements are in excess of current authorizations, make sure that procurement or other action is programmed to correct the shortfall according to the system deployment plan.

(b) The plans and current status (applies only to the displaced system) for identification and procurement or transfer of required tools (for unit, DS, and GS level maintenance) not currently authorized to the receiving unit are compatible with the established transfer date.

(3) *Depot level.* The current status and plans for identification, verification, procurement, and distribution of tool requirements for system depot maintenance are consistent with scheduled pilot overhaul and desired initiation of organic depot capability.

c. *TMDE.* Ensure there are plans for obtaining a certificate of supportability from USATA prior to release of any TMDE to gaining MACOMs.

(1) *Unit, DS, and GS (or AVUM and AVIM) levels.* (If ATE is required for system support, the issues identified in paragraph 4–30 for the associated TPS must be addressed.) Ensure that—

(a) TMDE requirements (type and quantity) to provide system unit, DS, and GS level maintenance support have been determined, consistent with the maintenance concept, LD, and DT II and IOT&E results. If the requirements are in excess of current TOE/TDA authorizations, ensure that procurement or other action is programmed to correct the shortfall according to the system deployment plan.

(b) USATA has reviewed and concurred in requests for procurement of proposed unit, DS, and GS level TMDE according to AR 750–43.

(c) If use of the system or major subassemblies in lieu of procuring unit, DS, and GS level TMDE is proposed, HQDA (DALO–SM) has granted approval of this concept.

(d) The plans and current status (applies only to the displaced system) for identification and procurement or transfer of required TMDE (for unit, DS, or GS level maintenance) not currently authorized to the receiving or support unit are compatible with the established transfer date.

(2) *Depot level.*

(a) The current status and plans for identification, verification, procurement, and distribution of TMDE requirements for depot maintenance are consistent with scheduled pilot overhaul and desired initiation of organic depot capability.

(b) If use of the system or major subassemblies in lieu of procuring or developing depot TMDE is proposed, HQDA (DALO–SM) has granted approval of this concept.

d. *Calibration equipment and standards.* Ensure the following:

(1) Calibration equipment and standards requirements (type and quantity) to provide system/TMDE (unit through GS levels) support have been identified and verified consistent with DT II and IOT&E results.

(2) A final determination has been made as to the type calibration facilities (for example, maintenance unit, area TMDE support team, or ACRC/ACL) to be responsible for calibration support of each new item of unit through GS level TMDE.

(3) If calibration equipment and standards requirements (type and quantity) are in excess of current TOE/TDA authorizations, ensure that procurement or other action is programmed to correct the shortfall according to the system deployment plan.

e. *MHE.* Ensure the appropriate actions have been taken as shown in the following classifications:

(1) *Recovery equipment.* Recovery equipment requirements (type and quantity) to provide system support have been identified and verified consistent with DT II and IOT&E results. If the requirements are in excess of current TOE/TDA authorizations, make sure that procurement or other action is programmed to correct the shortfall according to the system deployment plan.

(2) *Evacuation equipment.* Battlefield evacuation equipment requirements (type and quantity) to provide system support have been

identified and verified consistent with the support concept and DT II and IOT&E results. If requirements are in excess of current TOE/TDA authorizations, make certain that procurement or other action is programmed to correct the shortfall according to the system deployment plan.

(3) *Other equipment.*

(a) Other MHE (for example, cranes, forklifts, slings, hoists, maintenance stands, or EOD equipment) requirements (type and quantity) to provide system maintenance support at unit through GS levels and EOD support have been identified and verified, consistent with the maintenance concept and DT II and IOT&E results.

(b) If these other MHE requirements are in excess of current TOE/TDA authorizations, procurement or other action is programmed to correct the shortfall according to the system deployment plan.

(c) The plans and current status (applies only to the displaced system) for identification and procurement or transfer of other required MHE (for unit through GS maintenance) not currently authorized to the new support unit are compatible with the established transfer date.

(d) The current status and plans for identification, verification, procurement, and distribution of MHE requirements for system depot maintenance are consistent with scheduled pilot overhaul and desired initiation of organic depot capability.

f. *Shelters/trailers/vans/vehicles.* Ensure that—

(1) Shelter/trailer/van/vehicle requirements (type and quantity) to provide system maintenance (unit through GS level) support and maintenance unit mobility have been identified and verified, consistent with the maintenance concept and DT II and IOT&E results.

(2) If maintenance shelter/trailer/van/vehicle requirements are in excess of current TOE/TDA authorization, procurement or other action is programmed to correct the shortfall according to the system deployment plan.

(3) The plans and current status (applies only to the displaced system) for identification and procurement or transfer of required shelters/vans/trailers/ vehicles (for maintenance support) not currently authorized to the receiving or support unit are compatible with the established transfer date.

#### **4–21. Ancillary operational equipment**

a. *General.* Ensure that—

(1) If system design changes are proposed for the production phase, there are plans to assess the impact on programmed ancillary operational equipment requirements.

(2) A support capability has been developed for each item of system peculiar ancillary equipment (b through e below) and increased authorization of common items required for system operation and support. (Apply MDR III issues as they apply to supporting the ancillary items.)

(3) The plans and current status (applies only to the displaced system) for identification and procurement or transfer of required ancillary operational equipment not currently authorized to the receiving or support unit, are compatible with the established transfer date.

b. *Power generation.* Ancillary power generation equipment requirements (type and quantity) to provide system operation and support have been identified and verified consistent with DT II and IOT&E results. If requirements are in excess of current TOE/TDA authorizations, make sure that procurement or other action is programmed to correct the shortfall according to the system deployment plan.

c. *Environmental control.* Ancillary environmental control equipment requirements (type and quantity) to provide system operation and support have been identified and verified consistent with DT II and IOT&E results. If requirements are in excess of current TOE/TDA authorizations, make certain that procurement or other action is programmed to correct the shortfall according to the system deployment plan.

d. *Communications.* Ancillary communications equipment requirements (type and quantity) to provide for system operation have been identified and verified consistent with results. If requirements

are in excess of current TOE/TDA authorizations, procurement or other action is programmed to correct the shortfall according to the system deployment plan.

*e. Prime mover.* System prime mover requirements (type and quantity) to provide for system operation have been identified and verified, consistent with DT II and IOT&E results. If requirements are in excess of current TOE/TDA authorizations, make certain that procurement or other action is programmed to correct the shortfall according to the system deployment plan.

*f. Other requirements.* Other major ancillary equipment or component requirements (type and quantity) to provide for system operation (for example, winterization kits or installation kits) have been identified and verified consistent with DT II and IOT&E results. If requirements are in excess of current TOE/TDA authorizations, ensure procurement or other action is programmed to correct the shortfall according to the system deployment plan.

## Section VII Training and Training Devices

### 4-22. Institutional training

Ensure that criteria have been met as shown in the categories below.

*a. Operator training.* The scheduled institutional operator training program includes Reserve Component requirements.

(1) *Training material.*

(a) The adequacy of draft training materials for the system operator was evaluated during IOT&E.

(b) The acquisition schedule allows sufficient time to complete development and publication of all training material required for institutional operator training prior to the required resident course start date for each MOS.

(2) *Instructors.* Estimates of system operator institutional training instructor requirements (for at least the next 5 years) have been updated and plans established to resolve any anticipated shortfalls.

(3) *Training equipment.*

(a) *System or end item.* System or end item (and related major subassemblies) training equipment requirements and distribution plan have been finalized. Make certain that procurement has been programmed for enough items to satisfy resident operator training requirements, both initial and sustaining.

(b) *Training ammunition.*

1. For each new training round, the results of DT II and IOT&E indicate the round is acceptable for the mission intended.

2. Training ammunition procurement requirements and distribution plan have been established and sufficient ammunition programmed to satisfy resident training requirements.

(4) *Training devices.*

(a) The results of DT II and IOT&E indicate that proposed operator training devices (peculiar and common) meet established performance requirements and provide effective training.

(b) There are adequate provisions for planning to support the system institutional operator training devices. (Apply appropriate MDR III issues from each of the ILS assessment considerations.)

(c) Training device requirements (common and peculiar) and distribution plans have been finalized and sufficient procurement programmed to satisfy initial and sustainment system operator training workload projections.

*b. Supporter training.* The scheduled institutional system supporter (maintenance, supply) training program includes Reserve Component requirements.

(1) *Training material.*

(a) The adequacy of draft training materials that will be used for institutional training of system support personnel was evaluated during IOT&E.

(b) The acquisition schedule allows sufficient time to complete development and publication of all training material required for institutional training of system support personnel prior to the required resident course start date for each MOS.

(2) *Instructors.* Estimates of institutional training instructor requirements (for at least the next 5 years) for system support personnel

have been updated and plans established to resolve any anticipated shortfall.

(3) *Training equipment.*

(a) *System or end item.* Sufficient system or end item (and related major subassemblies) training equipment procurement is programmed to satisfy initial and sustainment institutional training of system support personnel MOS.

(b) *Support and test equipment.* Procurement of sufficient support and test equipment (common and peculiar; see fig 1-7 for areas to be considered) and related computer resources support is programmed to satisfy initial and sustainment institutional training of system support personnel MOS.

(4) *Training devices.*

(a) The results of DT II and IOT&E indicate that proposed training devices (peculiar and common) for system support personnel meet established performance requirements and provide effective training.

(b) Training device requirements (common and peculiar) and distribution plans have been finalized and sufficient procurement planned to satisfy initial and sustainment system support personnel training workload projections.

(c) There are adequate provisions for planning to support the institutional training devices required to train system support personnel. (Apply appropriate MDR III issues from each of the 17 ILS assessment considerations.)

### 4-23. Unit training

Ensure that the plans and current status (applies only to the displaced system) for identification and procurement or transfer of required resources (shown in *a* and *b* below) for unit training not currently authorized to the receiving or support unit are compatible with the established transfer date.

*a. Individual.* Ensure that criteria have been met as shown in the categories below.

(1) *ETM.* The adequacy of the draft extension/exportable training materials (for system operator and support personnel) was evaluated during IOT&E. Make sure adequate plans exist to revise, reverify as necessary, and distribute the materials prior to initial fielding (FUE).

(2) *Soldiers manuals.*

(a) Draft soldiers manuals for system operator and support personnel were evaluated during IOT&E.

(b) The schedule to complete development of soldiers manuals for each operator and support personnel MOS allows sufficient time to ensure delivery to the gaining command not later than the scheduled FUE date.

(3) *Trainer guides.*

(a) Draft trainer guides for system operator and support personnel were evaluated during IOT&E.

(b) The schedule to complete development of trainer guides for each operator and support personnel MOS allows sufficient time to ensure delivery to the gaining command not later than the scheduled FUE date.

(4) *SQTs.*

(a) Draft SQTs for each affected MOS were evaluated during IOT&E.

(b) The schedule to complete development of SQTs allows enough time to ensure delivery to the gaining command not later than 1 year after the scheduled FUE date.

(5) *Training devices.*

(a) Training device requirements (common and peculiar) and distribution plans have been finalized and sufficient procurement programmed to satisfy initial and sustainment system operator and support personnel unit training requirements.

(b) There are adequate provisions for planning to support the unit training devices required for system operator and support personnel. (Apply appropriate MDR III issues from each of the 17 assessment considerations.)

*b. Collective.* Ensure that criteria have been met as shown in the categories below.

(1) *ARTEP.* System-related draft ARTEPs were evaluated during

IOT&E and plans established to make necessary revisions prior to initial fielding.

(2) *Training ammunition.* Training ammunition requirements (common and peculiar) and distribution plans have been finalized. Ensure that procurement is programmed to satisfy initial and sustainment system-related collective training requirements.

(3) *Instructors.* Estimates of system-related collective training instructor requirements (for at least the next 5 years) have been updated and plans established to resolve any anticipated shortfalls.

#### 4-24. NET

Ensure that criteria have been met as shown in the categories below.

a. *DT II/OT personnel.* NET has been completed for DT II and IOT&E operator and support (unit through GS level) personnel.

b. *Institutional instructors.* All necessary training of institutional instructors for system operator and support personnel MOS has been completed.

c. *Depot maintenance personnel.*

(1) Depot maintenance personnel training requirements (who, what, when, and how) have been determined.

(2) Sufficient resources (personnel, facilities, support materiel, and so forth) have been programmed to be available to meet depot maintenance personnel NET requirements.

d. *Using and support unit personnel.*

(1) There are plans to provide appropriate NET to Reserve Component personnel.

(2) NET requirements (who, what, when, and how) have been determined for using and support personnel of each gaining command.

(3) NET requirements (who, what, when, and how) have been determined for Logistic Assistance Representatives (LAR). Sufficient resources (personnel, facilities, support materiel) have been programmed to meet requirements.

(4) Sufficient resources (personnel, facilities, support materiel) have been programmed to be available to meet NET requirements of each gaining command.

#### 4-25. Planning documentation

a. *NETP.* Ensure that—

(1) The NETP has been updated with detailed training information for the production and deployment phase (for example, for initial production testing (IPT) and gaining command personnel). Make sure it has been coordinated, approved, and distributed according to AR 350-35.

(2) A Displaced Equipment Training Plan (applies only to the displaced system) has been prepared to include all training requirements for using and support unit personnel of the gaining MACOM per AR 350-35.

b. *STRAP.* Make certain the STRAP has been updated to reflect plans for completing development and validation of the training subsystem prior to FUE.

### Section VIII Technical Data

#### 4-26. Equipment manuals

Ensure that appropriate action has been taken as shown in the categories below.

a. *Supply and storage publications.*

(1) *Bulletins.*

(a) *Storage serviceability standards.*

1. There are plans for preparing storage serviceability standards for new deteriorative stocked items that will be identified in the AMDF with acquisition advice codes A, B, C, D, K, M, P, R, or Z as defined in AR 708-1.

2. There are plans to ensure storage serviceability standard data is consistent with data in the AMDF or packaging data microfilm file (PDMF).

(b) *Ammunition surveillance procedure.* Plans exist for development and publication, prior to FUE, of procedures for conducting an ammunition stockpile reliability program.

(c) *Consumption rates.*

1. *Ammunition.* Ammunition consumption rates have been developed and coordinated with U.S. Army Combined Arms Support Command (CASCOM) and HQDA (DAMO-RQR) for each weapon by type of propelling charge, round, and applicable geographical region per AR 700-8.

2. *POL.* Projected system POL combat consumption rates, consistent with test results, have been developed and coordinated with CASCOM and USAGMPA according to AR 700-8.

(d) *Replacement and float factors.*

1. Replacement factors or life expectancy (peacetime and wartime) for new end items have been established and coordinated with CASCOM and HQDA (DAMO-RQR) based on similar items, engineering estimates, and available test data. Ensure they have been included in the SSN data file.

2. ORF and RCF factors have been established according to AR 750-1, AR 750-2 and AR 710-1, approved by the office of the Deputy Chief of Staff for Logistics (ODCSLOG) (DALO-SMM), and included in the SSN data file.

(2) *Supply catalogs.*

(a) Plans and current status (applies only to the displaced system) for identification and procurement/transfer of required supply catalogs (SKO listings) not currently authorized to the receiving or support unit are compatible with the established transfer date.

(b) For SKO and assemblages—

1. Draft supply catalogs listing components of each new SKO/ assemblage required for system operation or support have been developed and verified.

2. There are plans for publication and distribution of supply catalogs listing components of applicable SKOs/assemblages to meet deployment requirements.

(3) *Other publications.* Plans and current status (applies only to the displaced system) for identification and procurement or transfer of required supply-related publications (loading and rigging, packaging and preservation, and security procedures) not currently authorized to the receiving or support unit are compatible with the established transfer date.

(a) *Loading and rigging procedures.*

1. Results of DT II and IOT&E demonstrate the adequacy of loading, rigging, and off-loading procedures for airdrop, air transport, and other required transport modes.

2. Outloading and storage drawings and procedures for new ammunition and other hazardous material have been developed and verified according to AR 740-1 and AR 746-1.

3. There are plans and resources to correct and verify identified shortcomings, if any, in loading and rigging procedures if required. Make sure the Transportability Guidance Technical Manual will be distributed to appropriate using and support organizations by the FUE date.

(b) *Packaging and preservation procedures.*

1. A determination has been made as to whether a need exists to develop requirements (for example, a TM-746 series manual) for packaging retrograde class II, V, VII or IX materiel. If so, there are plans established for developing the packaging procedures in coordination with the AMC PSCC per AR 746-1.

2. DD Form 2169 (Special Packaging Instruction), if required, has been prepared and provided to the AMC PSCC according to AR 746-1.

3. For each stocked item, cleaning, preserving, and packaging information has been developed as required for the AMDF according to AR 708-1.

(c) *Security procedures.*

1. The SSCG has been reviewed and updated as necessary to reflect changing sensitivity of information involved.

2. All information and materiel associated with system operation and maintenance or supply support have been classified according to the SSCG. Ensure that the appropriate pilferage control code has been assigned.

*b. Operation and maintenance manuals.* If fielding with “advance copy” operator and/or maintenance manuals is anticipated, the proposal has been approved by TRADOC and AMC. Make sure there are adequate plans to ensure other AR 25–30 requirements for these manuals are met. For Class VIII materiel, if fielding with commercial type manuals, the proposal has been approved by the U.S. Army Academy of Health Sciences and TSG.

(1) *Operator manuals.*

(a) All draft operator manuals have been verified for readability, format, organization, safety instructions, and usefulness in providing instructions to the target audience.

(b) If manufacturers’ operator manuals are proposed for use (nondevelopmental item (NDI)), the proposal has been coordinated with the CBTDEV. Make sure there are contractual provisions requesting copyright release and requiring publications to meet requirements of MIL–M–7298, including necessary supplementation per AR 25–30 and AR 750–1.

(c) There are plans to submit final draft operator manuals to the U.S. Army Publications and Printing Command in sufficient time to ensure availability at time of equipment delivery or prior to packing of equipment if manuals are overpacked with equipment.

(d) All critical and major defects in draft operator manuals have been identified and plans established for their resolution.

(e) There are plans and resources for verifying, prior to FUE, correction of remaining defects in draft operator manuals discovered during LD, DT II, and IOT&E.

(f) The plans and current status (applies only to the displaced system) for identification and procurement or transfer of required operator manuals not currently authorized to the receiving or support unit are compatible with the established transfer date.

(2) *Unit, DS, and GS (or AVUM and AVIM) manuals.*

(a) All draft unit through GS maintenance manuals have been verified for readability, format, organization, safety instructions, and usefulness in providing instructions to the target audience.

(b) If manufacturers’ unit through GS level maintenance manuals are proposed for use (NDI), the proposal has been coordinated with the CBTDEV. Make sure there are contractual provisions requesting copyright release and requiring publications to meet requirements of MIL–M–7298, including necessary supplementation per AR 25–30 and AR 750–1.

(c) There are plans to submit final draft unit through GS level maintenance manuals to the U.S. Army Publications and Printing Command in sufficient time to ensure availability at time of equipment delivery.

(d) All critical and major defects in draft unit through GS level maintenance manuals have been identified and plans established for their resolution.

(e) There are plans and resources for verifying, prior to FUE, correction of remaining defects in draft unit through GS level maintenance manuals discovered during LD, DT II, and IOT&E.

(f) (Applies only to the displaced system.) The plans and current status for identification and procurement or transfer of required unit through GS level maintenance manuals not currently authorized to the receiving or support unit are compatible with the established transfer date.

(3) *RPSTL.*

(a) All draft RPSTLs have been verified for technical accuracy, readability, format, organization, completeness, consistency with the maintenance concept, and usefulness in providing instructions to the target audience.

(b) If manufacturers’ RPSTLs are proposed for use (NDI), the proposal has been coordinated with the CBTDEV. Make sure there are contractual provisions requesting copyright release and requiring publications to meet requirements of MIL–M–7298, MIL–STD–335, and AR 700–18 including necessary supplementation per AR 25–30.

(c) There are plans to submit final draft RPSTLs to the U.S. Army Publications and Printing Command in sufficient time to ensure availability at time of equipment delivery.

(d) All critical and major defects in draft RPSTLs have been identified and plans established for their resolution.

(e) There are plans and resources for verifying, prior to FUE, correction of remaining defects in draft RPSTLs discovered during LD, DT II, and IOT&E.

(f) The plans and current status (applies only to the displaced system) for identification and procurement or transfer of required repair parts and special tool lists not currently authorized to the receiving or support unit are compatible with the established transfer date.

(4) *MAC.* A complete MAC has been provided for DT II and IOT&E, and plans have been established to correct identified shortcomings.

(5) *Calibration procedures.*

(a) All new or revised calibration procedures have been verified for accuracy.

(b) The DA Form 260 (Request for Printing of Publication) to publish or revise a DA TB calibration procedure has been sent to and approved by USATA.

(6) *DMWR.*

(a) There are contractual provisions for preparation of DMWRs (when system MAC specifies depot tasks) according to AR 25–30, AR 750–1, and applicable military specifications.

(b) If depot tasks are specified, there are plans and resources to conduct a pilot depot overhaul program to validate DMWRs.

(7) *Firing tables (FTs.)*

(a) Plans and resources have been programmed for enough range firings of production items to develop final FTs and TCs.

(b) The schedule for development, printing, and distribution of final FTs/TCs is consistent with deployment plans.

(c) The plans and current status (applies only to the displaced system) for identification and procurement or transfer of required FTs or TCs not currently authorized to the receiving or support unit are compatible with the established transfer date.

(8) *Demilitarization procedures and disposal procedures.*

(a) Demilitarization and EOD procedures consistent with DOD guidance have been included in appropriate TMs and demilitarization codes have been developed for the AMDF. For ammunition items, a copy of the approved demilitarization and disposal plan has been provided to the Single Manager for Conventional Ammunition. Procedures have been developed for disposing of the system in an environmentally acceptable manner.

(b) The EOD TI, which accompanies all movement or shipment within CONUS of all new, improved, and modified U.S. and foreign ordnance for which published EOD procedures are not available, has been updated and approved by ARDEC, ATTN: SMCAR–FSM–E, Dover, NJ 07801–5001.

(c) All statements pertaining to EOD in the manual of the weapon system; that is, “call EOD,” “notify EOD,” and so forth, have been reviewed and approved by ARDEC.

(d) ARDEC has conducted successful validation tests of the EOD RSP and applicable techniques, tools, and equipment.

(e) For new explosive ordnance items, the development, validation, procurement, and deployment status of EOD publications (and associated tools and equipment) is on schedule. Make certain ARDEC approval is granted in time for items to be available to Army EOD field units 30 days prior to FUE or stockpile dates. (Joint service publications require 18 months.)

(f) The plans and current status (applies only to the displaced system) for identification and procurement or transfer of required EOD technical publications not currently authorized to the receiving or support unit are compatible with the established transfer date.

(9) *LO.*

(a) DT II, IOT&E, and other analyses have verified adequacy of LOs.

(b) Technical approval of the draft LOs was obtained from BRDEC.

(c) The plans and current status (applies only to the displaced system) for identification and procurement or transfer of required LOs not currently authorized to the receiving or support unit are compatible with the established transfer date.

(10) *Other publications.* Other equipment manuals required for

system operation or maintenance have been verified and distribution scheduled consistent with the system deployment plan.

#### 4-27. Authorization documents

Ensure that appropriate criteria have been met as shown below.

*a. Using unit(s).*

(1) The TOE development schedule allows sufficient time prior to FUE for—

- (a) Revising or updating draft plan TOEs.
- (b) Coordinating and obtaining HQDA approval of plan TOEs.
- (c) Preparing and printing final TOEs.
- (d) Preparing MTOEs and reorganizing units, as necessary, for all affected using units. (See AR 71-31.)

(2) There are adequate plans and milestones (applies only to the displaced system) established to—

- (a) Review and revise, as necessary, current TOEs.
- (b) Obtain HQDA approval of revised TOEs.
- (c) Publish revised TOEs.
- (d) Prepare MTOEs and reorganize, as necessary, all units receiving the displaced system.

(3) A proposed standard line item number (LIN) has been requested by the MATDEV and assigned to the system by CDA as required by AR 70-1.

(4) There are plans for accomplishing (following type classification approval), in a timely manner, the actions necessary to incorporate the system LINs into SB 700-20.

*b. Support unit(s).*

(1) The TOE development schedule allows sufficient time prior to FUE for—

- (a) Revising or updating draft plan TOEs.
- (b) Coordinating and obtaining HQDA approval of plan TOEs.
- (c) Preparing and printing final TOEs.
- (d) Preparing MTOEs and reorganizing units, as necessary, for all affected combat service support units.

(2) There are adequate plans and milestones (applies only to the displaced system) established to—

- (a) Review and revise, as necessary, current TOEs.
- (b) Obtain HQDA approval of revised TOEs.
- (c) Publish revised TOEs.
- (d) Prepare MTOEs and reorganize, as necessary, all affected combat service support units.

(3) Proposed standard LINs have been requested by the MATDEV and assigned by CDA to each item of system-peculiar support and test equipment to be included in TOE, TDA, or common table of allowances (CTA) documents. There are plans for accomplishing, in a timely manner (following type classification approval), the actions necessary to incorporate these LINs into SB 700-20.

#### 4-28. Drawings

Ensure there are developmental design or product engineering drawings and associated lists available.

### Section IX

#### Computer Resources Support

#### 4-29. System or end item operation

For load modules (tape and program), ensure that—

*a.* The results of DT II and IOT&E confirm the adequacy of the operational computer programs.

*b.* There are adequate plans and resources (considering contractor's software correction history) for incorporating and verifying remaining changes to operational computer programs resulting from DT II, IOT&E, or anticipated system design changes prior to fielding.

#### 4-30. System or end item maintenance

For the displaced system, ensure that the plans and current status (applies only to the displaced system) for identification and procurement or transfer of required system computer resources support

(maintenance) not currently authorized to the receiving or support unit are compatible with the established transfer date.

*a. ATE interconnecting devices.* Ensure that—

(1) The results of DT II and IOT&E confirm the adequacy of the representative sample of ATE interface devices.

(2) The peculiar ATE interface devices (at least a representative sample) are supportable. (Apply appropriate MDR III issues from the 17 assessment considerations.)

(3) There are adequate plans and resources (considering contractor's software correction history) for accomplishing and verifying the necessary redesign of ATE interface devices resulting from DT II, IOT&E, or anticipated system design changes.

(4) There are adequate plans and resources to develop and verify prior to initial fielding those ATE interface devices not provided at DT II/IOT&E, or acceptable "workarounds" exist to provide support until devices are available.

*b. Load modules (tape and program).* Ensure that—

(1) The results of DT II and IOT&E confirm the adequacy of the representative sample of maintenance computer programs.

(2) There are adequate plans and resources (considering contractor's software correction history) for incorporating and verifying remaining changes to maintenance computer programs resulting from DT II, IOT&E, or anticipated system design changes prior to fielding.

(3) There are adequate plans and resources to develop and verify those maintenance programs not provided at DT II or IOT&E prior to initial fielding or acceptable "workarounds" exist to provide support until the programs are available.

*c. User instructions.* Ensure that—

(1) The results of DT II and IOT&E confirm the adequacy of the representative sample of user instructions for ATE interface. (2) There are adequate plans and resources for incorporating and verifying remaining changes to user instructions resulting from DT II, IOT&E, or anticipated system design changes prior to fielding.

(3) Displayed user instructions (for interfacing with ATE) have been prepared in accordance with MIL-STD-334.

#### 4-31. PDSS

Ensure that PDSS responsibilities and software modification, configuration control, and verification procedures have been established.

*a. Equipment.* Ensure that the support equipment available at the proposed PDSS center is adequate to maintain the computer software. If not, ensure that there are plans, consistent with transition milestones, for procurement of necessary support equipment (such as compilers, environmental simulators, test case generators, and analyzers), required by the PDSS center to effectively maintain the computer software.

*b. Personnel.* Make certain that personnel and training requirements (PDSS center) for maintenance of the computer programs have been determined and, as necessary, plans established to obtain additional personnel and training to meet desired support transition milestones.

*c. Software documentation.* Ensure that—

(1) The results of DT II and IOT&E confirm the adequacy of the representative sample of operational and maintenance software documentation.

(2) There are adequate plans and resources for incorporating and verifying remaining changes to software documentation resulting from DT II, IOT&E, or anticipated system design changes prior to fielding.

(3) There are adequate plans and resources to develop and verify prior to initial fielding the remaining software documentation not provided at DT II or IOT&E or acceptable "workarounds" exist to provide support until documentation is available.

(4) The computer program product specifications (Type C-5, MIL-STD-490) have been prepared for operational and maintenance programs. Make sure preliminary and critical design reviews have been conducted.

#### 4-32. Management planning—CRMP

Ensure that—

a. The CRMP has been updated to define production and deployment phase computer resources support development, procurement, and deployment activities.

b. A plan has been prepared for orderly transition of software support responsibility from the developer to the PDSS activity.

## Section X

### Transportation and Transportability

#### 4-33. Mobility—strategic and tactical

a. *Strategic.* Ensure test results and other analyses verify compliance with transportability requirements related to strategic mobility of the system and ASIOE.

b. *Tactical.* Ensure test results and other analyses verify compliance with transportability requirements related to tactical mobility of the system and ASIOE.

#### 4-34. Transportability

Ensure appropriate action has been taken as shown in the following categories.

a. *General.*

(1) In those cases where a transportability requirement is not met, the proposed course of action is adequate considering engineering risks and impact on acquisition or procurement costs and schedules, deployability, and operational effectiveness.

(2) Test results and other analyses verify compliance with system requirements for rapid deployment.

(3) Test results and other analyses verify compliance with MIL-STD-209 requirements, to include the requirement for a transportability data plate or decal.

b. *Highway.*

(1) Test results and other analyses verify compliance with highway transportability requirements.

(2) If item has a stated transportability requirement or is a transportability problem item, highway transportability approval has been affirmed by MTMC per AR 70-47.

c. *Rail.*

(1) Test results and other analyses verify compliance with rail transportability requirements per MIL-STD-810.

(2) If item has a stated transportability requirement or is a transportability problem item, rail transportability approval has been affirmed by MTMC per AR 70-47.

(3) The loading drawing has been prepared by the MATDEV and submitted to MTMC/TEA for review, coordination, approval, and inclusion in the Association of American Railroads (AAR) Open Top Car Loading Manual.

d. *Marine.*

(1) Test results and other analyses verify compliance with marine transportability requirements.

(2) If item has a stated transportability requirement or is a transportability problem item, marine transportability approval has been affirmed by MTMC per AR 70-47.

e. *Containerization.*

(1) Test results and other analyses verify compliance with design for containerization requirements.

(2) If item has a stated containerization requirement, approval for containerization has been affirmed by MTMC.

f. *Airdrop/LAPES.*

(1) Test results and other analyses verify compliance with airdrop/LAPES requirements.

(2) If item has a stated airdrop requirement, airdrop approval has been affirmed by MTMC.

g. *Aircraft.*

(1) *Fixed wing.*

(a) Test results and other analyses verify compliance with aircraft (fixed wing) transportability requirements.

(b) If item has a stated transportability requirement or is a transportability problem item, aircraft (fixed wing) transportability approval has been affirmed by MTMC per AR 70-47.

(c) For items requiring aircraft transportability and meeting criteria of AR 70-44 and AR 70-47, an air test loading by USAF has been accomplished.

(2) *Rotary wing.*

(a) *Internal.*

1. Test results and other analyses verify compliance with aircraft (rotary wing—internal cargo) requirements.

2. If item has a stated transportability requirement or is a transportability problem item, aircraft (rotary wing—internal cargo) transportability approval has been affirmed by MTMC per AR 70-47.

(b) *External.*

1. Test results and other analyses verify compliance with aircraft (rotary wing—external cargo) transportability requirements.

2. If item has a stated transportability requirement or is a transportability problem item, aircraft (rotary wing—external cargo) transportability approval has been affirmed by MTMC per AR 70-47.

#### 4-35. Transportability report and engineering analysis

a. Ensure that an updated transportability report has been provided to MTMC/TEA in accordance with AR 70-47 or MIL-STD-1367. If so, make certain MTMC/TEA has prepared and distributed an updated transportability engineering analysis as required by AR 70-47.

b. If changes in item shipping dimensions or weight are anticipated after MTMC approval, ensure that there are plans for preparing a revised transportability report and requesting new approval for modified item.

## Section XI Facilities

#### 4-36. Base operations and services support

Ensure that programmed base operations and services support facility requirements are consistent with the results of DT II and IOT&E. Ensure that criteria have been met as shown in the categories below.

a. *Systems operations center.*

(1) System operations center facility requirements have been identified. Make sure their projected availability is consistent with current deployment schedules and operational concepts.

(2) Appropriate documentation has been submitted to COE according to AR 415-15 consistent with identified short-range, intermediate-range, and long-range construction program requirements for new or modified system operations center facilities.

b. *Aviation.*

(1) All aviation operational facility requirements have been identified. Make sure their projected availability is consistent with current deployment schedules and operational concepts.

(2) Appropriate documentation has been submitted to COE according to AR 415-15 consistent with identified short-range, intermediate-range, and long-range construction program requirements for new or modified aviation facilities.

(3) The Federal Aviation Administration (FAA) has been notified per AR 95-2 of any proposal to construct or substantially modify aviation, missile, or rocket facilities.

c. *Administrative and headquarters.*

(1) All administrative and headquarters facility requirements have been identified. Make certain their projected availability is consistent with current deployment schedules and operational concepts.

(2) Appropriate documentation has been submitted to COE according to AR 415-15 consistent with identified short-range, intermediate-range, and long-range construction program requirements for new or modified administrative and headquarters facilities.

d. *Troop barracks and dining.*

(1) All troop barracks and dining facility requirements have been identified. Make certain their projected availability is consistent with current deployment schedules and operational concepts.

(2) Appropriate documentation has been submitted to COE according to AR 415-15 consistent with identified short-range, intermediate-range, and long-range construction program requirements for new or modified troop barracks and dining facilities.

(3) All proposals for new or modified dining facilities have been validated as necessary by the U.S. Army Aviation and Troop Command (ATCOM) according to AR 415-15.

*e. Military family housing.*

(1) All military family housing facility requirements have been identified. Make sure their projected availability is consistent with current deployment schedules and operational concepts.

(2) Appropriate documentation has been submitted to COE consistent with identified short-range, intermediate-range, and long-range construction program requirements for new or modified military family housing facilities. (See AR 415-15.)

*f. Morale, welfare, and recreation.*

(1) All morale, welfare, and recreation facility requirements have been identified. Ensure that their projected availability is consistent with current deployment schedules and operational concepts.

(2) Appropriate documentation has been submitted to COE according to AR 415-15 consistent with identified short-range, intermediate-range, and long-range construction program requirements for new or modified morale, welfare, and recreation facilities.

#### **4-37. Logistical**

Ensure that issues/criteria for logistical facilities have been met as shown below. Ensure the related facility elements of the OSCR program have been adequately implemented and achieved.

*a. Maintenance.* See TM 43-10 also for additional assessment considerations.

(1) *Unit, DS, and GS (or AVUM and AVIM) levels.*

(a) All unit (applies to both the new and displaced systems) through GS level maintenance facility requirements have been identified. Make certain their projected availability is consistent with current deployment schedules and operational concepts.

(b) Appropriate documentation (applies to both the new and displaced systems) has been submitted to COE according to AR 415-15 consistent with identified short-range, intermediate-range, and long-range construction program requirements for new or modified unit or DS and GS level maintenance facilities.

(c) Programmed unit through GS level maintenance facility requirements are consistent with the results of DT II and IOT&E.

(2) *Depot level.*

(a) All depot maintenance facility requirements have been identified and are projected to be available consistent with current system deployment scheduled and depot maintenance workloading.

(b) Appropriate documentation has been submitted to COE according to AR 415-15 consistent with identified short-range, intermediate-range, and long-range construction program requirements for new or modified depot maintenance facilities.

*b. Supply and storage.* (All issues in (1) and (2) below apply to both new and displaced systems.)

(1) *Organizational.* Appropriate documentation has been submitted to COE according to AR 415-15 consistent with identified short-range, intermediate-range, and long-range construction program requirements for new or modified organizational level supply and storage facilities.

(a) *PLL.* All PLL storage facility requirements have been identified and are projected to be available consistent with current system deployment schedules.

(b) *Arms room.* All unit arms room facility requirements (including arms racks and containers (AR 190-11)) have been identified and are projected to be available consistent with current system deployment schedules.

(c) *Basic load (ammunition).*

1. All unit level ammunition storage and supply facility requirements have been identified and are projected to be available consistent with current system deployment schedules.

2. Plans for new or major modification to existing unit level

ammunition storage facilities have been approved by the DOD Explosive Safety Board as required by AR 415-15.

3. Ammunition delivery schedules and hazard classification data (for example, quantity-distance class, storage compatibility group, DOT class, and conveyor spacing distances) have been provided to each using unit for use in facilities planning.

(d) *Basic load (POL).* All organizational level POL storage and supply facility requirements have been identified and are projected to be available consistent with current system deployment schedules.

(2) *DS.* Appropriate documentation has been submitted to COE according to AR 415-15 consistent with identified short-range, intermediate-range, and long-range construction program requirements for new or modified DS supply and storage facilities.

(a) *ASP.*

1. All ASP facility requirements have been identified and are projected to be available consistent with current system deployment schedules.

2. Plans for new or major modification to existing ammunition storage facilities (at the ASP) have been approved by the DOD Explosive Safety Board as required by AR 415-15.

3. Ammunition delivery schedules and hazard classification data (for example, quantity-distance class, storage compatibility group, DOT class, and conveyor spacing distances) have been provided to those organizations operating an ASP for use in facilities planning.

(b) *ASL.* All ASL supply storage facility requirements have been identified and are projected to be available consistent with current system deployment schedules.

(c) *ORF.* All ORF supply storage facility requirements have been identified and are projected to be available consistent with current system deployment schedules.

(3) *GS/theater.* Appropriate documentation has been submitted to COE according to AR 415-15 consistent with identified short-range, intermediate-range, and long-range construction program requirements for new or modified GS/theater supply and storage facilities.

(a) *War reserve.*

1. All theater war reserve (classes III, V, VII, and IX) storage facility requirements have been identified and are projected to be available consistent with current system deployment schedules.

2. Plans for new or major modification to existing theater war reserve ammunition storage facilities have been approved by the DOD Explosive Safety Board as required by AR 415-15.

3. Theater war reserve ammunition delivery schedules and hazard classification data (for example, quantity-distance class, storage compatibility group, DOT class, and conveyor spacing distances) have been provided to those organizations having a storage mission for use in facilities planning.

(b) *POMCUS.* All POMCUS storage facility requirements have been identified and are projected to be available consistent with current system deployment schedules.

(c) *Selected nonwar reserves.*

1. All GS supply base (classes III, V, and IX) facility requirements have been identified and are projected to be available consistent with current system deployment schedules.

2. Plans for new or major modification to existing GS supply base ammunition storage facilities have been approved by the DOD Explosive Safety Board as required by AR 415-15.

3. Ammunition delivery schedules and hazard classification data (for example, quantity-distance class, storage compatibility group, DOT class, and conveyor spacing distances) have been provided to those organizations having a GS supply base storage mission for use in facilities planning.

(4) *Depot.*

(a) Appropriate documentation has been submitted to COE according to AR 415-15 consistent with identified short-range, intermediate-range, and long-range construction program requirements for new or modified depot supply and storage facilities.

(b) Plans for new or major modification to existing war reserve ammunition depot storage facilities have been approved by the DOD Explosive Safety Board as required by AR 415-15.

(c) War reserve ammunition delivery schedules and hazard classification data (for example, quantity–distance class, storage compatibility group, DOT class, and conveyor spacing distances) have been provided to those depots having a storage mission for use in facilities planning.

(d) All RCF storage facility requirements have been identified and are projected to be available consistent with current system deployment schedules.

(e) All depot storage facility requirements for other HQDA–approved operational projects have been identified and are projected to be available consistent with current system deployment schedules.

#### **4–38. Training**

Ensure the related facility elements of the OSCR program have been adequately implemented and achieved. (The following applies to both the new and displaced systems.)

*a. Ranges.* Ensure that—

(1) All training range (unit and institutional) facility requirements have been identified and are projected to be available consistent with current training schedules.

(2) Appropriate documentation has been submitted to COE according to AR 415–15 consistent with identified short–range, intermediate–range, and long–range construction program requirements for new or modified training range facilities.

*b. Buildings.* Ensure that appropriate documentation has been submitted to COE according to AR 415–15 consistent with identified short–range, intermediate–range, and long–range construction program requirements for new or modified training (institutional and unit) buildings facilities.

(1) *Classrooms.* Make sure all training classroom facility requirements have been identified and that they are projected to be available consistent with current training schedules.

(2) *Training equipment and devices.* Make certain all training equipment and device facility requirements have been identified and are projected to be available consistent with current training schedules.

#### **4–39. Planning documentation—support facility annex**

For systems having potential facilities impact, ensure that an updated support facility annex to the ILSP has been prepared. Be sure the updated information has been distributed to all MACOMs, appropriate installations, and ARSTAF elements.

### **Section XII**

## **Standardization and Interoperability**

#### **4–40. Command, Control and Communications (CCC)**

Ensure that—

*a.* The results of DT II, IOT&E, and other analyses confirm attainment of CCC system standardization and interoperability requirements (ORD and specification).

*b.* CCC equipment for use by troops in Europe has been demonstrated as standard or interoperable with equipment of other NATO members.

*c.* If CCC system standardization and interoperability requirements have not been met, the proposed course of action reflects the proper balance between acquisition costs and schedule, mission effectiveness, and support cost.

#### **4–41. Battlefield surveillance and target designation and acquisition systems**

Ensure that criteria have been met as shown in the categories below.

*a.* The results of DT II, IOT&E, and other analyses confirm attainment of battlefield surveillance and target designation and acquisition system standardization and interoperability requirements (ORD and specification).

*b.* Equipment for use by troops in Europe has been demonstrated as interoperable with battlefield surveillance and target designation and acquisition systems and IFF equipment of other NATO members.

*c.* If battlefield surveillance and target designation and acquisition system and IFF equipment standardization and interoperability requirements have not been met, the proposed course of action reflects the proper balance between acquisition costs and schedule, mission effectiveness and safety, and support cost.

#### **4–42. Ammunition**

Ensure that—

*a.* The results of DT II, IOT&E, and other analyses confirm attainment of weapon system ammunition standardization and interoperability requirements (ORD and specification).

*b.* The system and associated ammunition for use by troops in Europe has been demonstrated as standard or interoperable with equipment and ammunition of other NATO members.

*c.* If weapon system ammunition standardization and interoperability requirements have not been met, the proposed course of action reflects the proper balance between acquisition costs and schedule, mission effectiveness, and support cost.

#### **4–43. POL**

Ensure that—

*a.* The results of DT II, IOT&E, and other analyses confirm attainment of weapon system POL standardization and interoperability requirements (ORD and specification).

*b.* The system and associated POL for use by troops in Europe have been demonstrated as standard or interoperable with equipment and POL of other NATO members.

*c.* If weapon system POL standardization, interoperability and interchangeability requirements have not been met, the proposed course of action reflects the proper balance between acquisition costs and schedule, mission effectiveness, and support cost.

#### **4–44. Components and repair parts**

Ensure that—

*a.* The results of DT II, IOT&E, and other analyses confirm attainment of system component and repair parts standardization, interchangeability and interoperability requirements (ORD and specification and AR 34–1).

*b.* Equipment for use by troops in Europe has demonstrated an acceptable level of component and repair parts standardization or interchangeability with equipment of other NATO members.

*c.* If component and repair parts standardization and interoperability requirements have not been met, the proposed course of action reflects the proper balance between acquisition costs and schedule, mission effectiveness, and support cost.

*d.* For equipment contracts over \$25,000 and any other contracts in which life cycle benefits are probable, there are plans and contractual provisions for a parts control program involving compliance with MIL–STD–965 and other applicable military standards and specifications (i.e., MIL–STD–680, MIL–P–11268). All systems which do not intend to apply the DOD Parts Control Program require approval from HQAMC (AMCPS–SE) according to AR 700–60.

#### **4–45. Aircraft servicing**

Ensure that—

*a.* The results of DT II, IOT&E, and other analyses confirm attainment of system standardization and interoperability requirements (ORD and specifications) related to aircraft cross–servicing.

*b.* Aircraft for use by troops in Europe has been demonstrated as being capable of being cross–serviced using the POL, ammunition, and loading and dispensing equipment of other NATO members.

*c.* If aircraft cross–servicing standardization and interoperability requirements have not been met, the proposed course of action reflects the proper balance between acquisition costs and schedule, mission effectiveness, and support cost.

## Section XIII Reliability, Availability, and Maintainability

### 4-46. General

Ensure that criteria have been met as shown in the categories below.

a. In those cases where significant design changes impacting system RAM are programmed for production, there are plans to verify these changes during an IPT and/or FOT&E.

b. Appropriate plans and funding have been established for field RAM engineering data collection (ACAT I and II systems as a minimum), such as SDC, to monitor system RAM characteristics and to provide baseline data for future systems development.

c. RAM scoring and assessment conference results and corrective action status have been prepared and distributed among the CBTDEV, MATDEV, testers, evaluators, and logistician.

### 4-47. Reliability

a. *Mission-related.* Ensure that—

(1) The results of DT II and IOT&E demonstrate the achievement of the IOC operational threshold (or other approved threshold) mission-related reliability requirements at a high confidence level. Be sure there are adequate (considering engineering risks and impact on acquisition or procurement costs and schedules, and operational effectiveness) plans and resources for either accepting or correcting (and retesting prior to deployment) remaining failure modes.

(2) The production contract includes specific quality assurance tasks and controls and RAM testing (IPT) to verify manufacture and delivery of equipment meeting system mission-related reliability requirements.

b. *Logistics-related.* Ensure that—

(1) The results of DT II and IOT&E demonstrate the achievement of the IOC operational threshold (or other approved threshold) logistics-related reliability requirements at a high confidence level. Be sure there are adequate (considering engineering risks and impact on acquisition or procurement costs and schedules, and support materiel and manpower burden) plans and resources for either accepting (and adjusting support resource procurement and authorization accordingly) or correcting (and retesting prior to deployment) remaining failure modes.

(2) The production contract includes specific quality assurance tasks and controls and RAM testing (IPT) to verify manufacture and delivery of equipment meeting system logistics-related reliability requirements.

c. *Durability.* Ensure that—

(1) The results of DT II and IOT&E demonstrate the achievement of the IOC operational threshold (or other approved threshold) durability requirements at a high confidence level. Be sure there are adequate (considering engineering risks and impact on acquisition or procurement costs and schedules, operational effectiveness, support materiel and manpower burden) plans and resources for either accepting (and provisioning accordingly) or correcting (and retesting prior to deployment) remaining failure modes.

(2) The production contract includes specific quality assurance tasks and controls and RAM testing (IPT) to verify manufacture and delivery of equipment meeting system durability requirements.

### 4-48. Availability and system readiness objective

Ensure that—

a. The results of DT II and IOT&E demonstrate the achievement of the IOC operational threshold (or other approved threshold) SRO and availability requirements. Be sure there are adequate (considering engineering risks and impact on acquisition/procurement costs and schedules, operational effectiveness, support materiel and manpower burden) plans and resources for either accepting (and adjusting support resource procurement and authorization accordingly) or correcting (and retesting prior to deployment) remaining failure modes and maintainability shortcomings.

b. The mean administrative and logistics downtime projected in the SROs (or operational availability) at MDR II has been updated

as necessary to reflect the results of DT II and IOT&E and the current supply, maintenance, recovery, and evacuation concepts.

### 4-49. Maintainability

Ensure that criteria have been met as shown in the categories below.

a. *Qualitative.*

(1) *Test points.* The results of LD, DT II, and IOT&E demonstrate the achievement of the system testability requirements. Make certain there are adequate (considering engineering risks and impact on acquisition or procurement costs and schedules, and support materiel and manpower burden) plans and resources for either accepting or correcting (and retesting prior to deployment) remaining maintainability shortcomings.

(2) *Modularity.* The results of LD, DT II, and IOT&E demonstrate the achievement of the system modular design requirements. Be sure there are adequate (considering engineering risks and impact on acquisition or procurement costs and schedules, and support materiel and manpower burden) plans and resources for either accepting or correcting (and retesting prior to deployment) remaining maintainability shortcomings.

(3) *Accessibility.*

(a) The results of LD, DT II, and IOT&E demonstrate the achievement of the requirements for component or assembly accessibility. Ensure there are adequate (considering engineering risks and impact on acquisition or procurement costs and schedules, and support materiel and manpower burden) plans and resources for either accepting or correcting (and retesting prior to deployment) remaining maintainability shortcomings.

(b) If the system is to be included in the Army Oil Analysis Program, system design includes enough oil sampling valves for ease of access.

b. *Quantitative.*

(1) *BIT and BITE.*

(a) The results of DT II and IOT&E demonstrate the achievement of the IOC operational threshold (or other approved threshold) system BIT/BITE effectiveness requirements. Be sure there are adequate (considering engineering risks and impact on acquisition or procurement costs and schedules, and support materiel and manpower burden) plans and resources for either accepting (and provisioning accordingly) or correcting (and retesting prior to deployment) remaining shortcomings.

(b) The production contract includes specific quality assurance tasks and controls and RAM testing (IPT) to verify manufacture and delivery of equipment meeting system BIT/BITE effectiveness requirements.

(2) *On-system maintenance.*

(a) The results of DT II and IOT&E demonstrate the achievement of the IOC operational threshold (or other approved threshold) system maintainability (on-system) requirements. Make sure there are adequate (considering engineering risks and impact on acquisition or procurement costs and schedules, operational effectiveness, and support materiel and manpower burden) plans and resources for either accepting (and programming support resources accordingly) or correcting (and retesting prior to deployment) remaining shortcomings.

(b) The production contract includes specific quality assurance tasks and controls and RAM testing (IPT) to verify manufacture and delivery of equipment meeting system maintainability (on-system) requirements.

(c) The list of scheduled maintenance tasks reflects application of RCM principles and methodology.

(3) *Off-system maintenance.*

(a) The results of DT II and IOT&E demonstrate the achievement of the IOC operational threshold (or other approved threshold) maintainability (off-system) requirements. Make sure there are adequate (considering engineering risks and impact on acquisition or procurement costs and schedules, and support materiel and manpower burden) plans and resources for either accepting (and programming support resources accordingly) or correcting (and retesting prior to deployment) remaining failure modes and maintainability shortcomings.

(b) The production contract includes specific quality assurance tasks and controls and RAM testing (IPT) to verify manufacture and delivery of equipment meeting system maintainability (off-system) requirements.

## Section XIV Support Management and Analysis

### 4-50. Support management

Ensure that criteria have been met as shown below.

*a. Logistics program planning documents.*

(1) *ILSP.*

(a) The ILSP has been updated, coordinated, and approved according to AR 700-127 to include production and deployment phase tasks, responsibilities, and milestones for accomplishing the ILS program.

(b) Provisions of the current System MANPRINT Management Plan have been integrated into the ILSP according to AR 700-127.

(c) Detailed ILS program events and tasks have been updated, as necessary, in the Acquisition Management Milestone System according to AR 700-127 and DA Pam 700-26. Make sure the updated milestones are consistent with policy regarding materiel fielding planning timeline requirements and the milestones addressed in the updated ILSP.

(d) The ILSP includes a plan for the post-fielding ILS assessment as required by AR 700-127.

(e) A PPS plan has been developed and included as an ILSP annex to document management and support actions necessary to ensure system supportability after cessation of production.

(f) (Applies only to the displaced system). Managers for the conduct of displaced system support planning have been designated in the losing and gaining MACOMs according to AR 700-127.

(2) Configuration management plan. The configuration management plan has been updated, as necessary, to define procedures and responsibilities for managing the system configuration during the production and deployment and operation and support phases according to AR 70-1.

(3) *IPS.* The IPS has been updated, as necessary, according to DOD 5000.2.

(4) *Acquisition strategy.* The Acquisition Strategy has been updated, coordinated with the acquisition team and summarized in the IPS according to DOD 5000.2 to include a summary of ILS, MANPRINT, RAM, supportability test and evaluation, standardization, and support cost control plans.

*b. Requirement documents.* A CSA, AAE or DCSOPS memorandum or message directive containing the information identifying the essential characteristics of the requirement can serve in lieu of a materiel requirements document.

(1) *System.* Recommended revisions, if any, to the system requirement document (for example, ORD or JSOR) have been included in the MDR supporting documentation as required by AR 70-1.

(2) *Training devices.* Recommended revision, if any, to the TDRs/CTDRs, have been included in the MDR supporting documentation.

(3) *Support and test equipment.* Recommended revisions, if applicable, to the requirement document (for example, ORD or JSOR) for each new item of support and test equipment, requiring type classification, if any, have been included in the MDR supporting documentation.

*c. BOIP.* If approved BOIP is not available for accelerated acquisition programs, DCSOPS (DAMO-FDR) has granted approval to defer BOIP submittal.

(1) *System.* The previously approved BOIP has been reviewed and, as necessary, amended, reapproved, and distributed according to AR 71-2.

(2) *Support and test equipment.* If required, BOIPs for newly identified system support and test equipment have been developed, coordinated, approved, and distributed according to AR 71-2. Ensure that previously approved BOIPs for the system support and test

equipment have been reviewed and, as necessary, amended, reapproved, and distributed according to AR 71-2.

(3) *Training devices.* If required, BOIPs for newly identified system training devices have been developed, coordinated, approved, and distributed according to AR 71-2. Make sure previously approved BOIPs for the system training devices have been reviewed and, as necessary, amended, reapproved, and distributed according to AR 71-2.

*d. Test planning.*

(1) *SDC plan.*

(a) The need for SDC has been determined in planning for post-fielding ILS assessments.

(b) If SDC is needed, there are plans to develop, coordinate, obtain DCSLOG approval of, as necessary, and distribute a narrative concept paper, SDC plan, and field procedure guide according to the time frame, coordination, and content requirements specified in AR 750-1 and AR 750-2.

(2) *TEMP.* The TEMP has been updated, coordinated, and approved according to AR 70-1, AR 73-1 and DA Pam 70-21 to include production testing supportability test issues, criteria, requirements/scope, SSP availability, and special resources.

(a) *DT OTP.* If supplementary user troops are required, an IPT OTP has been prepared and coordinated according to AR 73-1 and DA Pam 71-3 to include supportability test objectives and scope, support resources to be evaluated, and logistics data collectors as necessary.

(b) *OT OTP.* If scheduled, an FOT&E/force development test and experimentation (FDTE) OTP has been prepared and coordinated according to AR 73-1 and DA Pam 71-3 to include supportability test objectives and scope, support resources to be evaluated, and logistics data collectors.

(c) *DT TDP.* The IPT TDP has been prepared and coordinated according to AR 73-1 to include test conditions, test criteria, data requirements, and data analysis procedures applicable to evaluating supportability issues contained in the IPT IEP. (This is applicable after MDR II and prior to IPT.)

*e. Solicitation documents.*

(1) *SOW.* The contractual (RFP) SOW for the production phase has been developed in coordination with the assigned MSC ILS organization. Make sure the SOW includes requirements to—

(a) Plan for and accomplish applicable ILS tasks. (Consider issues from the 17 ILS assessment considerations in this chapter.)

(b) Deliver the SSPCL and elements of the SSP for IPT (and FOT&E/FDTE if applicable).

(c) Deliver system support materiel to meet deployment schedules.

(2) *CDRL.* The CDRL for the production phase has been developed in coordination with the assigned MSC ILS organization to include delivery of the SSPCL and other data required for effective management of the ILS program.

(3) *Specifications.* The product specification(s) for the production phase have been developed in coordination with the assigned supporting or readiness command(s) to include, consistent with the system requirements document, ILS-related design and support resource technical requirements and evaluation procedures (such as IPT).

*f. IEPs and Test and Evaluation Plan (TEP).*

(1) *DT IEP.* An IPT IEP has been prepared and coordinated per AR 73-1 including—

(a) Supportability test issues (as developed from the specification, AR 700-127 requirements, DA Pam 700-50, and so forth, to include SSP evaluation).

(b) Identification of data requirements, sources and test conditions.

(c) Evaluation criteria and methodology (related to O&S cost manpower, or readiness). (This is applicable after MDR III and prior to IPT.)

(2) *OT TEP.* If scheduled, an FOT&E/FDTE TEP has been prepared and coordinated per AR 73-1 and DA Pam 71-3 including—

(a) Supportability test issues such as SSP evaluation if not completely addressed by previous IOT&E.

(b) Identification of data requirements, sources, and test conditions.

(c) Evaluation criteria and methodology (related to O&S cost, manpower or readiness). (This is applicable after MDR III and prior to FOT&E/FDTE.)

g. *CALS*. Ensure required actions have been accomplished as shown below:

(1) *CALS* standards have been applied during the EMD phase for those systems determined to result in cost savings and/or quality improvements from changing weapon system paper deliverables to digital data delivery or access using the *CALS* standards.

(2) Solicitation documents for the production and deployment phase require specific schedule and cost proposals for—

(a) Integration of contractor technical information systems and processes,

(b) Authorized Government access to contractor technical data bases, and

(c) Delivery of technical information in digital form in accordance with *CALS* standards (MIL-STD-1840, MIL-D-28000, MIL-M-28001, MIL-R-28002, MIL-D-28003, and MIL-HDBK 59).

#### 4-51. Support analysis

Ensure that criteria have been met as shown below.

a. *Test data*. As specified in AR 73-1, ensure that—

(1) *DT TR*.

(a) The DT II TR has been provided for review to those organizations for use in developing MDR III IPR or ASARC recommendations.

(b) There are plans to provide the IPT TR to those organizations prior to materiel release decision.

(2) *DT IER*.

(a) The DT II IER has been provided for review to those organizations for use in developing MDR III IPR or ASARC recommendations.

(b) There are plans to provide the IPT IER to those organizations prior to the materiel release decision.

(3) *OT TR*.

(a) The IOT&E TR has been provided for review to those organizations use in developing MDR III IPR or ASARC recommendations.

(b) There are plans to provide the FDTE or FOTE&E test report, or emerging test results, to those organizations prior to the materiel release decision.

(4) *OT IER*.

(a) The IOT&E IER has been provided for review to those organizations for use in developing MDR III IPR or ASARC recommendations.

(b) There are plans to provide the FDTE or FOT&E IER, or interim evaluation, to those organizations prior to the materiel release decision.

(5) *LD report*. The LD report has been provided to those organizations involved in the MDR process for their use.

b. *LSA*. See AR 700-127 for required MANPRINT integration with LSA. (See MIL-STD-1388-1A for guidance on tasks.)

(1) *Program planning and control*. Applicable EMD Phase LSA program planning and control tasks have been accomplished.

(2) *Mission and support system definition*. Applicable EMD phase mission and support system definition LSA tasks have been accomplished.

(3) *Preparation and evaluation of alternatives*. Applicable EMD phase preparation and evaluation of alternative LSA tasks have been accomplished.

(4) *Support resource identification*.

(a) Applicable EMD phase support resource identification LSA tasks have been accomplished.

1. The LSAR data is up to date with system design and Government recommendations.

2. The LSAR data was used as source data to develop equipment publications, provisioning data, QQPRI, and other ILS products.

(b) There are plans to accomplish applicable production phase support resource identification LSA tasks. Ensure the production phase contract specifies control program for the LSAR data.

(5) *Supportability assessment*.

(a) Applicable EMD phase supportability assessment LSA tasks have been accomplished.

(b) There are plans to accomplish applicable production phase supportability LSA tasks.

## Section XV Cost Analysis and Funding

### 4-52. Logistics-related R&D

a. *LSA*. Ensure that adequate funds have been programmed to accomplish applicable production phase LSA tasks.

b. *SSP*. Ensure that adequate funds have been programmed for development of the remaining TPSs required to maintain the system. If system design changes during the production phase are proposed or anticipated, ensure adequate funds have been programmed to modify the affected system support elements.

### 4-53. Logistics-related investment

Ensure that criteria have been met as shown in the areas discussed below.

a. *Initial spares and repair parts*. (Applies to both the new and displaced systems.) Adequate funds have been programmed by affected major subordinate commands for provisioning of initial spares and repair parts according to AR 700-18.

b. *Facilities activation*. (Applies to both the new and displaced systems.) Budget estimates for construction of new or modified facilities, as determined by LSA and coordination with gaining commands, have been prepared (according to AR 415-17 cost estimating procedures for family housing) and included in the FYDP. (See fig 1-12 for areas of consideration.)

c. *Special support services (SSS)*. If the system (applies to both the new and displaced system) is expected to pose an exceptional operational or logistic burden on the user, funds have been programmed to accomplish the SSS as defined in the draft MFP or MTP.

d. *Technical assistance*. Funds have been programmed as necessary (applies to both the new and displaced systems) to provide technical assistance to the gaining command for initial fielding and post deployment according to AR 700-4 and AR 750-2.

e. *Transportation*.

(1) Funds (first destination applies to new systems) have been programmed for first destination transportation costs of moving the system and associated equipment to a CONUS depot or other point of Government acceptance.

(2) Funds (second destination applies only to the displaced system) have been programmed for transporting the displaced system to its new using unit.

f. *Procurement*.

(1) *End item or system*. Funds have been programmed for procurement of items to meet the end item AAO (for example, unit equipment, training equipment, maintenance float, PDSS equipment, and war reserves).

(2) *Ammunition*. Funds have been programmed for procurement of sufficient ammunition to meet the AAO (for example, basic load and war reserves).

(3) *Support and test equipment*. Funds have been programmed for procurement of enough common and system-peculiar support and test equipment to meet the AAO (for example, unit equipment, training equipment, and PDSS equipment) for system operation and support. (See fig 1-7 for areas of consideration.)

(4) *Training devices*. Funds have been programmed for procurement of enough common and system-peculiar training devices to meet the AAO (that is, initial and sustainment institutional and unit training of operator and support personnel).

(5) *TPS*. Funds have been programmed for procurement of enough TPS (that is, ATE interconnection devices, load modules

(tape and program), or equipment publications) to satisfy support unit (including PDSS site) and trainer requirements.

#### 4-54. Logistics-related operation and support

Ensure criteria have been met as shown in the following areas:

a. *Replenishment spares.* Funds have been programmed for procurement of enough replenishment spares consistent with results of LSA, DT I, and IOT&E.

b. *POL.* There are enough funds programmed for procurement of POL required for operation of the system and associated support and test equipment, including initial deployment, training, and war reserve requirements.

c. *Training ammunition.* Sufficient funds have been programmed for procurement of ammunition and missiles to be consumed during unit training exercises.

d. *PDSS.* There are enough funds programmed for personnel and other costs associated with maintenance of computer software required for system operation and maintenance.

e. *Depot maintenance.*

(1) There are enough funds programmed for the anticipated labor, materiel, and transportation costs associated with depot level maintenance for the system.

(2) If appropriate, funds have been programmed (applies only to the displaced system) to perform depot level refurbishment or achieving TM-10/TM-20 materiel condition transfer standards of the displaced system prior to issue to the gaining MACOM.

f. *Contract maintenance.* There are enough funds programmed for the anticipated labor, materiel, and transportation costs associated with interim or life cycle contractor support if applicable.

g. *Facilities maintenance and utilities.* Enough funds have been programmed for the cost of maintenance and utilities associated with the new or modified facilities. (See fig 1-12 for areas to be considered.)

h. *Military personnel.* If applicable, there are enough funds programmed for pay and allowances for the additional or higher graded crew and support personnel required for operation and support of the system and associated items.

i. *Personnel replacements.* If applicable, enough funds have been programmed for the cost of training replacements for the additional personnel required for operation and support of the system and associated items.

#### 4-55. Cost analysis documentation

Ensure that the following criteria have been met:

a. *BCE.* The BCE has been updated consistent with results of EMD phase activities and testing.

b. *ICE.* The ICE has been updated to test the reasonableness of the updated BCE.

c. *ACP.* The ACP has been updated to compare latest BCE and ICE, including recommended changes to the BCE if any.

d. *MSRS.* The MSRS has been updated to reflect DT II and IOT&E results and the latest program requirements.

e. *COEA/CTEA.* The COEA/CTEA has been updated, if requested by HQDA, to reflect considerations such as the MNS, threat results, and DT II/IOT&E results.

f. *OCSR.* The OCSR program has been adequately addressed.

### Section XVI

#### Materiel Fielding Planning

#### 4-56. Developer

Ensure that the following criteria have been met:

a. *AMIM.*

(1) If the system will have a significant resource impact (for example, repair parts, POL, training, personnel, or facilities) on gaining MACOMs, the information in DA Pam 5-25 has been updated with results of EMD phase activities to facilitate MACOM budget submittals.

(2) If the system being displaced (applies only to the displaced system) will have a significant resource impact on gaining

MACOMs, and a MACOM is receiving the system for the first time, support data for the displaced system has been included in DA Pam 5-25.

b. *MON.*

(1) MONs were provided to and acknowledged by gaining MACOMs at least 240 days and 190 days, respectively, prior to production contract award in accordance with AR 700-142 and DA Pam 700-142.

(2) MONs for the displaced system (applies only to the displaced system) have been provided to and acknowledged by gaining MACOMs in accordance with the milestone constraints established by AR 700-142 and DA Pam 700-142.

c. *MFP.* Draft MFPs have been prepared if there is potential for the system to have a support impact on the gaining MACOM. Make sure initial coordination with gaining MACOMs was completed at least 4 months (for developmental items) or 3 months (for NDI) prior to the projected production contract award date in accordance with AR 700-142 and DA Pam 700-142. *Note:* Substitute modification work order (MWO) fielding plans in lieu of MFPs for user testing-test nonsignificant product improvement programs.

d. *MTP.* (Applies only to the displaced system.)

(1) If the system being displaced could have a support impact on the gaining MACOM, has been selected for inclusion in the AMIM, and is being fielded to a command for the first time, draft MTPs have been prepared and initial coordination has been completed according to the milestones established by AR 700-142 and DA Pam 700-142.

(2) For other displaced systems, plans or milestones have been established for the gaining MACOM and losing MACOM to formulate a memorandum of agreement prior to system transfer according to AR 700-142 and DA Pam 700-142.

e. *Master support list/materiel requirements list (MSL/MRL).*

(1) There are plans to provide the MSL/MRL to each MACOM receiving the new system at least 9 1/3 months prior to anticipated deployment date. (See AR 700-120.)

(2) There are plans to provide the MSL/MRL (applies only to the displaced system) according to Army materiel fielding policy to each gaining command (displaced system) at least 9 1/3 months prior to anticipated redeployment or transfer dates.

f. *SLAC deck.* (Only apply this issue if the MSL/MRL is not applicable.) There are plans to provide the SLAC deck, according to AR 700-120, to—

(1) Each MACOM receiving the new system at least 7 months prior to anticipated deployment dates.

(2) Each gaining command receiving the displaced system (applies only to the displaced system) at least 7 months prior to anticipated redeployment or transfer dates.

g. *Materiel release.* There are plans for the MATDEV to conduct a comprehensive review of system supportability as required by AR 700-127 and AR 700-142 prior to shipment to gaining MACOMs.

#### 4-57. Gaining commands—MSP

Ensure that—

a. Proposed MSPs were prepared by the gaining MACOMs and provided to the MATDEV 4 months prior to the projected production contract award date and 22 months prior to MACOM FUED by those gaining MACOMs scheduled to receive the new system under the contract. (See AR 700-142 for MSP format.)

b. There are plans for remaining gaining MACOMs to prepare proposed MSPs at least 4 months prior to the projected contract award date and 22 months prior to anticipated deployment dates.

c. There are plans for gaining MACOMs receiving the new system to provide, if requested by the MATDEV, a final MSP at least 11 1/3 months prior to anticipated deployment dates.

d. Proposed MSPs have been prepared (applies only to the displaced system) by and provided to the fielding command (wholesale manager) by those MACOMs scheduled to receive the displaced system within the next 22 months.

e. There are plans for remaining gaining MACOMs (displaced system only) to prepare proposed MSPs at least 22 months prior to anticipated redeployment or transfer dates.

f. There are plans for those MACOMs scheduled to receive the displaced system to provide, if requested by the MATDEV, a final MSP at least 8 months prior to anticipated transfer date.

## **Section XVII Environmental Planning**

### **4-58. Safety**

a. Ensure that the MATDEV has prepared a SSRA as documentation for accepting risk associated with residual hazards, if any. (See AR 385-16 for format.)

b. For those items which have been identified or certified as hazardous according to the criteria prescribed in FED-STD 313, the data required by the AMDF Hazardous Materials Data Segment have been developed and submitted to the AMC Catalog Data Activity (CDA). (See AR 708-1 for data elements.)

### **4-59. Operation and support**

a. Ensure that all health hazards to system operation and support personnel (for example, noise, vibrations, toxicants, and radioactive and laser emissions) have been evaluated by TSG and corrective action taken on those findings.

b. Ensure that hazard analyses and DT II and IOT&E results indicate that safety requirements for system operators and supporters have been met and all Category III (critical) and IV (catastrophic) hazards have been eliminated or controlled to an acceptable degree.

### **4-60. Hazardous materials**

a. Ensure that material used in the system has been checked against the list of hazardous material published in the Resource Conservation and Recovery Act, Volume 40, CFR 260 Series. Make sure that any material used which is on this list has been studied to find substitutes for them and justification has been provided for continued use of these materials (AR 200-1 and AR 200-2).

b. For each new ammunition and explosives item, ensure that sufficient data, per TB 700-2, has been generated for explosive hazard classification.

c. For each new ammunition and explosives item, ensure that the Director, AMC Field Safety Activity has approved a final hazard classification.

### **4-61. Environmental Documentation and Materiel Fielding**

a. Ensure that the appropriate environmental considerations have been documented in Annex D (Risk Assessment) and Annex E (Environmental Analysis) of the Integrated Program Summary, according to DOD 5000.2-M.

b. Ensure that potential or actual environmental impacts resulting from system operation and maintenance have been assessed and recorded in appropriate documentation, including an EA or EIS if applicable, as required by AR 200-2. If it is decided that an EA or EIS is not applicable, ensure appropriate documentation of the rationale for that decision according to AR 200-2.

c. Ensure that environmental documentation prepared to support system development has been reviewed and updated as necessary as required by AR 200-2. According to 700-142, materiel approved for release must be operational and suitable in terms of—

(1) Safety and health standards and requirements. Specifically, this includes the most recent and comprehensive approved system safety assessment from the technical independent evaluator, the most recent and comprehensive health hazard assessment from the activity assigned under TSG, and EOD procedures.

(2) The environmental requirements of AR 200-1 and AR 200-2.

d. Ensure that the Materiel Fielding Plan describes the environmental effects relative to the end item/weapon system, according to DA Pam 700-142 and AR 200-1.

### **4-62. Packaging, handling, and storage**

a. Ensure that maximum use has been made of packaging material that is cost effective, reusable, recyclable, degradable, or easily disposable. Ensure an environmental impact assessment for each new packaging material has been prepared according to AR 700-15,

AR 725-12 and AR 746-1. Ensure there are plans to conduct an environmental impact assessment for each new packaging materiel as required by AR 746-1 and AR 700-15. Ensure that there are plans and contractual provisions requiring the use of reusable containers when economically and logistically practicable as required by AR 725-12 and AR 746-1.

b. Ensure that there are contractual provisions to require hazardous materials packaging to comply with performance oriented packaging requirements.

c. Ensure that all hazardous materials required for system operation and support have been identified. Make certain that necessary storage and transportation data have been developed as required for the AMDF. (See AR 708-1 for data requirements.)

d. Ensure that outloading and storage drawings and procedures for new ammunition and other hazardous material have been developed and verified according to AR 740-1 and AR 746-1.

### **4-63. Demil, EOD, and disposal**

a. Ensure that demil and EOD procedures consistent with DOD guidance have been included in appropriate TMs and demil codes have been developed for the AMDF. For ammunition items, a copy of the approved demil and disposal plan has been provided to the Single Manager for Conventional Ammunition, Rock Island Arsenal, IL. Procedures have been developed for disposing of the system in an environmentally acceptable manner. (See AR 200-1).

b. Ensure that the EOD TI, which accompanies all movement or shipment within CONUS of all new, improved, and modified U.S. and foreign ordnance for which published EOD procedures are not available, has been updated and approved by ARDEC, AT-TN:SMCAR-FSM-E, Dover, NJ 07801-5001.

### **4-64. Other**

Ensure compliance with all environmental-related guidance in this pamphlet, especially in sections of this chapter addressing safety, ammunition and explosive items, packaging, handling, storage, and demil/disposal.

## **Chapter 5 First Unit Equipped Issues/Criteria**

### **Section I Design Influence**

#### **5-1. Safety and health hazard assessment**

Ensure the following criteria have been met:

a. Programmed actions to eliminate or control previously identified operator safety or health shortcomings (if any) have been accomplished. Be sure the production item has been evaluated for compliance with essential design requirements related to operator safety and health.

b. Programmed actions to eliminate or control previously identified system safety shortcomings (if any) for maintenance personnel have been accomplished. Make sure the production item has been evaluated for compliance with essential design requirements related to safety and health of maintenance personnel.

#### **5-2. Other design parameters**

a. Other ILS-related design parameters, even though addressed as separate ILS assessment elements, should be assessed under this paragraph in order to provide a comprehensive evaluation of ILS program influence on system design.

(1) FUE issues for the following elements should be assessed:

(a) Transportation and transportability.

(b) Standardization and interoperability.

(c) RAM.

(2) System design-related issues affecting other ILS elements such as maintenance planning, manpower and personnel, training

and training devices, supply support, and facilities also need to be assessed.

b. Other issues, not necessarily ILS-related, must be assessed in order to make an informed materiel release decision regarding the acceptability of an item for its intended mission. Achievement of design-related requirements such as the following should be assessed under this paragraph:

- (1) Essential system operational performance characteristics.
- (2) Human factors engineering considerations other than those addressed under paragraphs 5-1 and 5-43. (See AR 602-1, MIL-HDBK-759, and MIL-STD-1472 for program and design considerations.)
- (3) NBC survivability and supportability considerations.

## Section II Maintenance Planning

### 5-3. General

a. Inclusion of assessment issues for each maintenance level is not meant to imply that every acquisition program must utilize all maintenance levels.

b. Ensure that a plan has been prepared (applies to both the new and displaced systems) to ensure a smooth transition from contractor to organic maintenance support if applicable.

### 5-4. Unit/AVUM level

a. Ensure that unit level maintenance plan shortcomings remaining from MDR III have been corrected and verified.

b. Ensure that signed national agreements, plans, or other acceptable documents have been finalized (applies to both the new and displaced systems) to provide reasonably ensured HNS for unit level maintenance if applicable.

### 5-5. DS and GS (AVIM) levels

Ensure that—

a. DS and GS (AVIM) level maintenance plan shortcomings remaining from MDR III have been corrected and verified.

b. Contractor support is available, (applies to both the new and displaced systems) if authorized according to AR 700-127, and AR 750-1, to accomplish those system maintenance tasks assigned to the DS or GS (AVIM) level and for which organic, HNS, or inter-service support is neither applicable nor available.

c. The ISSA, if applicable, for DS and/or GS (AVIM) level maintenance support (applies to both the new and displaced systems) has been executed and approved by HQDA (DALO-SMP) as necessary according to AR 750-1.

d. Signed national agreements, plans, or other acceptable documents (applies to both the new and displaced systems) have been finalized to provide reasonably assured HNS for DS and/or GS (AVIM) level maintenance if applicable.

e. Warranty application procedures, if applicable, affecting DS or GS (AVIM) maintenance units have been included in the MFP, appropriate TBs, or other authorized media. Make sure the procedures have been distributed to the gaining MACOM and coordinating/servicing warranty control office, to the MACOM Logistic Assistance Office (LAO), and to local LAO/logistic assistance representative according to AR 700-139.

f. The organization responsible for performing DS and GS (AVIM) level maintenance for the displaced system (applies only to the displaced system) has been determined by the gaining command.

### 5-6. Depot level

Ensure the following criteria have been met:

a. A pilot overhaul program has been conducted to validate the depot maintenance concept.

b. If the system being developed is a new aircraft, aircraft condition evaluation criteria for selection of depot overhaul candidates have been prepared.

c. The depot maintenance ISSA, if applicable, has been executed

and approved by HQDA (DALO-SMM) as necessary according to AR 750-1.

d. Signed national agreements, plans, or other acceptable documents have been developed according to AR 12-16 to provide reasonably assured HNS for depot (OCONUS) maintenance if applicable.

e. All programmed refurbishment of the displaced system has been completed (applies only to the displaced system). (Also see AR 750-1 for minimum acceptable equipment transfer standards.)

## Section III Manpower and Personnel

### 5-7. Operator/Crew

a. Ensure that impacted MTOEs have been revised as necessary (applies to both the new and displaced systems) and all operator/crew personnel (of the specified MOS, quantity, SSI, and ASI) are available at each using unit.

b. Also make sure that all changes to the military occupational structure (AR 611-series) have been accomplished to implement new or revised operator/crew MOSs, SSIs, and ASIs.

### 5-8. Maintenance

Ensure the criteria below have been met.

a. *Unit, DS, and GS (or AVUM and AVIM) levels.*

(1) Impacted MTOEs have been revised as necessary (applies to both the new and displaced systems). Make sure all unit, DS, and GS level maintenance personnel (of the specified MOS, quantity, SSI, and ASI) are available at the appropriate units to support the system at the desired readiness objective.

(2) All changes to the military occupational structure (AR 611-series) have been accomplished to implement new or revised unit, DS, and GS level maintenance personnel MOSs, SSIs, and ASIs.

b. *Depot level.* All impacted TDAs have been revised as necessary. Be sure all depot maintenance personnel of the quantity and civilian occupational series specified are either available or scheduled to be available consistent with anticipated depot workload or transition to organic capability as appropriate.

### 5-9. Supply

Ensure that all changes to the military occupational structure (AR 611-series) have been accomplished to implement new or revised supply support personnel MOS, SSI, and ASI, if any, in the categories listed below.

a. *Organizational—unit supply.* Ensure impacted MTOEs (applies to both the new and displaced systems) have been revised as necessary and all unit supply personnel (of the specified MOS, quantity, SSI, and ASI) required to support the system at the desired readiness level objective are available at the appropriate units.

b. *DS and GS/theater.*

(1) *POL supply.* Ensure impacted MTOEs have been revised as necessary. Be sure all required DS and GS/theater POL supply personnel (of the specified MOS, SSI, and ASI) are available at the appropriate units to support the system at the desired readiness level.

(2) *Materials handling and storage.* Ensure impacted MTOEs have been revised as necessary. Make certain all required DS and GS/theater materials handling and storage personnel (of the specified MOS, quantity, SSI, and ASI) are available at the appropriate units to support the system at the desired readiness level.

(3) *Ammunition.* Ensure impacted MTOEs/TDAs have been revised as necessary. Be sure all required DS/ASP and GS/theater ammunition support personnel (of the specified MOS, quantity, SSI, and ASI) are available at the appropriate units to support the system at the desired readiness level.

### 5-10. Transportation—vehicle operators

Ensure the following criteria have been met:

a. *General.* All necessary changes to the military occupational structure (AR 611-series) have been accomplished to implement

new or revised ammunition or POL resupply vehicle operator MOSs, SSIs, and ASIs.

*b. Vehicle operators.*

(1) *POL resupply.* Impacted MTOEs have been revised as necessary. Be sure all required POL resupply vehicle operator personnel (of the specified MOS, quantity, SSI, and ASI) are available at the appropriate units to support the system at the desired readiness level.

(2) *Ammunition resupply.* Impacted MTOEs have been revised as necessary. Make certain that all required ammunition resupply vehicle operator personnel (of the specified MOS, quantity, SSI, and ASI) are available at the appropriate units to support the system at the desired readiness level.

## Section IV Supply Support

### 5-11. General

Ensure the following criteria have been met:

*a.* Signed national agreements, plans, or other acceptable documents (applies to both the new and displaced systems) have been finalized to reasonably ensure host nation supply support if applicable.

*b.* The ISSA(s), if applicable, have been executed and approved by HQDA as necessary.

*c.* Contractor supply support is available to provide those system support items for which no organic, HNS, or interservice support capability exists or is required.

*d.* If interim contractor supply support is anticipated, a plan has been prepared to ensure a smooth transition to organic supply support.

### 5-12. Retail

Ensure the following criteria have been met:

*a. General.*

(1) If ICS (organizational, DS or GS level) is proposed, (applies to both the new and displaced systems) a plan has been prepared to ensure a smooth transition to organic support according to AR 700-18.

(2) For mission profile development list and IMPL systems, there are plans for conducting a post provisioning review approximately 1 year after initial deployment according to AR 700-18.

(3) Apply criteria in paragraphs *b* through *e* below to each item of equipment which resulted in an increase or change to previous TOEs (for example, additional common support and test equipment).

*b. Organizational level.*

(1) *Class III (POL).*

(a) *Packaged.* The necessary range and quantity of packaged POL is available at the using unit to support the system.

(b) *Bulk.* The necessary (as specified by gaining MACOMs) basic load of bulk POL is available at the using unit to support the system.

(2) *Class V (ammunition).* The necessary (as specified by gaining MACOMs) basic load of ammunition is available (applies to both the new and displaced systems) at the using unit to support the system.

(3) *Class IX (PLL).* (Applies to both the new and displaced systems).

(a) All system repair parts meeting PLL stockage criteria and identified on the MSL/MRL or SLAC deck as mission essential are available at the designated using unit according to AR 700-120.

(b) For PLL items not currently available, the gaining command has been notified of the shortages and "get well" dates as required by AR 700-120.

*c. DS.*

(1) *Class III (POL).*

(a) *Packaged.* The necessary range and quantity of packaged POL are available at the DS level to support the system.

(b) *Bulk.* The necessary bulk POL is available at the DS level to support the system.

(2) *Class V (ammunition).* The necessary ammunition is available at the ASP to support the system.

(3) *Class VII (ORF).* HQDA-approved ORF has been delivered to the DSU (applies to both the new and displaced systems).

(4) *Class IX ASL.* (Applies to both the new and displaced systems). According to AR 700-120, ensure that—

(a) All system repair parts meeting ASL stockage criteria and identified on the MSL/MRL or SLAC deck as mission essential are available at the designated support unit.

(b) For those ASL items not currently available, the gaining command has been notified of the shortages and "get well" dates.

*d. GS.*

(1) *Class III (packaged POL).* The necessary packaged POL is available at the GS level to support the system.

(2) *Class V (ammunition).* The necessary ammunition is available at the corps storage area to support the system.

(3) *Class IX (repair parts).* (Applies to both the new and displaced systems). According to AR 700-120, ensure that—

(a) All repair parts meeting criteria for stockage at GS level and identified on the MSL/MRL or SLAC deck as mission essential are available at the designated support unit.

(b) For those class IX items authorized for GS stockage but not currently available, the gaining command has been notified of the shortages and "get well" dates.

*e. Theater.*

(1) *War reserves.*

(a) *Class III (bulk POL).* Bulk POL theater war reserve requirements for the system are available or projected to be available by the scheduled IOC date.

(b) *Class V (ammunition).* HQDA-approved ammunition theater war reserves for the system are available or projected to be available by the scheduled IOC date.

(c) *Class VII (end items).* HQDA-approved system (and specified support and test equipment) end item theater war reserves are available or projected to be available by the scheduled IOC date.

(d) *Class IX (repair parts).* Required theater war reserve repair parts (for the system and specified support items) are available or projected to be available by the scheduled IOC date.

(2) *POMCUS.*

(a) *Class VII (end items).* Programmed system (and associated support and test equipment) POMCUS requirements are available at the POMCUS storage location or projected to be available by the scheduled IOC date for CONUS-based POMCUS units.

(b) *Class IX (repair parts).* Programmed POMCUS repair parts are available or projected to be available by the scheduled IOC date for CONUS-based POMCUS units.

### 5-13. Wholesale

Ensure the criteria below have been met.

*a. War reserves.*

(1) *Class III (POL).* Specified system POL war reserve stocks are available at the designated CONUS storage location or anticipated to be available prior to the scheduled IOC date according to AR 11-11.

(2) *Class V (ammunition).* DCSOPS-approved ammunition war reserve stocks for system support are available at the designated CONUS storage locations or anticipated to be available prior to scheduled IOC date.

(3) *Class VII (end items).* System (and associated support and test equipment) war reserve distribution requirements (as approved by DCSOPS) are available at the designated CONUS storage locations or anticipated to be available prior to scheduled IOC date.

(4) *Class IX (repair parts).* For approved class VII war reserve requirements (CONUS storage), necessary repair parts are available at the designated CONUS storage locations or anticipated to be available prior to scheduled IOC date.

*b. Class VII (RCF).* System RCF items (as approved by DCSLOG) are available at the designated maintenance support depot.

c. *Repair parts (nonwar reserve).*

(1) *Depot maintenance.* A depot maintenance parts list has been developed and sufficient parts are available to support planned depot maintenance workload according to AR 710-1.

(2) *Retail replenishment.*

(a) Procurement method codes have been assigned according to AR 700-18, for each repair part subject to retail replenishment.

(b) The required repair parts are available at the designated depot to support projected retail level requirements, according to AR 700-18.

d. *Operational projects.* For HQDA-approved operational projects (with stocks stored in CONUS) requiring the new system, the following stocks are available at the designated CONUS depot(s) to support each project.

(1) POL (packaged).

(2) System (and specified support and test equipment).

(3) Repair parts to support (2) above.

#### **5-14. Packaging, handling, and storage**

Ensure the following criteria have been met:

a. *Packaging.*

(1) The packaging applied provides adequate protection for the system and associated support items received by the gaining command.

(2) For each stocked system support item, packaging data sheets and the packaging data microform file are available at the AMC PSCC according to AR 746-1, and each depot and oversea activity having an operational need for the data.

(3) Sufficient containers of the proper type are available to support projected requirements for storage and shipment of reparable system assemblies.

b. *Handling and storage.* For each support item, appropriate special handling codes, and storage and transportation data have been entered in the AMDF according to AR 708-1. Make sure the updated AMDF has been distributed to each activity having an operational need for the data.

c. *Security.* For new arms, ammunition, explosives, COMSEC devices, and other support items, appropriate physical security and sensitivity and pilferage codes have been entered in the AMDF, according to AR 708-1. Make certain the updated AMDF has been distributed to each activity having an operational need for the data.

### **Section V**

#### **Support Equipment and TMDE**

##### **5-15. General**

The following apply to both the new and displaced systems:

a. If additional quantities or types of common equipment for supply support, maintenance support, system operation or system/support organization mobility are being added to TOEs/TDAs, ensure they are supportable. (Apply appropriate FUE issues for each of the 17 ILS assessment considerations as they apply to supporting this equipment.)

b. If system-peculiar equipment for supply support, maintenance support, system operation, or system/support organization mobility is being added to TOEs/TDAs, ensure it is supportable. (Apply appropriate FUE issues for each of the 17 ILS assessment considerations as they apply to supporting the system-peculiar equipment.)

##### **5-16. Supply**

Ensure the criteria below have been met.

a. *POL resupply vehicles and distribution equipment.*

(1) Enough bulk fuel distribution vehicles are available at the unit and designated support units to provide timely system refueling operations.

(2) There is enough POL distribution equipment (for example, pumps and storage bladders) available at the designated support units to provide timely system fuel supplies.

b. *Ammunition resupply vehicles.* Enough ammunition resupply

vehicles are available at the unit and designated support units to provide timely system ammunition supply support.

c. *Repair parts storage vans/transport vehicles.* Enough repair parts storage vans/transport vehicles, (applies to both the new and displaced systems) in combination with other organic transportation assets, are available at the designated DSU to meet the ASL mobility requirements of AR 710-2.

d. *MHE.* (See fig 1-5 to define classes of supply to be handled at each support level.)

(1) *Unit level.* The required types and quantities of MHE are available to handle unit level supply requirements for the system (applies to both the new and displaced systems).

(2) *DS and GS levels (applies to both the new and displaced systems).*

(a) *DS.* The required types and quantity of MHE are available to handle DS/ASP resupply requirements for the system.

(b) *GS.* The required types and quantity of MHE are available to handle GS/corps storage area supply requirements for the system.

(3) *Theater level.* The required types and quantity of MHE are available to handle theater level supply requirements for the system.

(4) *POD/POE.* The required types and quantities of MHE are available at the planned deployment points of debarkation and embarkation for the system and associated support items, including LOTS operations if appropriate.

(5) *Depot level.* The required type and quantities of MHE are available at the designated depots for system-related supply support operations.

##### **5-17. Maintenance**

Ensure that the criteria below have been met.

a. *Tools.*

(1) *Operator or crew.* The tools required as basic issue items to perform system operator/crew maintenance (applies to both the new and displaced systems) are available with each system deployed.

(2) *Unit, DS, and GS (or AVUM and AVIM) levels.* The tools (to include maintenance platforms) and tool sets required to perform the system maintenance tasks, (applies to both the new and displaced systems) authorized at unit, DS, or GS levels are available at those units.

(3) *Depot level.* The tools (to include maintenance platforms) and tool sets required to perform the system maintenance tasks authorized at depot level have been identified and their projected availability at the designated depot(s) is consistent with the desired initiation of organic depot maintenance capability/workload.

b. *TMDE.* (If ATE is required for system support, the issues identified in para 5-26 for the associated TPS must be addressed.)

(1) *Unit, DS, and GS levels.*

(a) The TMDE (common and peculiar) required to perform system maintenance tasks (applies to both the new and displaced systems) authorized at the unit level are available at those units.

(b) If the required or substitute TMDE for unit, DS, or GS level maintenance support is not available, DCSLOG approval to field the system was obtained according to AR 750-43.

(c) A certificate of supportability has been obtained from USATSA prior to release of unit, DS, and GS level TMDE to gaining MACOMs.

(2) *Depot level.*

(a) The TMDE required to perform system maintenance tasks authorized at depot level has been identified. Be sure the TMDE is either available or projected to be available consistent with anticipated depot workload requirements.

(b) If the required or substitute TMDE for depot level maintenance support is not available, DCSLOG approval to field the system was obtained according to AR 750-43.

c. *Calibration equipment and standards.* The equipment or standards required to calibrate the system and associated support and test equipment is available at the ACL, area TMDE support teams, or designated maintenance organization, as appropriate.

d. *MHE.* Except for subparagraph (3)(c) below, the following applies to both the new and displaced systems.

(1) *Recovery equipment.* The required types and quantities of

equipment (for example, M88, M578, M816, M553) are available at the designated units to provide rapid battlefield recovery of a disabled system or end item.

(2) *Evacuation equipment.* The required types and quantities of equipment (for example, HET, transport stands, or cases) are available at the designated units to provide timely evacuation of the system or system subassemblies to higher maintenance echelons (DS and GS).

(3) *Other.*

(a) The required types and quantities of other MHE (such as cranes, forklifts, slings, hoists, maintenance stands, and EOD equipment) are available at the designated organizations (unit through GS levels) to perform authorized system maintenance tasks and EOD tasks.

(b) The required types and quantities of vehicles are available to provide the required degree of mobility for each maintenance organization (unit through GS level) associated with system support.

(c) The type and quantity of MHE required to perform system maintenance tasks authorized at depot level have been identified. Be sure the MHE is available or projected to be available consistent with anticipated organic depot workload requirements.

e. *Shelters, trailers, vans, and other vehicles.* The required types and quantities of shelters, semitrailers, and vans (applies to both the new and displaced systems) are available at the designated maintenance organizations (unit through GS levels) to support performance of system maintenance tasks.

## 5-18. Ancillary operational equipment

Ensure the criteria below (applies to both the new and displaced systems) have been met.

a. *Power generation.* There is enough power generation equipment (for example, generator sets and batteries) available at the using and support units for system operation and maintenance support (unit through GS levels).

b. *Environmental control.* There is enough environmental control equipment (for example, air conditioners and heaters) available at the using and support units for system operation and maintenance support (unit through GS levels).

c. *Communications.* The required types and quantities of communications equipment (for example, radios) are available for system operation.

d. *Prime mover.* The required types and quantities of system or end item prime movers/trailers are available at the using unit as required for system operation.

e. *Other.* The required types and quantities of other major items of equipment or components required for system operation (for example, winterization kits and installation kits) are available at the using unit.

## Section VI Training and Training Devices

### 5-19. Institutional training

Ensure the following criteria have been met:

a. *Operator training.*

(1) *Training material.* The training material for each system operator course has been developed and the POI approved by TRADOC.

(2) *Instructors.* There are enough instructors available to satisfy current requirements (and programmed to be available to satisfy future system operator institutional training requirements for at least the next 5 years).

(3) *Training equipment.*

(a) *System or end item.* There are enough systems (and major subassemblies), consistent with the STRAP, available (and programmed for subsequent years) to support initial and sustainment system operator institutional training.

(b) *Training ammunition.* There is enough training ammunition,

consistent with the STRAP, available (and programmed for subsequent years) to support initial and sustainment system operator institutional training.

(4) *Training devices.*

(a) All required operator institutional training devices are available and supportable at the intended training sites. (Apply appropriate FUE issues from each of the 17 ILS assessment considerations as they apply to supporting the devices.)

(b) If devices are not available, "workaround" procedures and equipment, acceptable to the user, are available to provide effective operator training prior to device availability.

b. *Supporter training.*

(1) *Training material.* The training material for each affected system support personnel institutional training course has been developed and the POI approved by TRADOC.

(2) *Instructors.* There are enough instructors available to satisfy current requirements (and programmed to be available to satisfy future system support personnel institutional training requirements for at least the next 5 years).

(3) *Training equipment.*

(a) *System or end item.* There are sufficient quantities of systems (and major assemblies), consistent with the STRAP, available (and programmed for subsequent years) to support initial and sustainment institutional training of system support personnel.

(b) *Support and test equipment.*

1. There are adequate types and quantities of support and test equipment (common and peculiar) and related computer resources support available (and programmed for subsequent years) consistent with the STRAP, to support initial and sustainment institutional training of system support personnel. (See fig 1-7 for areas of consideration.)

2. If all required equipment is not available, "workaround" procedures and equipment, acceptable to the user, are available to provide effective training of system support personnel prior to device availability.

(4) *Training devices.*

(a) All required institutional training devices for system support personnel are available and supportable at the intended training sites. (Apply appropriate FUE issues from each of the 17 ILS assessment considerations as they apply to supporting these devices.)

(b) If devices are not available, "workaround" procedures and equipment, acceptable to the user, are available to provide effective training of system support personnel prior to device availability.

### 5-20. Unit training

Except for paragraph a(4)(a), the following applies to both the new and displaced systems.) Ensure that the criteria below have been met.

a. *Individual.*

(1) *ETM.* Each extension/exportable training materiel required to train system operator and support personnel has been distributed to the gaining command.

(2) *Soldiers manuals.* Soldiers manuals have been developed for each MOS and skill level required to operate and maintain the system. Be sure they have been provided to the gaining command.

(3) *Trainer guides.* Trainer guides have been developed for each MOS required to operate and support the system. Make certain they have been provided to the gaining command.

(4) *SQTs.*

(a) An SQT plan has been provided to USATSC for each MOS and skill level required for system operation and support.

(b) The development, validation, and distribution of SQT materiel is on schedule; that is, available within the next 12 months.

(5) *Training devices.*

(a) All required unit training devices for system operator and support personnel are available and supportable at the intended training sites. (Apply appropriate FUE issues from each of the 17 ILS assessment considerations as they apply to supporting these devices.)

(b) If devices are not available, "workaround" procedures and

equipment, acceptable to the user, are available to provide effective system unit training prior to device availability.

*b. Collective.*

(1) *ARTEP.* All required system-related test edition ARTEPs have been provided to the gaining command(s).

(2) *Training ammunition.* There is enough training ammunition, consistent with the STRAP, available (and programmed for subsequent years) to support initial and sustainment system collective training.

(3) *Instructors.* There are enough instructors available to satisfy current requirements (and programmed to be available to satisfy future system-related collective training requirements for at least the next 5 years).

### 5-21. NET

Ensure that the criteria below have been met.

*a. Depot maintenance personnel.* All required NET has been completed for depot personnel responsible for system support.

*b. Using and support unit and other personnel.*

(1) All programmed NET has been completed for Reserve Component, using unit and support unit personnel of the gaining command.

(2) All programmed displaced equipment training (applies only to the displaced system) for using unit and support unit personnel of the gaining command has been completed.

(3) There are sufficient resources (personnel, facilities, and support materiel) programmed to be available to meet NET requirements for remaining gaining commands.

(4) Logistic Assistance Representative training has been completed in support of gaining MACOMs.

### 5-22. Planning documentation—NETP

Ensure that the NETP has been updated with detailed training information for using and support unit personnel of the remaining gaining MACOMs. Be sure the NETP has been coordinated, approved, and distributed according to AR 350-35.

## Section VII Technical Data

### 5-23. Equipment manuals

Ensure the criteria below have been met.

*a. Supply and storage.*

(1) *Bulletins.*

(a) *Storage serviceability standards.* Storage serviceability standards have been published and distributed to all storage activities having an assigned storage mission responsibility for the system or associated support materiel.

(b) *Ammunition surveillance procedures.* Procedures for conducting an ammunition stockpile reliability program (that is, ammunition surveillance procedures, stockpile function test, and laboratory tests) have been developed and published in SB 742-1 and appropriate individual supply bulletin.

(c) *Consumption rates.*

1. *Ammunition.* Ammunition consumption rates for each weapon by type propelling charge and round and applicable geographical region have been developed, reviewed by HQDA (DAMO-RQR), and provided to the Commander, U.S. Army Combined Arms Support Command, ATTN: ATCL-OP, Fort Lee, VA 23801-6000 for use in logistics planning.

2. *POL.* Projected system POL combat consumption rates have been developed, reviewed by USAGMPA, and provided to USACASCOM for use in logistics planning.

(d) *Replacement and float factors.*

1. Replacement factors or life expectancy (peacetime and wartime) for new end items have been included in SB 710-1-1.

2. DCSLOG-approved ORF and RCF factors have been included in SB 710-1-1.

(2) *Supply catalogs—SKOs (applies to both the new and displaced systems).* All supply catalogs listing components of SKOs

required for system operation or support have been distributed to applicable using and support units.

(3) *Other publications (applies to both the new and displaced systems).*

(a) *Loading and rigging procedures.* All necessary loading and rigging procedures have been provided to using and support organizations for transport and/or airdrop of materiel.

(b) *Packaging and preservation procedures.*

1. If previously determined necessary, preservation and retrograde TM 746-series manuals for packaging classes II, V, VII, and IX supplies and equipment have been developed, coordinated with the AMC PSCC, published, and distributed to appropriate support organizations.

2. For each stocked item, cleaning, preserving, and packaging information has been included in the AMDF according to AR 708-1 and distributed to the organizations requiring the data.

(c) *Security procedures (applies to both the new and displaced systems).* The SSCG has been provided to each applicable using and support unit.

b. *Operation and maintenance.*

(1) *Equipment publications.* If fielding is being accomplished with “advanced copy” operator and/or maintenance manuals, the coordination, validation, verification, and other requirements in AR 25-30 have been met.

(2) *Operators manuals.*

(a) All critical and major defects in operators manuals known at MDR III or subsequent IPT and FOT&E have been corrected and verified.

(b) Approved, DA-printed operators manuals have been distributed to all using and support units consistent with the deployment plan, (applies to both the new and displaced systems).

(3) *Unit/AVUM manuals.*

(a) All critical and major defects in unit maintenance manuals known at MDR III or subsequent IPT and FOT&E have been corrected and verified.

(b) (Applies to both the new and displaced systems.) Approved, DA-printed unit maintenance manuals have been distributed to applicable support units consistent with the deployment plan.

(4) *DS and GS (AVIM) levels.*

(a) All critical and major defects in DS and GS maintenance manuals known at MDR III or subsequent IPT and FOT&E have been corrected and verified.

(b) Approved, DA-printed DS and GS level maintenance manuals have been distributed to applicable support units consistent with the deployment plan (applies to both the new and displaced systems).

(5) *RPSTL.*

(a) All critical and major RPSTL defects known at MDR III or subsequent IPT and FOT&E have been corrected and verified.

(b) Approved, DA-printed RPSTLs have been distributed to applicable using and support units consistent with the deployment plan (applies to both the new and displaced systems).

(6) *MAC (applies to both the new and displaced systems.)*

(a) The MAC has been revised, if considered necessary at MDR III or to reflect any subsequent revisions to the maintenance plan.

(b) The MAC has been included in the appropriate TM and delivered to using and support units.

(7) *Calibration procedures.* All required calibration procedures have been published (including listing in TB 43-180) and distributed to the units assigned calibration support responsibility.

(8) *DMWR.* If depot tasks are specified, the development and validation of DMWRs are on schedule with anticipated depot workload.

(9) *FTs (applies to both the new and displaced systems).* Final FTs and TCs have been published and distributed to each using unit.

(10) *Demilitarization procedures and EOD procedures.*

(a) The TMs containing the demilitarization procedures have been provided to appropriate using and support units.

(b) The EOD tools, equipment, and procedures for all new, improved, and modified U.S. and procured foreign ordnance have been

provided to Army EOD field units 30 days before the deployment date or stockpile date.

(11) *LOs*. Required LOs have been published and provided to using and support units.

(12) *Other*. Other equipment publications required for system operation or maintenance have been provided to using and support units.

#### **5-24. Authorization documents**

The following applies to both the new and displaced systems:

*a. Using unit(s)*. Ensure that MTOE/TDA/CTA authorization documents have been published for affected using unit(s) to include all equipment and personnel required for system operation and support.

*b. Support unit(s)*. Ensure that MTOE/TDA/CTA authorization documents have been published for affected combat service support units to include all equipment and personnel required for system support.

### **Section VIII Computer Resources Support**

#### **5-25. System or end item operation**

For load modules (tape and program), ensure that all required operational computer programs are available at the using unit(s). Make certain that correction of all previously identified deficiencies has been verified.

#### **5-26. System or end item maintenance**

Ensure that the criteria below have been met (applies to both the new and displaced systems).

*a. ATE interconnecting devices.*

(1) All ATE interface devices associated with maintenance support computer programs have been verified and made available at the support units. If not, be sure there are acceptable "workaround" procedures in place (for example, increased provisioning levels) to provide support to using units prior to availability of these items.

(2) The resources required to support the new ATE interface devices are available at the appropriate support units. Apply appropriate FUE issues from each of the 17 ILS assessment considerations.

*b. Load modules (tape and program)*. All maintenance support computer programs have been verified and made available at the support units. If not, be sure there are acceptable *workaround* procedures in place (for example, increased provisioning levels) to provide support to using units prior to availability of these items.

*c. User instructions*. All user instructions (for interfacing with ATE) have been verified and made available at the support units. If not, be sure there are acceptable "workaround" procedures in place (such as increased provisioning levels) to provide support to using units prior to availability of these instructions.

#### **5-27. PDSS**

Ensure that a statement of software supportability has been provided by the designated LCSEC for each system that employs materiel system computer resources, according to AR 70-1 and AR 700-142. Ensure that—

*a. Equipment*. All required support equipment is available at the PDSS site. If not, make sure there are acceptable "workaround" procedures, coordinated with the assigned LCSS Center, in place to provide software maintenance support prior to availability of required equipment.

*b. Personnel*. All required personnel are available at the PDSS site. If not, make sure there are acceptable "workaround" procedures, coordinated with the assigned LCSS Center, in place to provide software maintenance support prior to availability of required personnel.

*c. Software documentation*. All operational and maintenance support computer software documentation has been verified and made

available at the PDSS site. If not, make sure there are acceptable "workaround" procedures, coordinated with the assigned LCSS Center, in place to provide software maintenance support prior to availability of all required documentation.

### **Section IX Transportation and Transportability**

#### **5-28. Transportability**

Ensure that—

*a.* Programmed actions have been implemented and verified to correct the shortcomings (if any) in the following areas:

- (1) Highway, rail, and marine transportability.
- (2) Containerization.
- (3) Airdrop.
- (4) Aircraft (rotary and/or fixed wing) transportability.

*b.* Required freight data have been coordinated with MTMC and provided to CDA according to AR 708-1. Make certain the data have been included in the AMDF freight file and provided to transporters.

#### **5-29. MTMC approval**

In those cases where production phase design changes have impacted system transportability characteristics in an area listed below, ensure that MTMC has granted a second transportability approval for that mode.

- a.* Highway, rail, and marine transportability.
- b.* System containerization.
- c.* System airdrop.
- d.* Aircraft transportability.

### **Section X Facilities**

#### **5-30. Base operations and services support**

Ensure that the criteria below have been met.

*a. System operations center*. There are enough operational facilities available to permit effective system operation.

*b. Aviation*. There are enough aviation operational facilities available to permit effective aircraft operation.

*c. Administrative and headquarters*. There are enough base operations administrative and headquarters facilities available to permit effective system deployment.

*d. Troop barracks and dining*. There are enough troop barracks and dining facilities available to provide essential services to personnel of the MTOE unit and supporting elements.

*e. Military family housing*. There are enough military family housing facilities available to provide essential services to personnel of the MTOE unit and supporting elements.

*f. Morale, welfare, and recreation*. There are enough morale, welfare, and recreation facilities available to provide essential services to personnel of the MTOE unit and supporting elements.

#### **5-31. Logistical**

Ensure that the criteria below have been met.

*a. Maintenance.*

(1) *Unit, DS, and GS levels (applies to both the new and displaced systems)*. Adequate unit, DS, and GS level maintenance facilities (from a space environment, safety, security, or other viewpoint) are available to support the system and associated items at projected usage rates.

(2) *Depot level*. The availability or projected availability of depot maintenance facilities and depot maintenance plant equipment is compatible with desired transition to or initiation of organic depot workloading.

*b. Supply and storage.*

(1) *Organizational.*

(a) *PLL*. There are enough storage facilities of the proper type available for initial issue quantities of the PLL items (applies to both the new and displaced systems.) consistent with the level of packaging applied (levels A, B, or C).

(b) *Arms room.* For new small arms, (applies to both the new and displaced systems) the arms room storage facilities (including arms racks and containers) are adequate to meet the physical security requirements of AR 190–11.

(c) *Basic load.*

1. *Ammunition.* There are enough facilities of the proper type available to store the ammunition basic load consistent with the level of packaging applied (levels A, B, or C).

2. *POL.* There are enough facilities of the proper type available to store the basic load of POL.

(2) *DS.* (Applies to both the new and displaced systems).

(a) *ASP.* There are enough ammunition storage facilities of the proper type available at the ASP consistent with the level of packaging applied (levels A, B, or C).

(b) *ASL.* There are enough storage facilities of the proper type available for initial issue quantities of the ASL items consistent with the level of packaging applied (levels A, B, or C).

(c) *ORF.* There are enough storage facilities of the proper type available for initial issue quantities of the ORF items consistent with the level of packaging applied (levels A, B, or C).

(3) *GS/theater.*

(a) *War reserves.* The available and programmed theater storage facilities are adequate to support the theater war reserve materiel (classes III, V, VII, and IX) procurement plan.

(b) *POMCUS.* The available and programmed theater storage facilities are adequate to support the POMCUS procurement plan.

(c) *Selected nonwar reserves.* There are enough storage facilities of the proper type available for initial issue quantities of the GS supply base materiel (classes III, V, and IX) consistent with the level of packaging applied (levels A, B, or C).

(4) *Depot.*

(a) *War reserves.* The available and programmed depot storage facilities are adequate to support the war reserve materiel procurement plan.

(b) *RCF.* There are enough RCF storage facilities of the proper type available for the approved system RCF quantities consistent with the level of packaging applied (levels A, B, or C).

(c) *Other operational projects.* The available and programmed depot storage facilities are adequate to support the scheduled procurement of equipment to satisfy other HQDA–approved operational project requirements.

## 5–32. Training

Ensure that the criteria below have been met.

a. *Ranges.* There are adequate ranges available to support programmed institutional and unit training requirements.

b. *Buildings.*

(1) *Classrooms.* Sufficient training classrooms are available to support programmed institutional and unit training of system operator and support personnel.

(2) *Training equipment and devices.* The buildings that house the system–related training equipment and training devices for institutional and unit training are available and adequate from a space, utilities, environmental control, and other requirement viewpoint.

## Section XI

### Standardization and Interoperability

#### 5–33. General

Ensure that suitable action has been taken to accommodate the shortcomings. (For example, review or revise operational plans, as necessary.)

#### 5–34. Command, Control, and Communication (CCC)

Ensure that programmed actions to correct CCC equipment standardization and/or interoperability shortcomings (if any) have been implemented and verified.

#### 5–35. Battlefield surveillance and target designation and acquisition systems

Ensure that programmed actions to correct battlefield surveillance and target designation and acquisition systems and IFF equipment standardization and/or interoperability shortcomings (if any) have been implemented and verified.

#### 5–36. Ammunition

Ensure that programmed actions to correct weapon system ammunition standardization and/or interoperability shortcomings (if any) have been implemented and verified.

#### 5–37. POL

a. Ensure that programmed actions to correct weapon system POL standardization and/or interoperability shortcomings (if any) have been implemented and verified.

b. If a new fuel is approved for use, be sure a cost and operationally effective distribution system (manufacturer to user) has been established for the nonstandard fuel.

#### 5–38. Components and repair parts

Ensure that programmed actions to correct weapon system component and repair parts standardization and/or interchangeability shortcomings (if any) have been implemented and verified.

#### 5–39. Aircraft servicing

Ensure that programmed actions to correct system standardization and/or interoperability shortcomings (if any) related to aircraft cross servicing have been implemented and verified.

## Section XII

### Reliability, Availability, and Maintainability

#### 5–40. General

Ensure that, for ACAT I and II systems as a minimum, field RAM data collection plans are ready for implementation to monitor fielded systems RAM characteristics.

#### 5–41. Reliability

Ensure that the following criteria have been met:

a. *Mission–related.* Corrective action that was programmed for the production phase for all failure modes affecting mission–related reliability has been implemented and verified by appropriate testing.

b. *Logistics–related.* Corrective action that was programmed for the production phase for all failure modes affecting logistics–related reliability has been implemented and verified by appropriate testing.

c. *Durability.* Corrective action that was programmed for the production phase for all failure modes affecting system durability has been implemented and verified by appropriate testing.

#### 5–42. Availability and system readiness objective

Ensure that support resources (such as repair parts and manpower) authorizations or procurement have been adjusted as necessary to reflect system reliability and maintainability characteristics demonstrated during production testing.

#### 5–43. Maintainability

Ensure that the criteria below have been met.

a. *Qualitative.*

(1) *Test points.* Corrective action that was programmed for the production phase for all maintainability shortcomings affecting system testability has been implemented and verified by appropriate testing.

(2) *Modularity.* Corrective action that was programmed for the production phase for all maintainability shortcomings affecting system modular design has been implemented and verified by appropriate testing.

(3) *Accessibility.* Corrective action that was programmed for the production phase for all maintainability shortcomings affecting component or assembly accessibility has been implemented and verified by appropriate testing.

*b. Quantitative.*

(1) *BIT/BITE effectiveness.* Corrective action that was programmed for the production phase for all maintainability shortcomings with BIT/BITE effectiveness has been implemented and verified by appropriate testing.

(2) *On-system maintenance.* Corrective action that was programmed for the production phase for all maintainability (on-system) shortcomings has been implemented and verified by appropriate testing.

(3) *Off-system maintenance.* Corrective action that was programmed for the production phase for all maintainability (off-system) shortcomings has been implemented and verified by appropriate testing.

## **Section XIII Support Management and Analysis**

### **5-44. Support management**

*a. SDC.* If SDC is applicable, ensure that the SDC plan, and field procedures guide have been coordinated with affected MACOMs according to AR 750-1 and AR 750-2. Be sure the DA Executive Agent for SDC has approved the SDC plan and field procedures guide, and that HQDA (DALO-SMP) has approved the SDC plan. Ensure that these documents have been provided to participating units.

*b. CALS.* Ensure CALS standards have been applied during the production phase for those systems determined to result in cost savings and/or quality improvements from changing weapon system paper deliverables to digital delivery or access using the CALS standards.

### **5-45. Support analysis**

Ensure that the criteria below have been met.

*a. Test data.*

(1) *DT TR.* The IPT TR has been provided for review to those organizations specified in AR 73-1 prior to materiel release. (This is applicable after MDR III and prior to materiel release.)

(2) *DT IER.* The IPT IER has been provided for review to those organizations specified in AR 73-1 prior to the materiel release decision. (This is applicable after MDR III and prior to materiel release.)

(3) *OT TR.* If scheduled, the FDTE/FOT&E TR, or emerging test results, has been provided to those organizations specified in AR 73-1 prior to the materiel release decision. (This is applicable after MDR III and prior to materiel release decision.)

(4) *OT IER.* If scheduled, the FDTE/FOT&E IER, or interim evaluation, has been provided to those organizations specified in AR 73-1 prior to the materiel release decision. (This is applicable after MDR III and prior to materiel release decision.)

*b. LSA.* (See MIL-STD-1388-1A guidance and the approved ILSP for applicable tasks.)

(1) *Support resources identification.* Applicable production phase support resource requirements identification LSA tasks have been accomplished.

(2) *Supportability assessment.* Applicable production phase supportability assessment LSA tasks have been accomplished.

## **Section XIV Cost Analysis and Funding**

### **5-46. Logistics-related operation**

Ensure that the following criteria have been met:

*a. Replenishment spares.*

(1) Programmed funds for replenishment spares have been adjusted, as necessary, consistent with the results of IPT (and FOT&E if scheduled).

(2) Funds have been programmed for procurement of replenishment spares for the displaced system (applies only to the displaced system) consistent with historical data and projected usage rates.

*b. POL.* There are enough funds programmed for procurement of

POL required for operation of the system and associated support and test equipment, including training and war reserve requirements.

*c. Training ammunition (applies to both the new and displaced systems).* There are enough funds available for procurement of ammunition and missiles to be consumed during unit training exercises.

*d. PDSS.* There are enough funds available for personnel and other costs associated with maintenance of computer software required for system operation and maintenance.

*e. Depot maintenance.* There are enough funds available for the anticipated labor, materiel, and transportation costs associated with depot level maintenance for the system.

*f. Contract maintenance.* There are enough funds available for the anticipated labor, materiel, and transportation costs associated with interim or life cycle contractor support if an element of the system supply or maintenance concept.

*g. Facilities maintenance and utilities.* There are enough funds available for the cost of maintenance and utilities associated with the new or modified facilities.

### **5-47. Logistics-related support**

*a. Military personnel.* If applicable, ensure that there are enough funds available for pay and allowances for the additional or higher graded crew and support personnel required for operation and support of the system and associated items.

*b. Personnel replacements.* If applicable, ensure there are enough funds programmed for the cost of training replacements for the additional personnel required for operation and support of the system and associated items.

## **Section XV Materiel Fielding Planning**

### **5-48. Developer**

Ensure that the criteria below have been met.

*a. MFP.* If system potentially has a support impact on the gaining MACOM, the MFP has been distributed, including the materiel fielding agreement signed by the MATDEV and gaining command per AR 700-142 and DA PAM 700-142. *Note:* Substitute MWO fielding plans in lieu of MFPs for user testing—test nonsignificant product improvement programs.

*b. MTP.* (Applies only to the displaced system).

(1) If system being displaced could have a support impact on the gaining MACOM, has been included in the AMIM, and is being fielded to a command for the first time, the final MTP has been distributed, including the materiel transfer agreement signed by the supporting, gaining, and losing commands per AR 700-142.

(2) For other displaced systems, the gaining MACOM and losing MACOM have formulated a memorandum of agreement prior to system transfer per AR 700-142.

*c. MSL/MRL.*

(1) The MSL/MRL was provided to the MACOM receiving the new system in accordance with the fielding milestones specified in AR 700-142 and DA Pam 700-142.

(2) The MSL/MRL was provided to the command receiving the displaced system (applies only to the displaced system) according to the fielding milestones specified in AR 700-142 and DA Pam 700-142.

*d. SLAC deck.* (Only apply these issues if the MSL/MRL is not applicable.) A SLAC deck was provided to—

(1) The MACOM receiving the new system in accordance with the fielding milestones specified in AR 700-142.

(2) The command receiving the displaced system in accordance with the fielding milestones specified in AR 700-142.

*e. Materiel release.* A review has been conducted and appropriate materiel release approval obtained according to AR 700-127 and Army materiel fielding policy. Ensure that criteria have been satisfied for a full release. If not, be sure the gaining MACOM has been advised and its approval obtained to field with specified supportability shortcomings, a get well plan has been developed to correct

the shortcomings, and other requirements of AR 700-142 and DA Pam 700-142 have been met.

#### **5-49. Gaining commands—MSP**

*a.* If requested by the MATDEV, ensure that a final MSP was provided by the command receiving the new system in accordance with the fielding milestones as specified by AR 700-142.

*b.* If requested by the MATDEV, (applies only to the displaced system) ensure that a final MSP was provided by the MACOM receiving the displaced system in accordance with the fielding milestones as specified in AR 700-142.

### **Section XVI Environmental Planning**

#### **5-50. Environmental documentation and materiel fielding**

*a. General.* Ensure that all environmental aspects have been considered, documented, and updated according to AR 200-1, AR 200-2, and AR 700-127.

*b. Materiel Release.* Ensure that—

(1) Materiel approved for release is operational and suitable in terms of safety and health standards and requirements, environmental requirements, and EOD requirements, per AR 700-142.

(2) The objectives of materiel release have been met, and the following documentation has been submitted for release approval, per AR 700-142.

*(a)* Safety confirmation and SSRA (AR 385-16) from the activity assigned under TSG. Note that the existence of a safety deficiency in a system does not preclude full release of the system in cases where the Army Acquisition Executive or his designee has accepted the associated risk and identified the safety deficiency to gaining commands and DCSPER MANPRINT office, prior to approval and acceptance. Acceptance of the risk must be documented in the SSRA.

*(b)* Health Hazard Assessment (AR 40-10).

*(c)* A statement that the environmental requirements of AR 200-1 and AR 200-2 have been met.

*(d)* A statement of supportability for EOD procedures, tools, and equipment, from the U.S. Army Materiel Command EOD Staff Officer, which verifies that the final RSPs and disposal procedures will be available to the field EOD units at materiel release.

*(e)* Final hazard classification has been granted.

(3) A review has been conducted and appropriate materiel release approval obtained according to AR 700-127 and Army materiel fielding policy. Ensure that criteria have been satisfied for a full release. If not, be sure the gaining MACOM has been advised and its approval obtained to field with specified supportability shortcomings, a “get well” plan has been developed to correct the shortcomings, and other requirements of AR 700-142 and DA Pam 700-142 have been met.

*c. Materiel fielding plan (MFP).* Ensure that—

(1) According to DA Pam 700-142, the MFP or any alternative that required fielding documentation—

*(a)* Include any specific conditions or limitations of transportability approval.

*(b)* Describe any special or unique packing or packaging information.

*(c)* Describe special instructions for storage, security, off-loading, receiving, deprocessing, and issue of the item/system.

*(d)* Describe end item/weapon system environmental effects per AR 200-1.

*(e)* List any applicable demil and EOD procedures.

(2) Per AR 700-142, all MFPs address the following:

*(a)* Describe support costs, including costs to operate, maintain, and dispose of hazardous materiel/waste associated with the system.

*(b)* List all hazardous materiel/equipment involved in the operation, maintenance, and disposal of the system and support equipment, identifying items by NSN and hazardous characteristic code.

*(c)* Describe procedures for tracking, storing, handling, using, and disposing of that hazardous materiel/equipment.

(3) If the system potentially has a support impact on the gaining MACOM, ensure the MFP has been distributed, including the materiel fielding agreement signed by the MATDEV and gaining command per AR 700-142 and DA Pam 700-142.

#### **5-51. Not Used**

## **Chapter 6 Milestone I/II Decision Review Issues/Criteria for NDI Adaptation or Integration**

### **Section I Design Influence**

#### **6-1. General**

The criteria below apply to the milestone I/II decision (see fig 1-19) involving a proposed NDI adaptation acquisition strategy. This strategy involves off-the-shelf (US commercial, foreign, other Services) items that the market investigation results indicate must be adapted for use in an environment different than that for which designed. The item requires some modification of hardware or operational software (for example, militarization or “ruggedization”) and, therefore, entails one or more forms of testing or verification and an abbreviated development phase. An NDI integration acquisition strategy may also employ combined milestones I and II when integration engineering is determined to be sufficiently low risk.

#### **6-2. Safety and health hazard assessment**

*a. General.* Ensure that—

(1) The System Safety Management Plan and System Safety Program Plan have been prepared to reflect results of completed market investigation actions and plans for EMD phase activities according to AR 385-16, and MIL-STD-882.

(2) If verification testing (DT I/EUT&E) was conducted, Safety Assessment Reports (per AR 385-16) were provided by the MATDEV to the technical and operational test activities and Army Safety Center.

(3) If residual hazards to operator or maintenance personnel could exist, there are plans established for the MATDEV to provide decision review members a System Safety Risk Assessment per AR 385-16 at least 60 days prior to MDR III.

(4) For systems requiring medical advice to evaluate health hazards, plans exist for The Surgeon General (TSG) to provide a health hazard assessment to the technical testing agency at least 60 days prior to the start of testing.

(5) Plans have been established to develop the data required by the AMDF Hazardous Materiel Data Segment (AR 708-1) whenever items are identified that meet the criteria per FED-STD-313 as hazardous materiel.

(6) There are plans for the MATDEV to provide the DT II and IOT&E testers, Army Safety Center, and CBTDEV with a Safety Assessment Report defining hazards to test operator and maintenance personnel at least 60 days prior to the start of testing. Make sure that plans are established to provide the operational tester, prior to IOT&E, with a safety release. (See AR 385-16 for format.)

(7) The requirement document has been coordinated with the U.S. Army Health Services Command to ensure that adequate consideration is given to the prevention of health hazards from system operation or maintenance.

*b. Operation.* Ensure that—

(1) The market investigation report of contractor data and surveys of user experience and, if conducted, DT I and EUT&E results indicate that technical safety risks to operator personnel have been identified and only EMD phase effort is required to eliminate or control these risks.

(2) Essential verifiable safety engineering design requirements (quantitative and qualitative) and significant development effort required to control foreseen safety and health hazards with

NDI candidate systems operation have been identified in the requirement document (for example, ORD, joint service operational requirement(JSOR) or training device requirement (TDR)) and contractual documentation. Make sure they have been reviewed by the safety office supporting the development command and that the requirements are achievable based on the results of the market investigation or other information.

(3) There are contractual provisions for delivering the results of operating hazard analyses (MIL-STD-882) to identify hazardous functions and the effects of personnel error.

(4) The DT II and IOT&E test planning documents have been coordinated with TSG. Make sure the documents include provisions for demonstrating that safety and health characteristics of system design have eliminated or controlled operator personnel and equipment hazards.

(5) Plans have been developed (and approved by the Chief, Safety Office, Headquarters, AMC) to conduct tests (that is, DT II), or establish analogies with previously tested items, according to TB 700-2, in order to generate data sufficient for explosive hazard classification for all new items of ammunition and explosives, as packaged for storage and transportation.

*c. Maintenance.* Ensure that—

(1) If the market investigation report of contractor data and surveys of user experience have been conducted, make sure that DT I and EUT&E results indicate that technical safety and health risks to maintenance personnel have been identified and only EMD phase effort is required to eliminate or control these risks.

(2) Essential verifiable safety engineering design requirements (quantitative and qualitative) and significant development effort required to control foreseen hazards with system maintenance have been identified in the requirement document (for example, MNS, ORD, JSOR, TDR) and contractual documentation. Make sure that they have been reviewed by the safety office supporting the program office.

(3) There are contractual provisions for conducting maintenance hazard analyses (MIL-STD-882) including assignment of safety hazard codes (MIL-STD-1388-1A) to identify hazardous functions and the effects of personnel error.

(4) The DT II and IOT&E test planning documents include provisions for demonstrating that safety and health characteristics of system design have eliminated or controlled maintenance personnel and equipment hazards.

(5) Environmental documentation has been developed to reflect impact from maintaining the system as required by AR 200-2.

### **6-3. Energy efficiency**

Ensure that the following criteria have been met:

*a.* The system requirement document includes an assessment of system energy requirements, direct and indirect, to ensure that the system will be the most efficient consistent with prudent development risk and life cycle costs.

*b.* Firm energy-related goals and thresholds, consistent with support resource limitations, the MNS, and current technology, have been included in the ORD and specification.

*c.* Market investigation results and data from existing similar or relevant systems have been compared to the system energy-related goals and thresholds and indicate that the goals are achievable through NDI adaptation.

*d.* There are provisions in the DT II and IOT&E test plans to evaluate system design for attainment of energy-related goals and thresholds.

### **6-4. Other design parameters**

*a.* Other ILS-related design parameters, even though addressed as separate ILS assessment elements, should be assessed under this paragraph in order to provide a comprehensive evaluation of ILS program influence on system design. Where possible for each of these design parameters, ensure the elements of the OSCR program have been considered.

(1) MDR I/II issues for the following elements should be assessed:

- (a) Transportation and transportability.
- (b) Standardization and interoperability.
- (c) RAM.

(2) System design-related issues affecting other ILS elements such as maintenance planning, manpower and personnel, supply support, training and training devices, facilities, and environmental considerations also need to be assessed. Specifically, consider requirements for the system to be designed to facilitate easy repair in the forward battle area with minimum skill level and special equipment to include standard repair and, when appropriate per AR 750-1, Battlefield Damage Assessment and Repair (BDAR) procedures. Determine whether NDI candidate systems minimize use of strategic/scarcely resources in system operation and maintenance.

*b.* Other issues, not necessarily ILS-related, must be assessed in order to make an informed IPR or ASARC decision regarding the acceptability of an item for its intended mission. The status of establishing, implementing, and verifying achievement of design-related requirements should be assessed under this paragraph. This status is determined by review of market investigation results, system requirements document, contractual and other program management documentation.

(1) Essential system operational performance characteristics.

(2) Human factors engineering considerations (other than those addressed under para 6-2 and para 6-55). (See AR 602-1, MIL-HDBK-759, and MIL-STD-1472 for program and design considerations.)

(3) NBC contamination survivability and supportability considerations.

(4) Requirements for EMD systems to use materiel which, as far as practicable, are the same as those envisioned for the production items.

## **Section II Maintenance Planning**

### **6-5. General**

*a.* Inclusion of assessment issues for each maintenance level is not meant to imply that every acquisition program must utilize all maintenance levels.

*b.* Ensure that the minimum acceptable level of organic support posture for initial deployment has been established.

*c.* Ensure the market investigation has determined the contractor maintenance support capabilities for the NDI candidate systems.

*d.* Ensure that there are plans to coordinate proposed maintenance allocation charts with the TRADOC proponent school and to submit them to HQDA (DALO-SMT) for final approval prior to publication according to AR 700-127 and AR 750-1.

*e.* For each NDI candidate system, ensure a proposed baseline maintenance concept (BMC) unit (or aviation unit maintenance (AVUM) for aircraft through depot level) has been established that—

(1) Is consistent with the following:

(a) The initial system readiness objective (SRO), RAM goals, and operational concept.

(b) Other Army maintenance support objectives and policies (for example, appropriate use of host nation support (HNS), interservice support agreement (ISSA), and contractor maintenance according to AR 570-9, AR 700-127, and AR 750-1).

(2) Reflects consideration of associated support resource requirements and costs.

*f.* Where possible, ensure the maintenance planning related elements of the OSCR program have been considered.

### **6-6. Unit/AVUM level**

Ensure that—

*a.* There are plans (as reflected in the LD/MD plan and TEMP) to perform/evaluate all proposed unit level maintenance tasks during EMD as required by AR 700-127, with guidance from MIL-STD-471.

b. There are plans (as reflected in the ILSP and solicitation documents) to perform level of repair analyses using an Army approved model to optimize/refine the unit level BMC and to verify any contractor unit level maintenance requirements. Requests for waivers to use other than Army approved level of repair analyses models are to be submitted to LOGSA, ATTN: AMXLS-AL.

c. If interim or life cycle unit level contractor support is proposed, there are appropriate plans (as reflected in the ILSP and solicitation documents) for preparation of transition and wartime contingency plans.

d. If HNS or interservice support is an element of the unit level BMC, make sure there are plans/milestones (ILSP) for timely preparation of necessary support agreements.

e. The BMC addresses the Army Battle Damage Assessment and Repair Program.

### 6-7. DS and GS (AVIM) levels

a. DS. Ensure that—

(1) There are plans (e.g., in the LD plan and TEMP) to perform/evaluate all proposed DS level maintenance tasks during EMD.

(2) There are plans (as reflected in the ILSP and solicitation documents) to perform level of repair analyses using an Army approved model, to optimize/refine the DS level BMC and to verify any contractor DS level maintenance requirements. Requests for waivers to use other than Army approved level of repair analyses models are to be submitted to LOGSA, ATTN: AMXLS-AL.

(3) If interim or life cycle DS level contractor support is proposed, there are appropriate plans (as reflected in the ILSP and solicitation documents) for preparation of transition and wartime contingency plans.

(4) If HNS or interservice support is an element of the DS-level BMC, there are plans/milestones (ILSP) for timely preparation of necessary support agreements.

b. GS. Ensure that—

(1) There are plans (as reflected in the ILSP and solicitation documents) to perform level of repair analyses using an Army approved model to optimize/refine the GS level BMC and to verify any contractor GS level maintenance requirements. Requests for waivers to use other than Army approved level of repair analyses models are to be submitted to LOGSA, ATTN: AMXLS-AL.

(2) There are plans for evaluating during DT II and IOT&E those proposed GS-level maintenance tasks that are complex, difficult, or require special support and test equipment or computer resources support.

(3) If interim GS-level contractor support is proposed, there are plans (as reflected in the ILSP and solicitation documents) for preparation of a plan for efficient transition to organic support.

(4) If HNS or interservice support is an element of the GS-level BMC, there are plans/milestones (as reflected in the ILSP) for timely preparation of necessary support agreements.

### 6-8. Depot level

Ensure that—

a. If HNS or interservice support is an element of the depot BMC, there are plans/milestones (ILSP) for timely preparation of necessary support agreements.

b. If interim depot (CONUS or OCONUS) contractor support is proposed, there are plans (ILSP, solicitation documents) for preparation of a plan for efficient transition to organic support.

c. There are plans (as reflected in the ILSP and solicitation documents) to perform level of repair analyses using an Army approved model to optimize/refine the depot BMC and to verify any contractor depot maintenance requirements. Requests for waivers to use other than Army approved level of repair analyses models are to be submitted to LOGSA, ATTN: AMXLS-AL.

d. The depot (OCONUS) BMC includes appropriate use of the NATO maintenance and supply organization consistent with Army support objectives and U.S. laws.

e. There are plans to prepare, early in the EMD phase, a depot maintenance support plan. (See DA Pam 700-55 for format.) Ensure

there are plans to coordinate the plan with DESCOM, proponent development command, the joint depot maintenance analysis group, and, if required by AR 750-1, HQDA (DALO-SMM).

f. If the weapon system or item of equipment is planned for depot level support, that it is submitted by the MATDEV for depot maintenance interservice study consideration to HQ AMC (AMCSM-MMD) within 90 days of EMD phase contract award.

## Section III

### Manpower and Personnel

#### 6-9. General

Ensure that, for the NDI candidate systems, market investigation results, survey of user experience, and, if conducted, DT I/EUT&E have identified the quantity, physical characteristics, psychomotor abilities, and mental aptitude requirements of system operator/crew, maintenance, and supply support personnel. This will include the identification of any differences from comparable military occupational specialties (MOSs), if any.

#### 6-10. Operator/Crew

Ensure that the following actions have been taken:

a. Firm operator/crew manpower goals and thresholds have been established in the Integrated Program Summary (IPS).

b. The operator/crew manpower goals and thresholds have been compared to a contemporary baseline system and significant differences explained considering design, support concept, and employment objective.

c. The results of the market investigation, survey of user experience, and, if conducted, DT I/EUT&E are consistent with established operator/crew manpower goals and thresholds and with the estimates contained in the BOIP, BCE, ICE, and MER. If not, be sure corrective action has been programmed.

d. An analysis has been conducted to determine projected availability of required operator/crew manpower. Make sure plans have been established to resolve projected shortfalls.

e. The tentative operator/crew MOS, specialty skill identifier (SSI), and additional skill identifier (ASI) decisions have been established and approved according to AR 71-2.

f. Plans and contractual provisions have been established to conduct further tradeoff analyses to balance operator/crew manpower and skill requirements, hardware characteristics, and support concepts.

g. Plans exist (for example, in the TEMP and IOT&E OTP) to provide operator/crew personnel representative of the field using units for IOT&E and technical manual verification.

h. There are plans for developing proposed operator/crew military position grades according to AR 310-49 and AR 71-2.

i. There are plans to compute operator/crew wartime manpower requirements consistent with DOD guidance and assumptions.

j. There are plans to update or finalize operator/crew manpower and skill requirements through the LSA process. Be sure this data will be provided to the training developer in a timely manner for preparation of training materials and draft plan TOE for IOT&E. Make certain the data will be available in time for updating QQPRI, BOIP, BCE, and ICE prior to MDR III.

#### 6-11. Maintenance

a. General. Ensure that—

(1) Firm maintenance support manpower goals and thresholds have been established in the IPS. Make certain they have been related to logistics-related reliability and maintainability goals.

(2) The maintenance support manpower goals and thresholds have been compared to a contemporary baseline system. Be sure significant differences are explained, considering design, support concept, and employment objective.

(3) There are plans for developing proposed military and civilian maintenance support grades according to AR 310-49 and AR 71-2.

(4) Where possible, ensure the related elements of the OSCR program have been considered.

b. Unit, DS, and GS (or AVUM and AVIM) levels. Ensure that—

(1) The results of the market investigation, survey of user experience, and, if conducted, DT I/EUT&E are consistent with established (unit through GS level) maintenance manpower goals and thresholds and with the estimates contained in the BOIP, BCE, ICE, and MER. If not, be sure corrective action has been programmed.

(2) An analysis has been conducted to determine projected availability of required unit through GS level maintenance manpower. Make certain that plans have been established to resolve projected shortfalls.

(3) The tentative MOS, SSI, and ASI (or civilian occupational series if appropriate) decisions for unit through GS level maintenance personnel have been established and approved according to AR 71-2.

(4) Plans and contractual provisions have been established to conduct tradeoff analyses to balance unit through GS-level maintenance manpower and skill requirements, hardware characteristics, and support concepts.

(5) Plans exist (for example, in the TEMP and IOT&E OTP) to provide unit through GS-level maintenance personnel representative of the field using and support units for IOT&E and technical manual verification.

(6) There are plans to update or finalize unit through GS-level maintenance manpower and skill requirements through the LSA process. Make sure this data will be provided to the training developer in a timely manner for preparation of training materials and draft plan TOE for IOT&E. Make certain the data will be available in time for updating the QQPRI, BOIP, BCE, and ICE prior to MDR III.

(7) Plans exist (for example, as reflected in the TEMP, and DT II and IOT&E TDPs) for collecting sufficient manpower and skill data during the LD, DT II, and IOT&E to verify attainment of system unit through GS-level maintenance manpower goals and thresholds.

*c. Depot level.* Ensure that the following actions have been taken:

(1) Initial depot maintenance manpower and skill estimates have been determined from market investigation results and have been included in the IPS, BCE, ICE, and MER.

(2) The market investigation results, survey of user experience, and, if conducted, DT I/EUT&E are consistent with established depot level maintenance manpower goals and thresholds, if any. If not, be sure corrective action has been programmed.

(3) An analysis has been conducted to determine projected availability of required depot level maintenance manpower and plans established to resolve projected shortfalls.

(4) Plans and contractual provisions have been established to conduct further tradeoff analyses to balance depot level maintenance manpower and skill requirements, hardware characteristics, and support concepts.

## **6-12. Supply**

Ensure that appropriate action has been taken as shown in the following categories:

*a. General.*

(1) Firm system-related supply support personnel manpower goals and thresholds have been established and compared to a contemporary baseline system.

(2) The results of the market investigation of contractor data and surveys of user experience and, if conducted, DT I/EUT&E, are consistent with established supply support personnel manpower goals and thresholds. If not, be sure corrective action has been programmed.

(3) There are plans to compute wartime supply support personnel requirements consistent with DOD guidance and assumptions.

(4) The proposed use of non-U.S. supply support personnel (TOE Type B organization) is consistent with Army guidance per AR 71-31 and security considerations. Ensure that essential U.S. military command supervision, technical, and supply capabilities are retained.

(5) Plans exist (for example, as reflected in the TEMP, and DT II and IOT&E TDPs) for collecting supply support manpower and skill related data during DT II and IOT&E and conducting sufficient

analyses to verify attainment of system supply support personnel manpower goals and thresholds.

(6) Where possible, ensure the related elements of the OSCR program have been considered.

*b. Organizational—unit supply.*

(1) Initial unit supply (for example, MOS 76Y) personnel manpower and skill estimates have been made based on market investigation results, survey of user experience, and, if conducted, DT I/EUT&E and are reflected in the IPS, BCE, ICE, and MER.

(2) An analysis has been conducted to determine projected availability of required unit supply support personnel manpower. Make sure plans have been established to resolve projected shortfalls.

(3) Plans and contractual provisions have been established to conduct tradeoff analyses to balance unit supply support personnel manpower and skill requirements, hardware characteristics, and support concepts.

*c. DS and GS/theater support.*

(1) *POL supply.*

(a) Initial DS and GS/theater POL supply (for example, MOS 76W) personnel manpower and skill estimates have been made based on market investigation results and are reflected in the IPS, BCE, ICE, and MER.

(b) An analysis has been conducted to determine projected availability of required DS and GS/theater POL supply personnel manpower. Make sure plans have been established to resolve projected shortfalls.

(c) Plans or contractual provisions have been established to conduct tradeoff analyses to balance DS and GS/theater POL supply personnel manpower and skill requirements, hardware characteristics, and support concepts.

(2) *Materials handling and storage.*

(a) Initial DS and GS/theater materials handling and storage personnel (for example, MOS 76V) manpower and skill estimates have been made based on market investigation results and are reflected in the IPS, BCE, ICE, and MER.

(b) An analysis has been conducted to determine projected availability of required DS and GS/theater materials handling and storage personnel manpower and plans established to resolve projected shortfalls.

(c) Plans or contractual provisions have been established to conduct trade-off analyses to balance DS and GS/theater materials handling and storage personnel manpower and skill requirements, hardware characteristics, and support concepts.

(3) *Ammunition.*

(a) Initial DS/ammunition supply point (ASP) and GS/theater ammunition support personnel (for example, MOS 55 series and 76Y) manpower and skill estimates have been made based on market investigation results and are reflected in the IPS, BCE, ICE, and MER.

(b) An analysis has been conducted to determine projected availability of required DS/ASP and GS/theater ammunition support personnel manpower. Be sure plans have been established to resolve projected shortfalls.

(c) Plans or contractual provisions have been established to conduct tradeoff analyses to balance DS/ASP and GS/theater ammunition support personnel manpower and skill requirements, hardware characteristics, and support concepts.

## **6-13. Transportation—vehicle operators**

Ensure that appropriate action has been taken as shown in the following categories:

*a. General.*

(1) Firm ammunition and fuel distribution vehicle operator manpower goals and thresholds have been established and compared to a contemporary baseline system.

(2) The results of the market investigation of contractor data and surveys of user experience and, if conducted, DT I/EUT&E, are consistent with established ammunition and fuel distribution vehicle operator manpower goals and thresholds and with the estimates contained in the BCE and ICE. If not, be sure corrective action has been programmed.

(3) There are plans to compute wartime support vehicle operator manpower requirements consistent with DOD guidance and assumptions.

(4) The proposed use of non-U.S. support vehicle operator personnel (TOE Type B organization) is consistent with Army guidance per AR 71-31 and security considerations. Ensure that essential U.S. military command supervision, technical, and supply support capabilities are retained.

(5) Where possible, ensure the related elements of the OSCR program have been considered.

*b. POL resupply.*

(1) Initial fuel distribution vehicle operator manpower and skill estimates have been based on market investigation results, survey of user experience, and, if conducted, DT I/EUT&E and are reflected in the IPS, BCE, ICE, and MER.

(2) An analysis has been conducted to determine projected availability of required fuel distribution vehicle operator manpower. Plans have been established to resolve projected shortfalls.

(3) Plans or contractual provisions have been established to conduct trade-off analyses to balance fuel distribution vehicle operator personnel manpower and skill requirements, hardware characteristics, and support concepts.

(4) Plans exist (for example, as reflected in the TEMP, DT II TDP, and IOT&E TEP) for collecting enough system performance, manpower, and skill data during DT II and IOT&E and for conducting sufficient analysis to verify requirements for fuel distribution vehicle operators needed for system support.

*c. Ammunition resupply.*

(1) Initial ammunition resupply vehicle operator (for example, MOS 64C) manpower and skill estimates have been made based on market investigation results and are reflected in the IPS, BCE, and MER.

(2) An analysis has been conducted to determine projected availability of required ammunition resupply vehicle operator manpower. Plans have been established to resolve projected shortfalls.

(3) Plans or contractual provisions have been established to conduct tradeoff analyses to balance ammunition resupply vehicle operator manpower and skill requirements, hardware characteristics, and support concepts.

(4) Plans exist (for example, as reflected in the TEMP, DT II TDP, and IOT&E TEP) for collecting enough system performance, manpower, and skill data during DT II and IOT&E and for conducting sufficient analysis to verify requirements for ammunition resupply vehicle operators needed for system support.

#### **6-14. Analysis documentation**

*a. QQPRI.* Ensure that—

(1) A standard or condensed QQPRI, supported by market investigation results, has been approved by DCSPER (or Headquarters, TRADOC for condensed QQPRI) and distributed to MACOMs, USAFISA, and interested activities according to AR 71-2.

(2) That plans (e, g, tasks, responsibilities or milestones) have been established to review the QQPRI as to any required changes and, as necessary, to recoordinate and obtain DCSPER approval of the amended QQPRI prior to MDR III according to AR 71-2.

*b. Manpower Estimate Report (MER).* Ensure that, for Acquisition Category (ACAT) I programs, a MER has been prepared by HQDA ODCSOPS in coordination with ODCSPER, reviewed by ASA (MRA) and submitted to OSD as required by AR 70-1.

### **Section IV Supply Support**

#### **6-15. General**

Ensure that—

*a.* Market investigation results of contractor data and surveys of user experience have determined the availability and adequacy of commercial distribution channels to satisfy Government requirements.

*b.* A baseline supply support concept (for POL, ammunition, and

repair parts) has been established per AR 700-127 and it is consistent with the maintenance concept and is based on documented analysis as the best balance with system characteristics and support resource requirements.

*c.* The baseline supply support concept makes optimum use of the existing or standard supply support system, and deviations are identified and approved through HQDA, ODCSLOG.

*d.* There are specific plans or contractual requirements for conducting analyses and tradeoffs of system design, support resource requirements, and supply support concepts as required by AR 700-127. Additionally, ensure the supply support elements of the OSCR program have been adequately considered.

*e.* Firm goals and thresholds have been established for supply support related parameters (for example, fuel consumption rate, spares costs, and resupply time) and compared to an existing system according to AR 700-127 and AR 70-1. Results of market investigation of contractor data and survey of user experience and, if conducted, DT I/EUT&E indicate the goals are achievable through NDI adaptation.

*f.* Initial estimates of supply support costs, including contractor support costs (if applicable), have been determined with the results of the market investigation and have been included in the life cycle cost (LCC) analyses, BCE, and IPS.

*g.* The baseline supply support concept (for POL, ammunition, and repair parts) adequately considers capabilities of other military Services, contractor support, and HNS. (See AR 700-127, AR 750-1, and AR 570-9 for applicable policy.)

*h.* Provisioning technical documentation (PTD) and supplementary PTD requirements (MIL-STD 1561 and MIL-STD-1388-2B) have been established in coordination with affected Army commands, Defense Logistics Agency (DLA), and other Services per AR 700-18. Be sure they have been incorporated into the RFP.

*i.* If HNS or interservice support is envisioned in the system supply support concept, its use is consistent with Army policy. (See AR 570-9 for policy guidelines.) Make certain that responsibilities and milestones have been established for timely preparation of necessary support agreements.

*j.* If interim or life cycle contractor supply support is envisioned in the system supply support concept, it is feasible and beneficial to the Government based on readiness, economic analysis, and logistic risk or acquisition (production and administrative) lead time considerations according to AR 700-18 and AR 700-127. (See AR 11-18 for guidance on economic analysis.) Be sure provisions have been included in the RFP.

*k.* There are plans and contractual provisions to accomplish, for recommended support items, the necessary screening, selecting, coding, and cataloging actions as identified in AR 700-18 and AR 700-82.

*l.* There are plans and contractual provisions for timely identification of production long lead-time items (for example, parts, ammunition, packaged POL, or end items) required for system support and freezing system design in sufficient time to permit procurement for initial fielding.

*m.* Initial determination has been made of strategic/scarcie materials required for operation and maintenance of the NDI candidate systems and there are plans and contractual provisions to limit use of these materials and to ensure the materials will be available for system support.

*n.* Army Acquisition Objective (AAO) and alternative production and deployment schedules for the system have been determined.

*o.* Initial determination has been made and documented in the ILSP as to whether the system has a mobilization or surge requirement.

*p.* If a mobilization or surge requirement exists, there are specific plans, resources, and contractual provisions to conduct industrial preparedness studies to support production surge and mobilization needs.

*q.* NDI candidate items have been analyzed to identify potential

unique foreign technologies or materials and component dependencies that may constrain production to meet potential surge and mobilization needs.

## 6-16. Retail

Ensure appropriate actions have been taken as shown in the following categories:

### a. General.

(1) There are plans (responsibilities, milestones, and tasks) established to develop and deliver to the operational tester (IOT&E), as part of the doctrine and organization support package, a statement of the system supply (POL, ammunition, and repair parts) concepts for use in test planning according to AR 73-1 and DA Pam 71-3.

(2) There are plans and contractual provisions to identify and deliver to the DT II and IOT&E test sites recommended prescribed load list (PLL) and authorized stockage list (ASL) items for system support as required by AR 700-127.

(3) DT II and/or IOT&E test and evaluation planning (for example, TEMP, TDPs, and IEPs) include provisions for verifying the adequacy of planned supply support concepts, and POL, ammunition, and repair parts resource requirements.

### b. Organizational level.

#### (1) Class III (POL).

(a) *Packaged*. There are plans and contractual provisions to determine recommended unit level stockage requirements for packaged POL needed for system support.

(b) *Bulk*. There are plans to coordinate, per AR 710-2, with the gaining MACOMs to determine requirements for basic loads of bulk POL to support the system.

(2) *Class V (ammunition)*. There are plans to coordinate, per AR 710-2, with the gaining MACOMs to determine ammunition procurement required to meet basic load objectives.

#### (3) Class IX (PLL).

(a) There are plans and contractual provisions to identify, through the LSA process, recommended repair parts to be stocked at the unit level for system support, consistent with the following:

1. Maintenance plan.
2. Sparing to availability using the Selected-Essential Item Stockage for Availability Method (SESAME) model.
3. Initial Mandatory Parts List (IMPL) stockage criteria.
4. Order ship times (OST) and SRO. (See AR 700-18, AR 700-142, and DA Pam 700-142 for guidance on OST.)
5. Limitations on lines of stockage as specified in AR 710-2. If over the maximum number of lines, ensure approval has been granted by HQDA (DALO-SMP).
6. Production configuration of the system.

(b) There are plans and contractual provisions to request and have assigned, in a timely manner, national stock numbers (NSNs) to each recommended new PLL item as required by AR 708-1.

(c) If an IMPL is envisioned for inclusion in the PLL, the necessary data has been provided to HQDA (DALO-SMP) and their approval of the IMPL concept obtained as required by AR 700-18.

### c. DS.

#### (1) Class III (POL).

(a) *Packaged*. There are plans and contractual provisions to determine recommended DS level stockage requirements for packaged POL needed for system support.

(b) *Bulk*. There are plans and contractual provisions to determine recommended DS level stockage requirements for bulk POL needed for system support.

(2) *Class V (ammunition)*. An initial estimate of ammunition requirements for stockage at the ASP has been established. Make sure there are plans or contractual provisions to conduct sufficient analysis to finalize requirements prior to MDR III.

(3) *Class VII operational readiness float (ORF)*. An initial determination of the need for ORF items has been made. (See AR 750-1, AR 710-1, and DA Pam 710-2-2 for criteria and computation procedures.) Be sure there are plans to finalize distribution requirements and obtain HQDA (DALO-SMM) approval prior to MDR III.

#### (4) Class IX ASL.

(a) There are plans and contractual provisions to identify, through the LSA process, recommended repair parts to be stocked on the direct support unit (DSU) ASL for system support, consistent with the following:

1. Production configuration of the system.
2. Maintenance plan.
3. Sparing to Availability using the SESAME model.
4. ASL and, if applicable, IMPL stockage criteria. (See AR 700-18 and AR 710-2.)
5. OST and SROs. (See AR 700-18, AR 700-142, and DA Pam 700-142 for guidance on OST.)
6. Demand satisfaction objectives as specified in AR 710-2.
7. ASL mobility and limitations on lines of stockage as specified in AR 710-2. If over the maximum number of lines, approval has been granted by HQDA (DALO-SMP).
8. Reparable exchange item criteria as specified in AR 710-2.

(b) There are plans and contractual provisions to request and have assigned, in a timely manner, NSNs to each recommended ASL item as required by AR 708-1.

(c) If an IMPL is envisioned for inclusion in the ASL, the necessary data has been provided to HQDA (DALO-SMP) and their approval of the IMPL concept obtained as required by AR 700-18.

### d. GS.

(1) *Class III (packaged POL)*. There are plans and contractual provisions to determine recommended GS level stockage requirements for packaged POL needed for system support.

(2) *Class V (ammunition)*. An initial estimate of ammunition requirements for stockage at the corps storage area has been established. Be sure there are plans or contractual provisions to conduct sufficient analysis to finalize requirements prior to MDR III.

#### (3) Class IX (repair parts).

(a) There are plans and contractual provisions to identify, through the LSA process, recommended repair parts to be stocked by the GS level supply support activity for system support, consistent with the following:

1. Maintenance plan.
2. Production configuration of the system.
3. Sparing to availability using the SESAME model.
4. GS level stockage policy per AR 700-18 and AR 710-2.

(b) There are plans and contractual provisions to request and have assigned, in a timely manner, NSNs to each recommended new system support item for GS level stockage as required by AR 708-1.

### e. Theater.

#### (1) War reserves.

(a) *Class III (bulk POL)*. An initial determination has been made as to the need for theater level stockage of bulk POL war reserves for the system. Make sure there are plans to establish procurement requirements according to the policies of AR 11-11, AR 710-1, and AR 710-2.

#### (b) Class V (ammunition).

1. An initial determination has been made as to the need for theater level stockage of ammunition war reserves for the system. There are plans to establish procurement requirements according to the policies of AR 11-11, AR 710-1, and AR 710-2.

2. There are plans to develop (through U.S. Army Concepts Analysis Agency (USACAA) studies) ammunition-theater combat rates for each weapon system.

(c) *Class VII (end items)*. An initial determination has been made as to the need for theater level stockage of the system and specified associated support items for war reserves. Make certain there are plans to establish procurement requirements according to the policies of AR 11-11, AR 710-1, and AR 710-2.

(d) *Class IX (repair parts)*. An initial determination has been made as to the need for theater level stockage of war reserves repair parts for the system and associated class VII items. Make sure there are plans to establish procurement requirements according to the policies of DOD 4140.42-I, AR 11-11, AR 710-1, and AR 710-2.

#### (2) Prepositioning of materiel configured to unit sets (POMCUS).

(a) *Class VII (end items)*. An initial determination has been made as to the need for POMCUS stockage of the system or specified

associated class VII items. Make certain there are plans to establish procurement requirements according to the policies of AR 11-11, AR 710-1, and AR 710-2.

(b) *Class IX (repair parts)*. An initial determination has been made as to the need for POMCUS stockage of repair parts for the system and associated class VII items. Be sure there are plans to establish procurement requirements according to the policies of AR 11-11, AR 710-1, and AR 710-2.

### 6-17. Wholesale

a. *War reserves*. Ensure war reserve requirements have been determined for the following classes and there are plans to establish requirements according to policies in AR 11-11 and AR 710-1:

(1) *Class III (POL)*. An initial determination has been made as to the need for wholesale level stockage of POL war reserves for the system.

(2) *Class V (ammunition)*. An initial determination has been made as to the need for wholesale level stockage of ammunition war reserves for the system.

(3) *Class VII (end items)*. An initial determination has been made as to the need for wholesale level stockage of the system and associated end items (class VII) war reserves.

(4) *Class IX (repair parts)*. An initial determination has been made as to the need for wholesale level stockage of war reserve repair parts for the system and associated items.

b. *Class VII (repair cycle float (RCF))*. Ensure that an initial determination of the need for RCF has been made for the system according to the criteria in AR 750-1 and AR 710-1. Make certain there are plans to establish distribution requirements and obtain HQDA (DALO-SMM) approval prior to MDR III.

c. *Repair parts (nonwar reserve)*.

(1) *Depot maintenance*. Ensure that there are plans and contractual provisions to determine initial allowance quantities for depot level spares for depot maintenance actions anticipated during the demand development period according to AR 700-18 and AR 710-1.

(2) *Retail replenishment*. Ensure that there are sufficient plans (in addition to any required contractual provisions) to determine initial provisioning repair parts stockage requirements in the wholesale system according to AR 700-18 and AR 710-1.

d. *Other operational projects*. Ensure that an initial determination has been made of the need for wholesale level stockage of the system and specified associated support items for other DA-approved operational projects. Be sure there are plans to establish procurement requirements according to the policies of AR 11-11 and AR 710-1.

### 6-18. Planning documentation—provisioning plan (PP)

Ensure that—

a. The PP has been prepared and coordinated with affected organizations to include tasks, responsibilities, and milestones for identifying, procuring, and delivering system support materiel for each gaining command.

b. Sufficient provisioning guidance meetings and conferences are scheduled (to include DLA, affected MSCs, other Services, and so forth) to manage the provisioning effort.

c. A provisioning milestone schedule and a provisioning performance schedule have been prepared according to MIL-STD-1561 and AR 700-18.

d. The use of phased provisioning has been considered if the criteria of AR 700-18 are met. Make sure a copy of the phased provisioning availability schedule has been included in the PP. (See MIL-STD-1517 for preparation instructions for the phased provisioning availability schedule.)

e. A provisioning funding memorandum of agreement has been initiated.

## Section V Packaging, Handling, and Storage

### 6-19. Packaging

a. *Preservation and packing*. Ensure that there are—

(1) Plans and contractual provisions requiring, for each item subject to supply support, determination of preservation requirements according to item characteristics, MIL-P-116, and AR 746-1.

(2) Plans to assign levels of preservation and packaging protection (that is, level A, B, or C) for each item subject to supply support according to AR 700-15, AR 746-1, and MIL-STD-1190, or to obtain AMC Packaging, Storage, and Containerization Center (PSCC) approval for exceptions.

(3) Plans and contractual constraints to maximize use of packaging material that is reusable, recyclable, degradable, or easily disposable and there are plans to conduct an environmental impact assessment for each new packaging material as required by AR 746-1 and AR 700-15.

(4) Contractual provisions for packaging and preservation requirements that will limit the number of types, grades, styles, methods, materials, and designs to simplify procurement and stockage requirements as required by AR 746-1.

(5) Contractual provisions for preparing packaging data prescriptions for each stocked item, according to AR 746-1, MIL-T-60530, and MIL-STD-2073 or other appropriate standards.

(6) Contractual provisions for developing preservation, packing, and marking requirements according to MIL-D-46845 and AR 746-1 for new missiles and rockets.

(7) Contractual provisions requiring hazardous materials packaging to comply with performance oriented packaging (POP) requirements.

(8) DT II test planning, per AR 746-1 and AR 700-15, provisions for testing the pack according to—

(a) MIL-P-116, Federal Standard (FED-STD) 101, test method 5017, or comparable tests (for level A requirements).

(b) MIL-P-116 (for level B requirements).

(c) MIL-STD-1190 (for level C requirements).

*Note* : Contractor test data acceptable to the DT test activity may exist to satisfy this requirement.

(9) Plans and contractual provisions requiring cleaning, packaging, and preservation data as identified in AR 708-1 be developed for each stocked item, as required for the AMDF.

(10) Contractual provisions to require new packaged petroleum products, if any, be packaged, packed, and marked according to MIL-STD-290.

b. *Unitization*. Ensure there are plans and contractual provisions for—

(1) The use of a reusable container when economically and logistically practicable as required by AR 710-2 and AR 746-1.

(2) Each reusable container for system support meet the design, preservation, and identification requirements of AR 746-1.

(3) The use and design of palletized unit loads consistent with the application criteria (such as, weight and volume limits and meeting MIL-STD-147 requirements) of AR 746-1. (See DA Pam 746-1 for information on pallet selection for shipment and storage (for example, 4-way, 40-inch by 48-inch pallet is standard Army pallet for shipment and storage.)

(4) Requirements for proposed use or design of reusable shipping and storage containers conform to Army guidelines in AR 746-1. This includes submission of design and function data in accordance with MIL-STD-1510 to the U.S. Air Force Armament Development and Test Center, Armament Division, Container Design Retrieval System, Eglin, AFB, FL, 32542 for review prior to initiating development of a specialized reusable container.

### 6-20. Handling and Storage

Ensure that there are plans and contractual provisions to—

a. *Special handling*. Assign, for each stocked item, appropriate special handling codes as required for the AMDF. (See AR 708-1 for codes.)

b. *Shelf life*. Assign, for each stocked item, appropriate shelf life

codes as required for the AMDF. (See AR 700–89 and AR 708–1 for codes.)

### 6–21. Security

*a. AMDF requirements.* Ensure there are plans and contractual provisions to conduct sufficient analysis to assign, for each stocked item, appropriate physical security, sensitivity, and pilferage codes according to AR 708–1 and AR 740–26 for inclusion in the AMDF.

*b. Physical security.* Make sure system physical security requirements and contractual provisions have been established to ensure—

- (1) Inherent security to the maximum extent possible.
- (2) Interoperability or application of available physical security equipment or systems.
- (3) Replacement or reduction of requirements for security personnel.

## Section VI Support Equipment and TMDE

### 6–22. General

Ensure that market investigation of contractor data and survey of user experience and, if conducted, DT I/EUT&E results identified, for each NDI candidate system, the support equipment and TMDE that the manufacturer and equipment users possess or recommend for performing the following:

- a.* Functions associated with system supply support.
- b.* System maintenance, such as tools, TMDE, materials handling equipment (MHE), calibration equipment, recovery equipment, evacuation equipment, shelters, trailers, vans, and vehicles.

### 6–23. Supply

- a. General.* Ensure that—
  - (1) There are contractual provisions requiring that the equipment to support system supply operations be evaluated to maximize use of equipment already available in the Army inventory.
  - (2) There are plans and contractual provisions to—
    - (a)* Conduct sufficient workload and other analysis to refine initial estimates of support equipment requirements range and quantity for system supply support.
    - (b)* Deliver the equipment for evaluation at LD, DT II, and IOT&E if required by AR 700–127, or to address support issues not resolvable by engineering or support analysis.
    - (c)* Establish, for each approved item of system peculiar supply support equipment, a support capability for these items. (Apply appropriate MDR I/II issues for each of the 17 ILS assessment considerations as they relate to supporting the support equipment.)
  - (3) For projected equipment shortfalls to support system supply requirements, there are provisions to determine the impact of the shortfall on readiness, cost, manpower, and other support considerations.

*b. Fuel resupply vehicles and distribution equipment.* Ensure that—

- (1) An initial estimate has been made of the type and quantity of fuel resupply vehicles required for system support.
- (2) If the estimated fuel resupply vehicle requirements exceed current TOE authorizations, adequate progress has been made toward resolving the shortfall using the BOIP, data interchange, or other appropriate processes. (See AR 71–2 for the BOIP process.)
- (3) An initial estimate has been made of the type and quantity of fuel distribution equipment, such as pumps and storage bladders, required for system support.
- (4) If the estimated fuel distribution equipment requirements exceed current TOE/TDA authorizations, adequate progress has been made toward resolving the shortfall using the BOIP, data interchange, or other appropriate processes. (See AR 71–2 for the BOIP process.)

*c. Ammunition resupply vehicles.* Ensure that—

- (1) An initial estimate has been made of the type and quantity of ammunition resupply vehicles required for system support.
- (2) If the estimated ammunition resupply vehicle requirements

exceed current TOE authorizations, adequate progress has been made toward resolving the shortfall using the BOIP, data interchange, or other appropriate processes.

*d. Repair parts storage vans or transport vehicles.*

(1) An initial estimate has been made of the type and quantity of repair parts storage vans or transport vehicles required for system support and support unit mobility.

(2) If the estimated parts storage van or transport vehicle requirements exceed current TOE authorizations, adequate progress has been made toward resolving the shortfall using the BOIP, data interchange, or other appropriate processes.

*e. MHE.*

(1) Ensure that there are adequate plans (as reflected in the TEMP, ILSP, LD Plan, DT II and IOT&E TDPs, and RFP) for conducting tests and/or engineering analyses to verify the adequacy of the proposed unit through theater level MHE in providing system supply support.

(2) For unit, DS, GS (or AVUM and AVIM), and theater levels, ensure that—

*(a)* Based on results of the market investigation and survey of user experience and, if conducted, DT I/EUT&E an initial estimate has been made of the type and quantity of unit, DS, GS, and theater level MHE required for system supply support.

*(b)* If these requirements exceed those for the displaced system, adequate progress has been made toward resolving the shortfall using the BOIP, data interchange, or other appropriate processes.

(3) For POD and POE, ensure that—

*(a)* An initial estimate has been made of the type and quantity of MHE required at POD and POE (including logistics over the shore operations (LOTS) if appropriate) for system support.

*(b)* If these requirements are in excess of current capabilities, adequate progress has been made toward resolving the shortfall using the BOIP, data interchange, or other appropriate processes.

(4) For depot level, ensure that—

*(a)* There are plans and contractual provisions to conduct sufficient analysis to determine MHE requirements (type and quantity) to provide system depot level supply support.

*(b)* The planned analysis includes identifying shortfalls, if any, in current TDA authorizations.

### 6–24. Maintenance

*a. General.* Ensure that—

(1) There are contractual provisions requiring that the tools, TMDE, MHE, calibration equipment, and shelters/trailers/vans/vehicles for system maintenance operations (operator/crew through depot level) be evaluated to maximize the use of items available in the Army inventory.

(2) For each proposed item of system peculiar TMDE or calibration equipment, approval to initiate development or procurement has been obtained from the appropriate Army activity (USATA). In the case of medical TMDE, approval must also be obtained from the Office of The Surgeon General, Health Care Logistics (DASG–HCL).

(3) There are plans and contractual provisions to—

*(a)* Refine estimates of support and test equipment requirements range and quantity for system maintenance (unit through depot level) through the LSA process to include workload analysis. Additionally, where possible, ensure the related elements of the OSCR program have been considered.

*(b)* Deliver the equipment for evaluation and use at LD, NET, DT II, IOT&E, and other applicable tests, if required by AR 700–127, or to address support issues not resolvable by engineering or support analysis.

(4) For projected equipment shortfalls to support system maintenance requirements, there are provisions to determine the impact of the shortfall on readiness, cost, manpower, and other support considerations.

(5) For each proposed item of system peculiar support and test equipment for maintenance support, there are adequate provisions

for establishing a support capability for these items. (Apply appropriate MDR I/II issues for each of the ILS assessment considerations as they relate to supporting the support equipment.)

*b. Tools.*

(1) *Operator and crew.* Ensure that there are adequate plans (as reflected in the TEMP, LD Plan, DT II and IOT&E TDPs, and RFP) for conducting tests and engineering analyses to verify the adequacy of the proposed tools for operator and operator/crew maintenance. Make sure consideration has been given to developing tools and procedures for dealing with stuck rounds for the weapon being adapted.

(2) *Unit, DS, and GS (or AVUM and AVIM) levels.* Ensure that—

(a) Based on results of the market investigation of contractor data and survey of user experience and, if conducted, DT I/EUT&E, an initial estimate has been made of the type and quantity of tools (including maintenance platforms) required at unit, DS, and GS levels for system support. If the requirements are in excess of current TOE, TDA, or technical manual (TM) authorizations, there are plans for resolving the shortfall.

(b) There are adequate plans (as reflected in the TEMP, LD Plan, DT II and IOT&E TDPs, and RFP) for conducting tests and engineering analyses to verify the adequacy of the proposed tools for unit level maintenance.

(3) *Depot.* Ensure that there are plans and contractual provisions to conduct sufficient analysis to determine tool requirements for system depot maintenance support.

*c. TMDE.*

(1) If development or procurement of system peculiar TMDE is proposed, ensure that USATA approval has been obtained (or the Executive Director for TMDE, HQ AMC, and, as necessary, ODCSLOG (DALO-SMT) approval if USATA nonconcurs) according to AR 750-43.

(2) For approved system peculiar TMDE, ensure that adequate plans and contractual provisions exist to establish a support capability for these items. (Apply MDR I/II issues for each of the 17 ILS assessment considerations as they apply to supporting the system peculiar TMDE.)

(3) For unit level, ensure that—

(a) An initial estimate has been made of the type and quantity of unit level TMDE required for system support of the NDI candidate systems. If the requirement is in excess of current TOE/TDA authorizations, ensure that adequate progress has been made toward resolving the shortfall using the BOIP, data interchange, or other appropriate processes. For example, include requirement in the system BOIP feeder data. (See AR 71-2 for the BOIP process.)

(b) If potential exists for use of the system or major subassemblies (that is, a hot mockup) in lieu of developing or procuring unit level TMDE, plans exist to obtain HQDA (DALO-SMT) approval of this concept as required by AR 750-43.

(c) For proposed new unit level TMDE, a baseline support concept has been established according to AR 750-43 requirements.

(d) There are adequate plans (as reflected in the TEMP, ILSP, LD Plan, DT II TDP and IEP, IOT&E TEP, and RFP) for conducting tests and engineering analyses to verify the adequacy of proposed TMDE for unit level maintenance as required by AR 700-127.

(4) For DS and GS levels, if automatic test equipment is required for system support, the issues identified in paragraph 6-37 for the associated test program sets (TPS) must be addressed. Ensure that—

(a) If potential exists for use of the system or major subassemblies (that is, a hot mockup) in lieu of developing or procuring DS and GS level TMDE, plans exist to obtain HQDA (DALO-SMT) approval of this concept as required by AR 750-43.

(b) For proposed new DS and GS level TMDE, a baseline support concept has been established according to AR 750-43 requirements.

(c) An initial estimate has been made of the type and quantity of DS and GS level TMDE required for system support of the NDI candidate systems. If requirement is in excess of current TOE/TDA authorizations, be sure adequate progress has been made toward

resolving the shortfall using the BOIP, data interchange, or other appropriate processes. For example, include requirement in the system BOIP feeder data.

(d) There are adequate plans (as reflected in the TEMP, ILSP, LD plan, DT II TDP and IEP, IOT&E TEP, and RFP) for conducting tests and engineering analyses to verify the adequacy of proposed TMDE for DS and GS level maintenance as required by AR 700-127.

(5) For depot level, ensure there are plans and contractual provisions to conduct sufficient analysis to determine TMDE requirements for system depot maintenance support consistent with the BMC.

*d. Calibration equipment and standards.* Ensure that—

(1) An initial estimate has been made of the type and quantity of calibration equipment required for system/TMDE (unit through GS level) support.

(2) If development or procurement of new calibration equipment is proposed, approval from USATA has been obtained.

(3) An initial determination has been made as to the type calibration facilities (for example, DS/GS unit, area TMDE support team, or ACRC/ACL) to be responsible for calibration support of the proposed unit through GS level TMDE.

(4) If the estimated type and quantity of required calibration equipment for system/TMDE support is in excess of current TOE/TDA authorizations, adequate progress has been made toward resolving the shortfall using the BOIP, data interchange, or other appropriate processes.

(5) There are adequate plans (as reflected in the TEMP, LD plan, ILSP, DT II TDP and IEP, IOT&E TEP, and RFP) for conducting tests and engineering analyses to verify the adequacy of the proposed calibration equipment for system or TMDE support.

*e. MHE.* Ensure that the following criteria have been met:

(1) *Recovery equipment.*

(a) An initial estimate has been made of the type and quantity of equipment (for example, M88, M578, M816, or M553) required for battlefield recovery of the system. If in excess of current TOE/TDA authorizations, be sure adequate progress has been made toward resolving the shortfall using the BOIP, data interchange, or other appropriate processes. (See AR 71-2 for the BOIP process.)

(b) There are adequate plans (as reflected in the TEMP, ILSP, DT II and IOT&E TDPs and IEPs, and RFP) for conducting tests and engineering analyses to verify the adequacy of proposed recovery equipment.

(2) *Evacuation equipment.*

(a) An initial estimate has been made of the type and quantity of equipment (for example, heavy equipment transporter (HET) and transport stands/cases) required for battlefield evacuation of the system or repairable assemblies to higher echelons. If in excess of current TOE/TDA authorizations, be sure adequate progress has been made toward resolving the shortfall using the BOIP, data interchange, or other appropriate processes.

(b) There are adequate plans (as reflected in the TEMP, ILSP, DT II TDP and IEP, IOT&E TEP, and RFP) for conducting tests and engineering analyses to verify the adequacy of the proposed evacuation equipment.

(3) *Other MHE.*

(a) An initial estimate has been made of the type and quantity of other MHE (for example, cranes, forklifts, slings, hoists, maintenance stands, and EOD equipment) required for system maintenance support (unit through GS levels) and EOD.

(b) If estimates of other MHE requirements exceed current TOE or TDA authorizations, adequate progress has been made toward resolving the shortfall using the BOIP, data interchange, or other appropriate processes.

(c) There are plans and contractual provisions to conduct sufficient analysis to determine MHE requirements for system depot maintenance support.

(d) There are adequate plans (as reflected in the TEMP, LD plan, ILSP, DT II TDP and IEP, IOT&E TEP, and RFP) for conducting tests and engineering analyses to verify adequacy of the other proposed MHE for unit through GS maintenance.

*f. Shelters/trailers/vans/vehicles.* Ensure that—

(1) Based on market investigation results of contractor data and survey of user experience, and, if conducted, DT I/EUT&E an initial estimate has been made of the type and quantity of maintenance shelters/vans/trailers/vehicles required for system support (unit through GS levels) and maintenance unit mobility.

(2) If estimated maintenance shelter/van/trailer/vehicle requirements exceed current TOE or TDA authorizations, adequate progress has been made toward resolving the shortfall using the BOIP, data interchange, or other appropriate processes. (See AR 71–2 for the BOIP process.)

(3) There are adequate plans (as reflected in the TEMP, ILSP, DT II TDP and IEP, IOT&E TEP, and RFP) for conducting tests and engineering and logistic support analyses to verify the adequacy of the type and quantity of proposed shelters/trailers/vans/ vehicles for unit through GS level maintenance.

## **6–25. Ancillary operational equipment**

Ensure that criteria have been met as shown in the categories below.

*a. General.*

(1) There are plans and contractual provisions to—

(a) Refine estimates of ancillary equipment requirements for system operation and support obtained from the market investigation of contractor data and survey of user experience and, if conducted, DT I/EUT&E through engineering and logistic support analyses.

(b) Deliver the equipment for evaluation at the LD, DT II, and IOT&E, if required by AR 700–127 or to address support issues not resolvable by analysis.

(2) There are contractual provisions requiring that the ancillary equipment for system operation and support be evaluated to maximize the use of equipment already available in the Army inventory.

(3) Coordination with supporting garrisons is planned to ensure power, environmental, and communications support is available when needed.

*b. Power generation.*

(1) Market investigation results of contractor data and survey of user experience and, if conducted, DT I and EUT&E identified, for each NDI candidate system, battery and battery charger requirements. Make sure plans and contractual provisions exist to obtain the U.S. Army Electronic Devices Research Center (CECOM) approval for use or development of a nonstandard battery or battery charger.

(2) An initial estimate has been made of the type and quantity of military standard power generation equipment required for system operation or support. Make sure the requirement has been compared to current TOE authorizations. Make certain the additional requirements are identified in the SSN system and appropriate forms have been provided to the support item manager.

(3) If the system proposes to use an MEPSG other than the DOD standard family of generators, plans and contractual provisions exist to obtain deviation approval from the PM–MEP. (See AR 700–101 for approval guidelines.)

*c. Environmental control.*

(1) An initial estimate has been made of the type and quantity of environmental control equipment (such as, air conditioners or heaters) required for system operation or support.

(2) The additional requirements are identified in the SSN system and appropriate forms have been provided to the support item manager.

*d. Communications.*

(1) An initial estimate has been made of the type and quantity of military standard communications equipment (such as, radios) required for system operation.

(2) The additional requirements are identified in the SSN system and appropriate forms have been provided to the support item manager.

*e. Prime mover.*

(1) An initial estimate has been made of the type and quantity of prime movers and trailers required for system operation.

(2) If in excess of current TOE or TDA authorizations, the additional requirements have been identified in the system BOIP feeder data.

*f. Other.*

(1) An initial estimate has been made of the type and quantity of other major common items of equipment or components required for system operation.

(2) The additional requirements are identified in the SSN system and required forms have been provided to the support item manager.

## **Section VII Training and Training Devices**

### **6–26. General**

Ensure that—

*a.* Market investigation results of contractor data and survey of user experience and, if conducted, DT I/EUT&E determined, for the NDI candidate systems, the availability of manufacturer's—

(1) Training material.

(2) Training equipment (to include training ammunition), and

(3) Training devices for system operator and support personnel.

*b.* The CBTDEV and trainer have evaluated adequacy of the items listed above to satisfy Army requirements, completely or partially, for institutional training of system operators and support personnel.

### **6–27. Institutional training**

Ensure that criteria have been met as shown in the following categories:

*a. Operator training.* An initial front end analysis (FEA), based on market investigation results, has been conducted to identify critical operator tasks requiring training for the NDI candidate systems.

(1) *Training concept.* Based on market investigation results of contractor data and survey of user experience and, if conducted, DT I/EUT&E a proposed operator institutional training concept has been developed to identify, in general, who is to be trained, what skills are to be trained, and when, where, and how training is to be accomplished.

(2) *Training material.*

(a) Initial estimates of institutional training material (type and due dates) requirements have been established.

(b) There are contractual provisions for conducting sufficient LSA to permit refining the institutional training concept for operator training and the critical operator task identification.

(c) There are plans for the development of draft training materials (for example, program of instruction (POI) and training aids) for system operator personnel. Make sure they will be available early enough to meet institutional instructor and IOT&E NET requirements.

(3) *Instructors.* Initial estimates have been made of system operator training instructor requirements (for at least the next 5 years) and availability.

(4) *Training equipment.*

(a) *System or end item.* Based on market investigation results of contractor data and survey of user experience and, if conducted, DT I/EUT&E initial estimates have been made of system or end item (and subassemblies) requirements and proposed distribution plan. Make sure estimates are consistent with initial and sustainment operator training workload projections.

(b) *Training ammunition.*

1. The need for development or procurement of a new training round has been determined and performance requirements established.

2. The schedule for development and/or procurement of ammunition for training operator and operator/crew personnel is compatible with the scheduled start of DT II and IOT&E operator and crew NET courses.

3. The DT II and IOT&E test plans include adequate provisions for verifying the performance, safety, and supportability of each new system training round.

4. Initial estimates have been made of training ammunition requirements and proposed distribution plan consistent with initial and sustainment operator and operator/crew institutional training workload projections.

(5) *Training devices.*

(a) Plans exist to determine, early in the EMD phase, the need for new training devices and to prepare, coordinate, and obtain approval of TDRs according to AR 71-9 to support development of each new device judged to be required for institutional operator training. Make sure the requirement will be based on a CTEA.

(b) For systems requiring ammunition, the system requirement document includes provisions for simulators (to include Multiple Integrated Laser Engagement System interoperable devices), sub-caliber devices, and blank firing adapters when appropriate.

(c) Based on market investigation results of contractor data and user experience and, if conducted, DT I/EUT&E initial estimates have been made of training device (common and peculiar) requirements and distribution plan for institutional training of operator personnel.

(d) There are adequate plans and contractual provisions to establish a capability to support system-peculiar operator institutional training devices, if any. (Apply appropriate MDR I/II issues from each of the 17 ILS assessment considerations as they apply to supporting these training devices.)

(e) The results of EUT&E, if conducted, have validated the concept for proposed system operator training devices.

(f) The schedule for development of new devices for institutional operator training allows sufficient time for design, fabrication, and validation prior to the NET courses for institutional instructors and IOT&E player personnel.

b. *Supporter training.* An initial FEA has been conducted using market investigation results to identify, for NDI candidate systems, critical system support tasks requiring training.

(1) *Training concept.* Based on market investigation results of contractor data and survey of user experience and, if conducted, DT I/EUT&E, a proposed system support personnel institutional training concept has been developed to identify, in general, who is to be trained, what skills are to be trained, and when, where, and how training is to be accomplished. There are contractual provisions for conducting sufficient LSA to permit refining the institutional training concept for system support personnel training and the critical support task identification.

(2) *Training material.*

(a) Initial estimates of institutional training material requirements (type and due dates) for system support personnel have been established.

(b) There are plans to develop draft training materials (for example, POI) for system support personnel MOS in enough time to meet institutional instructor and IOT&E NET requirements.

(3) *Instructors.* Initial estimates have been made of system support personnel (supply and maintenance) institutional training instructor requirements and availability (for at least the next 5 years).

(4) *Training equipment.* Based on market investigation results of contractor data and survey of user experience and, if conducted, DT I/EUT&E ensure that training equipment criteria have been met in the following areas:

(a) *System or end item.* Initial estimates have been made of system or end item (and major subassemblies) requirements and proposed distribution plan. Make sure estimates are consistent with initial and sustainment institutional training workload projections for system support personnel.

(b) *Support and test equipment.* Initial estimates have been made of support and test equipment (common and peculiar) and related computer resources support requirements and distribution plan. Make sure estimates are consistent with initial and sustainment institutional training of system support personnel.

(5) *Training devices.*

(a) Based on market investigation results of contractor data and survey of user experience and, if conducted, DT I/EUT&E initial estimates have been made of training device (common and peculiar)

requirements and distribution plan for institutional training of system support personnel.

(b) Plans exist to determine, early in EMD phase, the need for new training devices for institutional training of support personnel and to prepare, coordinate and obtain approval of TDRs according to AR 71-9 to support development of each new device judged to be required based on a CTEA.

(c) There are adequate plans and contractual provisions to establish a support capability for the system-peculiar institutional training devices for training system support personnel. (Apply appropriate MDR I/II issues from each of the ILS assessment considerations as they apply to supporting these training devices.)

(d) The schedule for development of new devices for institutional training of system support personnel allows enough time for design, fabrication, and validation prior to the NET course for institutional instructors and the course for IOT&E player personnel.

## 6-28. Unit training

a. *Individual.* Ensure market investigation results, survey of user experience, and, if conducted, DT I/EUT&E have determined the extent of embedded training for the NDI candidate systems. Ensure appropriate requirements and plans for embedded training to accomplish individual sustainment training have been established and rationale developed to support its use or non-use. Ensure that criteria for the system individual (operator and support personnel MOS) unit training program have been met in the following areas:

(1) *ETM.*

(a) Initial estimates of new and revised ETM requirements resulting from introduction of the NDI candidate systems have been determined.

(b) There are plans for developing necessary extension/exportable training materials (operator and support personnel) and providing draft materials in time to train IOT&E player personnel.

(2) *Soldiers manuals.*

(a) Initial estimates of new and revised soldiers manuals (operator and support personnel MOS) requirements have been determined for the NDI candidate systems.

(b) There are plans to develop draft soldiers manuals for each affected MOS and to deliver as part of the IOT&E training support package.

(3) *Trainer guides.*

(a) Initial estimates of new and revised trainer guide requirements have been determined for the NDI candidate systems.

(b) There are plans to develop draft trainer guides for each affected MOS and to deliver as part of the IOT&E training support package.

(4) *SQT.*

(a) Initial estimates of new and revised SQT requirements resulting from introduction of the NDI candidate systems have been determined.

(b) There are plans to develop draft SQTs for each affected MOS and to deliver as part of the IOT&E training support package.

(5) *Training devices.*

(a) Based on market investigation results of contractor data and survey of user experience and, if conducted, DT I/EUT&E initial estimates have been made of training device (common and peculiar) requirements and distribution plan for unit individual training of operator and support personnel.

(b) Plans exist to finalize, early in the EMD phase, the need for new training devices for unit individual training and to prepare, coordinate, and obtain approval according to AR 71-9 for each new device judged to be required based on a CTEA.

(c) There are adequate plans and contractual provisions to establish a capability to support the system-peculiar unit individual training devices (operator and support personnel). (Apply appropriate MDR I/II issues from each of the 17 ILS assessment considerations as they apply to supporting these devices.)

(d) There are plans to develop prototypes of new system-related unit training devices and provide as part of the DT II and IOT&E training packages.

*b. Collective.* Ensure that the following areas have been addressed:

(1) *Training concept.*

(a) A draft collective training concept (what, when, where, and how) has been developed and included in the STRAP.

(b) There are plans for the training developer to conduct an FEA to establish a list of collective operational tasks to serve as a basis for refining the unit collective training program.

(c) Appropriate requirements and plans for embedded training to accomplish collective sustainment training have been established.

(2) *ARTEP.*

(a) Initial estimates of new and revised ARTEP requirements resulting from introduction of the NDI candidate systems have been identified.

(b) There are plans for preparing draft test edition ARTEPs and providing them as part of the IOT&E training support package.

(3) *Training ammunition.*

(a) Initial estimates have been made of system ammunition requirements and distribution plan for initial and sustainment system-related collective training.

(b) There are plans or contractual provisions to provide sufficient training ammunition, consistent with the STRAP, to provide collective training for IOT&E player personnel.

(4) *Instructors.* Initial estimates have been made of system-related collective training instructor requirements (for at least the next 5 years) and their availability.

## 6-29. NET

Ensure that criteria have been met as shown in the categories below.

*a. DT/OT personnel.*

(1) There are plans to provide NET for IOT&E personnel representative of those required to operate and support the system when fielded.

(2) There are adequate plans and resources programmed to provide NET for DT II and IOT&E operator and support (unit through GS level) personnel.

*b. Institutional instructors.* Adequate plans and resources are programmed for training the institutional instructors (for system operator and support personnel MOS) prior to initiation of IOT&E NET.

*c. Depot maintenance personnel.* Plans (that is, responsibilities and milestones) have been established for identifying what, when, how, and by whom NET will be conducted for depot maintenance personnel.

*d. Using and support unit and other personnel.* Plans (that is, responsibilities and milestones) have been established for identifying what, when, how, and by whom NET will be conducted for using and support unit personnel of each gaining command and the LAR personnel.

## 6-30. Planning documentation

*a. NETP.* Ensure that the NETP has been—

(1) Prepared with detailed training information for the EMD phase (for example, instructor and key personnel (I&KP), and DT II and IOT&E personnel).

(2) Coordinated, approved, and distributed according to AR 350-35 and DA Pam 350-40.

*b. STRAP.* Unless waived by USATSC, ensure that a STRAP has been prepared (to include the training strategy, training concept, and initial training resource estimates), coordinated with affected training developers and the MATDEV, and approved by TRADOC (Army Modernization Information Memorandum (AMIM) systems) or Deputy Chief of Staff for Operations and Plans (DCSOPS) (as requested).

## Section VIII Technical Data

### 6-31. Equipment manuals

*a. General.* Ensure that—

(1) For each NDI candidate system, the market investigation results of contractor data and survey of user experience and, if conducted, DT I/EUT&E determined the availability of manufacturer's equipment publications in the following areas:

(a) Supply catalogs—sets, kits and outfits.

(b) Loading and rigging procedures.

(c) Packaging and preservation procedures.

(d) Operators manuals.

(e) Maintenance manuals (Unit, DS, GS (or AVIM and AVUM) levels)

(f) RPSTL.

(g) Maintenance allocation chart (MAC).

(h) Calibration procedures.

(i) Firing tables.

(j) Demilitarization procedures.

(k) EOD procedures.

(l) Lubrication orders.

(2) For each NDI candidate system, the extent to which the available manufacturer's equipment publications meet MIL-M-7298 requirements has been determined through coordination with the CBTDEV.

(3) There are contractual provisions requesting copyright release for use of manufacturer's supply, operation, and maintenance manuals.

*b. Supply and storage.*

(1) *Bulletins.*

(a) *Consumption rates (ammunition and POL).* Ensure that there are plans for—

1. Developing ammunition consumption rates in coordination with CASCOM and HQDA (DAMO-RQR) according to AR 700-8.

2. Establishing POL combat consumption rates in coordination with CASCOM and U.S. Army General Materiel and Petroleum Activity (USAGMPA) according to AR 700-8.

(b) *Replacement and float factors.* Ensure that there are plans for—

1. Developing replacement or life expectancy factors (peacetime and wartime) for new end items, coordinating with CASCOM and HQDA (DAMO-RQR), and including factors in the SSN data file.

2. Establishing ORF and RCF factors according to AR 750-1, AR 750-2, and AR 710-1; obtaining HQDA (DALO-SMM) approval; and including factors in the SSN data file.

(2) *Supply catalogs—sets, kits, and outfits (SKO).* Ensure that there are contractual options requiring acquisition of manufacturer's manuals, supplementing or changing manufacturer's manuals, and preparation, according to format and content specified in MIL-C-63013, of supply catalogs for each new SKO components list associated with system operation or maintenance. Option selected will be based on evaluation according to MIL-M-7298.

(3) *Other publications.*

(a) *Loading and rigging procedures.* Ensure that—

1. The need for a Transportability Guidance Technical Manual according to MIL-M-63023 has been determined between the MATDEV and MTMCTEA.

2. There are plans and contractual options for acquisition of manufacturer's manuals, supplementing or changing manufacturer's manuals and, if determined necessary, developing procedures (and obtaining MTMCTEA approval) in cooperation with the U.S. Air Force (USAF) for disassembly, loading, restraining, and offloading for internal air transport of materiel (transportability problem items) with format according to MIL-M-63023. Be sure there are plans for developing procedures, as necessary, for other required transport modes. Options will be selected based on evaluation according to MIL-M-7298.

3. There are plans and contractual options for developing, in cooperation with the USAF, rigging procedures for airdrop of materiel where such a requirement exists.

4. There are plans and contractual options for developing and verifying outloading and storage drawings and procedures according to AR 740-1 and AR 746-1 for new ammunition and other hazardous materiel.

(b) *Packaging and preservation procedures.* Ensure that there are

contractual provisions requiring that technical manuals or bulletins include appropriate packaging procedures based on requirements for like or similar items for the military levels of protection applicable to the user.

(c) *Security procedures.* Ensure that—

1. There are plans to identify, through the LSA process, the security classification or pilferage control associated with each item subject to supply support.

2. The SSCG has been prepared and approved according to AR 380-5.

c. *Operation and maintenance.*

(1) *Operators manual.* Ensure that there are plans to—

(a) To coordinate the draft operator manual with the CBTDEV.

(b) For the system safety manager to review the draft operators manual for inclusion of appropriate warnings, cautions, and notes.

(c) For convening maintenance literature conference, as necessary, prior to MDR III, to resolve comments resulting from coordination and evaluation of draft operator's manual.

(d) The required reading grade level for the operator's manual has been contractually established consistent with the target audience.

(e) There are contractual options for—

1. Acquisition of manufacturer's manuals, supplementing or changing manufacturer's manuals, and developing the draft DA operator's manual according to the content and format specified in AR 25-30, MIL-M-38784, and MIL-M-63000 series (TM), as applicable. This includes having warning instructions where safety analyses have identified a potential hazard.

2. For validating the technical accuracy and completeness of the draft operators manual prior to delivery for DT II.

(f) The DT II TDP includes provisions for verifying the draft operator's manual for technical accuracy, readability, format, and organization according to AR 25-30. (This is applicable after MDR I/II and prior to DT II.)

(g) The schedule for development of equipment operator's manual allows enough time for preparation, validation, and verification prior to MDR III.

(h) The LD plan, TM verification plan, DT II TDP, and IOT&E TEP provide for TM verification using operating personnel representative of the target audience. (This is applicable after MDR I/II and prior to the LD.)

(2) *Maintenance manuals (unit, DS, and GS (or AVUM and AVIM) levels).* Ensure that there are plans—

(a) To coordinate the draft maintenance manuals with the CBTDEV.

(b) For the system safety manager to review draft maintenance manuals for inclusion of appropriate warnings, cautions, and notes.

(c) For convening a maintenance literature conference, as necessary, prior to MDR III to resolve comments resulting from coordination and evaluation of draft maintenance manuals.

(d) The required reading grade level for maintenance manuals has been contractually established consistent with the target audience.

(e) There are contractual options for—

1. Acquisition of manufacturer's manuals, supplementing or changing manufacturer's manuals, and developing draft DA maintenance manuals according to the content and format specified in AR 25-30, MIL-M-38784, and MIL-M-63000 (TM) series, as applicable. This includes having warning instructions where safety analyses have identified a potential hazard. Options will be selected on evaluation according to MIL-M-7298.

2. For validating the technical accuracy and completeness of draft maintenance manuals prior to delivery for instructor and key personnel (I&KP) courses and DT II.

(f) The DT II TDP includes provisions for verifying draft maintenance manuals for technical accuracy, readability, format, and organization according to AR 25-30. (This is applicable after MDR I/II and prior to DT II.)

(g) The schedule for development of equipment publications allows enough time for preparation, validation, and verification of draft maintenance manuals prior to MDR III.

(h) The LD plan, TM verification plan, DT II TDP, and IOT&E TEP provide for maintenance TM verification using support personnel representative of the target audience. (This is applicable after MDR I/II and prior to the LD.) Options will be selected based on evaluation according to MIL-M-7298.

(3) *RPSTL.* Ensure that—

(a) There are plans and contractual provisions to develop and evaluate draft RPSTLs according to MIL-STD-335, AR 700-18, and AR 700-82. Be sure there are plans to conduct NSN verification according to AR 708-1.

(b) There are contractual provisions for validating the technical accuracy and completeness of draft RPSTLs prior to delivery for DT II.

(c) The DT II TDP includes provisions for verifying draft RPSTLs for technical accuracy, readability, format, and organization as required by AR 25-30. (This is applicable after MDR I/II and prior to DT II.)

(d) The development schedule allows enough time for preparation, validation, and verification of RPSTL manuals prior to MDR III.

(4) *MAC.* Ensure that—

(a) For each NDI candidate, market investigation results of contractor data and survey of user experience and, if conducted, DT I/EUT&E determined the extent to which the manufacturer's equipment publication met Army requirements for a MAC.

(b) There are plans and contractual provisions to provide a complete MAC for inclusion in the appropriate draft equipment publication to be delivered for DT II/IOT&E.

(5) *Calibration procedures.* Ensure that—

(a) There are contractual provisions requiring that calibration procedures—

1. Make maximum use of manufacturer's manuals, with or without supplementation or changes subject to an evaluation according to MIL-M-7298.

2. Make maximum use of existing instruments at the area TMDE support team or supporting DS and GS maintenance units as appropriate.

3. Be prepared, for special-purpose TMDE, according to MIL-M-38793 and coordinated with USATA.

(b) There are provisions for evaluating each calibration procedure in coordination with USATA during DT II and IOT&E.

(6) *Firing tables (FT).* Ensure that requirements (such as, weapon, projectile, and fuse combinations) for new or revised FTs and trajectory charts (TCs) have been identified. If so, be sure the TEMP has been coordinated with the U.S. Army Research Laboratories (USARL), to include sufficient range firings during DT II and IOT&E for the development of interim FTs and TCs when combined with other relevant test data.

(7) *Demilitarization and EOD procedures.*

(a) Demilitarization procedures. Ensure that—

1. There are plans and contractual options (selected according to MIL-M-7298 evaluation procedures) for acquisition of manufacturers manuals, supplementing or changing manufacturers manuals, and developing DA demilitarization and disposal procedures to meet applicable environmental and security requirements, maximize recycling of resources, or prevent enemy use. Make certain these procedures will be included in appropriate TMs, and that plans to assign demilitarization codes (position 6 of the source, maintenance, and recoverability code) for specified systems and consumables (such as, new batteries and ammunition) are consistent with AR 708-1.

2. For new ammunition items, there are plans to develop and obtain approval of a demilitarization/disposal plan prior to IOT&E. This plan should identify environmental impact and alternative methods, tools, and equipment requirements.

(b) *EOD procedures.* Ensure that—

1. Coordination has been maintained with the Army EOD office, ARDEC, ATTN: SMCAR-FSM-E, Dover, NJ 07801-5001, to provide guidance and assistance to the MATDEV, and to review and

approve EOD TI, procedures, tools, equipment, and publications for all new, improved, and modified U.S. and foreign explosive ordnance. Maximum use is made of existing Army and manufacturer's publications, tools, and equipment to satisfy Army requirements.

2. The requirement documents (that is, the ORD, TDR, or JSOR) have been reviewed by the Army EOD office, ARDEC.

3. Market investigation results, survey of user experience, and, if conducted, DT I/EUT&E indicate that EOD design tradeoffs have been adequately considered.

4. Plans exist to prepare and obtain approval of EOD TI prior to any movement or shipment within continental United States (CON-US) of new, improved, and modified U.S. and foreign ordnance for which published EOD procedures are not available.

5. The need, if any, for new EOD render safe procedures (RSP) and/or applicable techniques, tools, and equipment has been identified for materiel with explosive components, fuses, and fuse systems, including nuclear weapons. (Blow-in-place is not an RSP.)

6. Plans exist for concurrent development of EOD RSP and applicable techniques, tools, and equipment to provide full EOD operational support for explosive ordnance items or systems, including nuclear systems. (Blow-in-place is not an RSP.)

(8) *Lubrication orders (LOs)*. Ensure that—

(a) There are contractual provisions for—

1. Making maximum use of manufacturer's manuals, with or without supplementation or change subject to an evaluation according to MIL-M-7298.

2. Preparing lubrication instructions according to MIL-M-63004 (either as separate LO or as part of 10 or 20-series TMs or permanently mounting instructions on the equipment.)

3. Providing draft instructions for DT II and IOT&E.

(b) There are plans to coordinate draft LOs with BRDEC (ATTN:STRBE-VF), Fort Belvoir, VA 22060-5606, for their technical approval.

### 6-32. Authorization documents for using units and support units

Ensure that the following actions have been taken:

a. For those systems requiring development of a new using or support organization (TOE), an AURS has been prepared and submitted to HQDA (DAMO-FDR) with the initial BOIP, or a deferral approval obtained, as required by AR 71-2.

b. A ZLIN and an SSN, if appropriate, have been assigned for the system and associated support items and training devices requiring type classification according to AR 710-1 and AR 70-1.

c. There are plans and schedules for preparing draft plan TOEs, based on the BOIP, for affected using units and support units. Make sure the draft plan TOEs will be provided to the operational tester for evaluation during IOT&E.

### 6-33. Drawings

If product engineering drawings will be required, ensure there are plans to develop, evaluate, and acquire them.

## Section IX Computer Resources Support

### 6-34. General

Ensure that the criteria below have been met.

a. Results of the market investigation of contractor data and survey of user experience and, if conducted, DT I/EUT&E indicate that computer resources support requirements for performance, standardization, and so forth are achievable with an NDI adaptation acquisition strategy.

b. The RFP includes a requirement for either unlimited rights to all technical data and documentation for CPCI and associated support resources or at least limited rights with permission to use the data to prepare, modify, and maintain the same or similar CPCIs and associated support resources. Data rights should be acquired according to provisions of Part 27 of the FAR, DFARS, and AFARS.

c. There are requirements for software CPCIs to be divided into small, manageable units to facilitate Government maintenance.

d. Market investigation of contractor data and survey of user experience, and, if conducted, DT I/EUT&E have determined, for the NDI candidate systems, the extent of use of common hardware and software materiel system computer resources. Appropriate requirements for maximum use of common hardware and software materiel system computer resources have been established for the system.

e. Where possible, ensure the computer related elements of the OSCR program have been considered.

### 6-35. System or end item operation

For load modules (tape and program), ensure that—

a. A program performance specification has been prepared and a cross-reference made of operational requirements to computer program specifications. When possible a commercial market specification is used.

b. Potential computer resource implications and associated development risk areas related to system operation have been identified for the NDI candidate systems.

c. Plans exist for resolving software deficiencies discovered during the market investigation of contractor data and survey of user experience and, if conducted, DT I/EUT&E.

d. All operational computer software for NDI candidate systems is nonproprietary. If not, ensure there are plans for resolving issues regarding proprietary rights.

e. Reliability, maintainability, or other related test standards or objectives have been established for operational computer programs.

f. There are plans and resources to develop/revise and deliver load modules for system operation according to the computer program development specifications for DT II and IOT&E. Be sure there are plans and resources to conduct preliminary and critical design reviews.

g. There are plans (in the TEMP and TDPs) and resources to verify, over the range of data and conditions expected in the field, the operational computer programs.

h. There are plans to manage all operational computer programs as configuration items.

i. There are plans to conduct a physical configuration audit of the load modules prior to delivery for DT II and IOT&E.

j. There are requirements to minimize the number of different languages used and to use the ADA programming language to develop system operational software unless waiver approval is obtained from the ADA waiver control officer (HQDA (SAIS-PS) through, for AMC activities, HQ AMC (AMCDE-ATC)) and, for ACAT I D systems, DAE as required by DODD 3405.1, DODI 5000.2, and AR 70-1.

k. Responsibilities for solving system integration problems (for example, GFE, CFE (prime and subcontractors)) have been defined.

l. Security and privacy requirements for the operational software have been defined.

m. Plans exist to conduct system design reviews and audits according to MIL-STD-1521 or other standard during hardware/software adaptation.

### 6-36. System or end item maintenance

Ensure that appropriate action has been accomplished for the following categories:

a. *ATE interconnecting devices*.

(1) There are plans and resources to develop, validate, and deliver necessary ATE interface devices associated with the representative sample of maintenance computer programs for DT II and IOT&E.

(2) There are plans and resources to verify, over the range of data and conditions expected in the field, the representative sample of ATE interface devices.

(3) There are plans to establish a support capability for the peculiar ATE interface devices requiring development. (Apply appropriate MDR I/II issues from each of the 17 ILS assessment considerations as they relate to supporting these devices.)

*b. Load modules (tape and program).*

(1) There are requirements for use of the Common Abbreviated Test Language for all Systems (C/ATLAS) as specified in The Institute of Electrical and Electronics Engineers Standard 716 or to obtain a waiver as required by AR 750-43 in development of maintenance computer programs.

(2) There are contractual provisions for use of common data elements and message formats to promote maintenance software standardization. (See AR 25-9 series for definitions of common data elements.)

(3) All maintenance support computer software for NDI candidate systems is nonproprietary. If not, ensure there are plans for resolving issues regarding proprietary rights.

(4) Reliability, maintainability, or other related test standards or objectives have been established for maintenance support computer programs.

(5) There are plans to manage all maintenance support computer programs as configuration items.

(6) There are plans and resources to develop, validate, and deliver representative samples of maintenance computer programs (for use with ATE) for DT II and IOT&E.

(7) There are plans and resources to verify, over the range of data and conditions expected in the field, the representative maintenance support computer programs.

*c. User instructions.*

(1) There are plans and resources to—

(a) Develop, validate, and deliver draft user instructions (for interfacing with ATE) for DT II and IOT&E.

(b) Verify, over the range of data and conditions expected in the field, the representative draft user instructions for interfacing with ATE.

(2) There are plans for preparation of displayed user instructions (for interfacing with ATE) according to MIL-STD-334.

### **6-37. Post-deployment software support (PDSS)**

*a. General.* Ensure that—

(1) The potential computer resource implications and associated development risk areas related to PDSS have been identified for the NDI candidate systems.

(2) The CRMP includes milestones and responsibilities for conducting an analysis to determine the most appropriate assignment of PDSS.

(3) There are plans for establishing transition milestones for Government support (if applicable).

*b. Equipment.* Ensure that there are plans and resources to identify PDSS center support equipment requirements for establishing an organic software support capability.

*c. Software documentation.* Ensure that—

(1) There are plans and resources to develop and/or procure computer program product specifications and other documentation (such as data item index) required to maintain both operational and maintenance support computer programs. Be sure there are plans and resources to conduct preliminary and critical design reviews.

(2) Quality standards and objectives have been established for the software documentation.

### **6-38. Management planning**

*a. Computer Resources Management Plan (CRMP).* Ensure that—

(1) Management procedures and contractual reporting requirements have been established to control software development, costs, and schedule. Make sure the acquisition schedule allows sufficient time for software development and validation prior to DT II.

(2) The CRLCMP has been prepared according to AR 70-1 to define EMD phase activities, coordinated with the responsible Life Cycle Software Support (LCSS) Engineering Center (LCSEC), and, for AMC activities, it has been provided to Headquarters, AMC (AMCDE-SB) prior to submission for approval by the program decision authority.

*b. Computer resources working group (CRWG).* Ensure that a

CRWG has been established to assist in the management of computer resources support development.

*c. Test Program Set Management Plan (TPS MP).* Ensure that the TPS management plan has been prepared, coordinated, and submitted to AMCPM-TMDE.

## **Section X**

### **Transportation and Transportability**

#### **6-39. Mobility—strategic and tactical**

Ensure that—

*a.* A unit deployment assessment has been conducted when required (AR 70-47) to indicate transportation asset requirements for strategic and tactical mobility of the NDI candidate systems (including ASIOE). Make sure the requirements are within established constraints. If constraints are not met, be sure appropriate modification of the MNS, system design, and/or repositioning of equipment has been programmed as corrective actions.

*b.* The DT II and IOT&E test plans include provisions for evaluating compliance with stated transportability requirements related to strategic and tactical mobility of the system and ASIOE, including both tactical and logistical configurations.

*c.* From an economic and operational view, appropriate transportability requirements and characteristics, consistent with current doctrine and controlling strategic and tactical transportation asset requirements, have been included in the requirement document (such as ORD or JSOR) by the CBTDEV in coordination with the MATDEV, MTMCTEA, and the logistician.

*d.* Appropriate transportability constraints, analysis, and reporting requirements related to strategic and tactical mobility of the system and ASIOE have been included in the RFP.

#### **6-40. Transportability**

*a. General.* Ensure that—

(1) Market investigation of contractor data and survey of user experience and, if conducted, DT I/EUT&E results indicate that system lifting and tiedown, highway, rail, marine, containerization, airdrop, and aircraft transportability requirements are achievable with an NDI adaptation acquisition strategy.

(2) For required modes of transportation, there are contractual provisions for correcting lifting and tie-down deficiencies discovered during the market investigation and other activities and for designing system lifting and tie-down specifications according to MIL-STD-209, to include the requirement for a transportation data plate or decal.

(3) In order to enhance strategic deployability, the requirement document and RFP include transportability constraints related to the amount of system disassembly permitted or the maximum allowable time to return the system to mission status.

(4) Where possible, ensure relevant elements of the OSCR program have been addressed.

*b. Highways, rail, and marine.* Ensure that—

(1) There are plans to correct highway, rail, and marine transportability deficiencies discovered during the initial MTMCTEA transportability engineering analysis of NDI candidate systems based on data from the market investigation, user survey and, if conducted, DT I/EUT&E.

(2) The DT II and IOT&E test plans include provisions for evaluating compliance with stated highway, rail, and marine transportability requirements including both tactical and logistical configurations.

(3) From an economic and operational view, appropriate highway, rail, and marine transportability requirements and characteristics, consistent with current doctrine and controlling transportation asset requirements, have been included in the requirement document (such as ORD or JSOR) by the CBTDEV in coordination with the MATDEV, MTMCTEA, and the logistician.

(4) Appropriate highway, rail, and marine transportability analysis and reporting requirements have been included in the RFP. Make sure these requirements include provisions for obtaining technical data so that MTMCTEA can update the engineering analysis.

(5) The planned highway and rail transport test loadings and test shipments are consistent with AR 746-1 requirements.

(6) There are contractual provisions to constrain system design for highway transport to meet the dimensional and weight limitations of MIL-STD-1366C, and, if feasible, the more restrictive legal limits (available from MTMC) of specific states and foreign countries.

(7) There are plans to coordinate all proposed rail car impact and loading tests with MTMC. Rail impact test will be in accordance with MIL-STD-810.

(8) There are contractual provisions to constrain system configuration for rail transport to conform to MIL-STD 1366C for unrestricted movement within CONUS, Western Europe, and so forth.

(9) There are contractual provisions to constrain system configuration and weight for sea transport to conform to MIL-STD 1366C.

*c. Containerization.* Ensure that—

(1) There are plans to correct system design problems related to containerization that were discovered during the initial MTMCTEA transportability engineering analysis of NDI candidate systems based on data from market investigation of contractor data, user surveys and, if conducted, DT I/EUT&E.

(2) The DT II and IOT&E test plans include provisions for evaluating system compliance with stated containerization requirements, including both tactical and logistical configurations.

(3) From an economic and operational view, appropriate containerization requirements and characteristics, consistent with current doctrine and controlling container asset requirements, have been included in the requirement document (such as ORD/JSOR) by the CBTDEV in coordination with the MATDEV, MTMCTEA, and the logistician.

(4) Appropriate containerization analysis and reporting requirements have been included in the RFP.

(5) Contractual provisions have been established to require the system, if feasible, to be compatible with ANSI or ISO standard cargo containers and other standard containers and pallets identified in Federal or military specifications or standards.

*d. Airdrop or LAPES.* Ensure that—

(1) There are plans to correct deficiencies related to meeting airdrop or LAPES requirements as discovered during the initial MTMCTEA transportability engineering analysis of NDI candidate systems based on data from the market investigation of contractor data, user surveys, and, if conducted, DT I/EUT&E.

(2) The DT II and IOT&E test plans include provisions for evaluating system compliance with stated airdrop or LAPES requirements, including both tactical and logistical configurations.

(3) From an economic and operational view, the requirement document contains appropriate consideration of system airdrop requirements, including the required technique(s). (This includes standard airdrop and LAPES, container delivery system bundles, and individual parachutists.)

(4) Appropriate airdrop or LAPES analysis and reporting requirements have been included in the RFP.

(5) There are plans for the developer to obtain engineering and design assistance from Natick R&DE Center, as necessary, for those items to be air dropped.

(6) There are contractual provisions to ensure the system is air transportable and meets the loading, tie down, suspension, and extraction requirements of MIL-STD-669, MIL-STD-814, and MIL-STD-1791.

*e. Aircraft.*

(1) *Fixed wing.* Ensure the following:

(a) There are plans to correct fixed wing aircraft transportability deficiencies as discovered during the initial MTMCTEA transportability engineering analysis of NDI candidate systems based on the market investigation, user surveys, and, if conducted, DT I/EUT&E.

(b) The DT II and IOT&E test plans include provisions for evaluating system compliance with stated fixed wing aircraft transportability requirements, including both tactical and logistical configurations.

(c) From an economic and operational view, appropriate fixed

wing aircraft (for example, C-130, C-141, C-5, or C-17) transportability requirements, consistent with current doctrine and controlling transportation asset requirements, have been included in the requirement document (such as ORD or JSOR) by the CBTDEV in coordination with the MATDEV, MTMCTEA, and the logistician.

(d) Appropriate fixed wing aircraft transportability analysis and reporting requirements have been included in the RFP.

(e) For items requiring aircraft transportability and meeting criteria of AR 70-44 and AR 70-47, an air test loading by USAF has been planned.

(f) There are contractual provisions for designing the system for—

1. Handling by the 463L Air Cargo Handling System, if feasible, and other design constraints of MIL-STD-1791.

2. Meeting the sectionalization or disassembly requirements of MIL-STD-1791 for air transport.

3. Conforming to the dimensions and compartment floor loading limitations of proposed transport aircraft.

4. Withstanding load factors indicated in MIL-STD-1791.

(2) *Rotary wing.*

(a) *Internal.* Ensure that the following criteria have been met:

1. There are plans to correct rotary wing aircraft (internal cargo) deficiencies discovered during initial MTMCTEA transportability engineering analysis of NDI candidate systems based on the market investigation, user surveys, and, if conducted, DT I/EUT&E.

2. The DT II and IOT&E test plans include provisions for evaluating system compliance with stated aircraft rotary wing (internal cargo) transportability requirements, including both tactical and logistical configurations.

3. From an economic and operational view, appropriate rotary wing (internal cargo) transportability requirements and characteristics, consistent with current doctrine and controlling transportation asset requirements, have been included in the requirement document (such as ORD or JSOR) by the CBTDEV in coordination with the MATDEV, MTMCTEA, and the logistician.

4. Appropriate rotary wing aircraft (internal cargo) transportability analysis and reporting requirements have been included in the RFP.

5. There are contractual provisions for designing the system to meet the sectionalization or disassembly requirements of MIL-HDBK-157 for air transport.

6. There are contractual provisions for designing the system to conform to fuselage zone and compartment floor loading limitations of proposed transport aircraft.

7. There are contractual provisions for designing the system to withstand load factors indicated in MIL-STD-209.

8. There are plans to obtain engineering and design assistance from Natick R&DE Center and MTMCTEA, as necessary, for those items requiring internal cargo loading.

(b) *External.* Ensure that the following criteria have been met:

1. There are plans to correct rotary wing aircraft (external cargo) transportability deficiencies discovered during initial MTMCTEA transportability engineering analysis of NDI candidate systems based on the market investigation, user surveys, and, if conducted, DT I/EUT&E.

2. The DT II and IOT&E test plans include provisions for evaluating system compliance with stated aircraft rotary wing (external cargo) transportability requirements, including both tactical and logistical configurations.

3. From an operational and economic view, the requirement document specifies appropriate external air transport requirements by type aircraft and system configuration (such as operational, partially disassembled).

4. Appropriate rotary wing aircraft (external cargo) transportability analysis and reporting requirements have been included in the RFP.

5. There are plans to obtain engineering and design assistance from Natick R&DE Center and MTMCTEA, as necessary, for items to be air transported as externally suspended cargo by rotary wing aircraft.

6. There are contractual provisions to design the system suspension points to conform to MIL-STD-209 provisions.

#### 6-41. Transportability report and engineering analysis

Ensure that—

- a. A transportability report has been provided to MTMCTEA in accordance with AR 70-47 or MIL-STD-1367.
- b. A transportability engineering analysis has been prepared by MTMCTEA and distributed according to AR 70-47.
- c. Transportability approval has been granted by MTMC.
- d. For transportability problem items or items with stated transportability requirements, there are plans to provide a supplemental transportability report to MTMCTEA presenting all changes to an item's transportability characteristics resulting from redesign during EMD.
- e. MTMC has prepared and distributed a unit deployment assessment for required systems, as determined by MTMCTEA and the CBTDEV.

### Section XI Facilities

#### 6-42. Base operations and services support

a. *General.* Ensure that—

- (1) There are plans to conduct site surveys or other coordination with affected MACOMs to assist in updating or refining projected new or modified base operations and services support facility requirements.
- (2) The DT II and IOT&E test plans include provisions to collect necessary data (for example, utilization rates, space and utility requirements, environmental control, and manpower requirements) for evaluating adequacy of facilities planning.
- (3) Plans exist to provide the contractor with a description of existing facilities characteristics and availability at the projected system deployment locations for use in influencing support planning and potential system redesign.

b. *System operations center.* Ensure that—

- (1) Preliminary facility requirements for system operation (for example, telecommunications center) for the NDI candidate systems have been determined in coordination with affected MACOMs. Be sure budget estimates have been prepared for projected new or modified facility requirements within the Five-Year Defense Program (FYDP) period.
- (2) There are plans (that is, tasks, milestones, and responsibilities) and resources for developing system operation center facility requirement estimates for the production configuration system design. Make sure there are plans for providing the data to affected MACOMs in a timely manner to support preparation of DD Form 1390 (FY, Military Construction Program) and DD Form 1391 (FY, Military Construction Project Data), site plans, and other data required by AR 415-15 for new construction.

c. *Aviation.* Ensure that—

- (1) Preliminary aircraft operation facility requirements for the NDI candidate systems have been determined in coordination with affected MACOMs. Be sure budget estimates have been prepared for projected new or modified facility requirements within the FYDP period.
- (2) There are plans (that is, tasks, milestones, and responsibilities) and resources for developing aircraft operation facility requirement estimates for the production configuration system design. Make sure there are plans for providing the data to affected MACOMs in a timely manner to support preparation of DD Form 1390 and DD Form 1391, site plans, and other data required by AR 415-15 for new construction.

d. *Administrative or headquarters.* Ensure that—

- (1) Preliminary system-related administrative or headquarters facility requirements for the NDI candidate systems have been determined in coordination with affected MACOMs. Make sure budget estimates have been prepared for projected new or modified facility requirements within the FYDP period.
- (2) There are plans (that is, tasks, milestones, and responsibilities) and resources for revising system-related administrative or headquarters facility requirement estimates as deployment plans are

finalized. Make sure there are plans for providing the data to affected MACOMs in a timely manner to support preparation of DD Form 1390 and DD Form 1391, site plans, and other data required by AR 415-15 for new construction.

e. *Troop barracks or housing.* Ensure that—

- (1) Preliminary system-related troop barracks or housing facility requirements for the NDI candidate systems have been determined in coordination with affected MACOMs. Be sure budget estimates have been prepared for projected new or modified facility requirements within the FYDP period.
- (2) There are plans (that is, tasks, milestones, and responsibilities) and resources for refining system-related troop barracks or housing facility requirement estimates during the EMD phase. Make sure there are plans for providing the data to affected MACOMs in a timely manner to support preparation of DD Form 1390 and DD Form 1391, site plans, and other data required by AR 415-15 for new construction.

f. *Military family housing.* Ensure that—

- (1) Preliminary facility requirements for the NDI candidate systems for military family housing have been determined with current system manpower requirement estimates and in coordination with affected MACOMs.
- (2) Budget estimates have been submitted to the COE for projected new or modified military family housing facility requirements within the FYDP period.
- (3) There are plans (that is, tasks, milestones, and responsibilities) and resources for refining military family housing facility requirement estimates during the EMD phase. Be sure there are plans for providing the data to affected MACOMs in a timely manner to support preparation of DD Form 1390 and DD Form 1391, site plans, and other data required by AR 415-15 for new construction.

g. *Morale, welfare, and recreation.* Ensure that—

- (1) Preliminary morale, welfare, and recreation facility requirements for the NDI candidate systems have been determined consistent with current system manpower requirement estimates and in coordination with affected MACOMs.
- (2) Budget estimates have been submitted to the COE for projected new or modified morale, welfare, and recreation facility requirements within the FYDP period.
- (3) There are plans (that is, tasks, milestones, and responsibilities) and resources for refining morale, welfare, and recreation facility requirement estimates during the EMD phase. Be sure there are plans for providing the data to affected MACOMs in a timely manner to support preparation of DD Form 1390 and DD Form 1391, site plans, and other data required by AR 415-15 for new construction.

#### 6-43. Logistical

a. *General.* Ensure that plans exist to provide the contractor with a description of existing maintenance, supply, and storage facilities characteristics/availability (including associated support resources) at projected system support locations for use in influencing support planning and potential system redesign.

b. *Maintenance.* Ensure that there are plans to conduct site surveys and/or other coordination with affected MACOMs to assist in updating/refining projected new or modified maintenance (unit through depot level) facility requirements. Ensure relevant elements of the OSCR program have been considered.

(1) *Unit, DS, and GS (or AVUM and AVIM) levels.* Ensure that—

(a) Preliminary unit through GS level maintenance facility requirements for the NDI candidate systems have been determined consistent with the BMC and in coordination with affected MACOMs.

(b) Budget estimates have been submitted to the COE for projected new or modified unit through GS level maintenance facility requirements within the FYDP period.

(c) There are plans to identify and document new or modified unit through GS level maintenance facility requirements through the LSA/logistic support analysis record (LSAR) process. Ensure that the documentation is provided to affected MACOMs for timely submittal of MCA requests.

(d) The DT II and IOT&E test plans include provisions to collect necessary data (for example, utilization rates, utility requirements, and environmental control requirements) for evaluating adequacy of (unit through GS level) maintenance facilities planning.

(2) *Depot level.* Ensure that—

(a) Preliminary depot maintenance facility requirements for the NDI candidate systems have been determined consistent with the BMC and in coordination with affected MACOMs.

(b) Budget estimates have been submitted for projected new or modified depot maintenance facility requirements within the FYDP period.

(c) There are plans to identify and document new or modified depot maintenance facility requirements through the LSA/LSAR process. Be sure that there are plans to ensure the documentation will be provided to affected MACOMs for timely submittal of MCA requests.

(3) Ensure plans exist to provide the contractor with a description of existing (unit/AVUM through depot level) facilities characteristics/availability/capabilities for use in influencing support planning and potential system redesign.

*c. Supply and storage.* Ensure that there are plans to conduct site surveys or other coordination with affected MACOMs to assist in updating or refining projected new or modified supply or storage (organizational through depot level) facility requirements. Ensure relevant elements of the OSCR program have been considered.

(1) *Organizational.* Ensure that preliminary organizational level supply or storage facility requirements for NDI candidate systems have been determined in coordination with affected MACOMs. Be sure budget estimates have been prepared for projected new or modified facility requirements within the FYDP period.

(a) *PLL.* Ensure that there are plans (that is, tasks, milestones, and responsibilities) and resources for refining PLL supply facility requirement estimates during the EMD phase. Make sure there are plans for providing the data to affected MACOMs in a timely manner to support preparation of DD Form 1390 and DD Form 1391, site plans, and other data required by AR 415–15 for new construction.

(b) *Arms room.* Ensure that there are plans (that is, tasks, milestones, and responsibilities) and resources for refining unit arms room facility requirement estimates during the EMD phase. Make sure there are plans for providing the data to affected MACOMs in a timely manner to support preparation of DD Form 1390 and DD Form 1391, site plans, and other data required by AR 415–15 for new construction.

(c) *Basic load ammunition.* Ensure that—

1. There are plans (that is, tasks, milestones, and responsibilities) and resources for refining organizational level ammunition supply facility requirement estimates during the EMD phase. Be sure there are plans for providing the data to affected MACOMs in a timely manner to support preparation of DD Form 1390 and DD Form 1391, site plans, and other data required by AR 415–15 for new construction.

2. If new or major modification to existing organizational level ammunition storage facilities is anticipated, there are plans for submitting site layout and design data to the DOD Explosives Safety Board for approval according to AR 385–60 and AR 415–15.

3. There are plans for updating and providing ammunition delivery schedules and hazard classification data (such as quantity–distance class, storage compatibility group, Department of Transportation (DOT) class, and conveyor spacing distances) to those using units having an ammunition storage mission for use in facilities planning.

(d) *Basic load—POL.* Ensure that there are plans (that is, tasks, milestones, and responsibilities) and resources for refining organizational level POL storage facility requirement estimates during the EMD phase. Be sure there are plans for providing the data to affected MACOMs in a timely manner to support preparation of DD Form 1390 and DD Form 1391, site plans, and other data required by AR 415–15 for new construction.

(2) *DS.* Ensure that preliminary DS supply or storage facility

requirements for NDI candidate systems have been determined in coordination with affected MACOMs. Make sure budget estimates have been prepared for projected new or modified facility requirements within the FYDP period.

(a) *ASP.* Ensure that—

1. There are plans (that is, tasks, milestones, and responsibilities) and resources for refining ASP facility requirement estimates during the EMD phase. Be sure there are plans for providing the data to affected MACOMs in a timely manner to support preparation of DD Form 1390 and DD Form 1391, site plans, and other data required by AR 415–15 for new construction.

2. If new or major modification to existing ammunition storage facilities at the ASP is anticipated, there are plans for submitting site layout and design data to the DOD Explosives Safety Board for approval according to AR 385–60 and AR 415–15.

3. There are plans for updating and providing ammunition delivery schedules and hazard classification data (such as quantity–distance class, storage compatibility group, DOT class, and conveyor spacing distances) in a timely manner to those organizations operating the ASP for use in facilities planning.

(b) *ASL.* Ensure that there are plans (that is, tasks, milestones, and responsibilities) and resources for refining ASL supply facility requirement estimates during the EMD phase. Be sure there are plans for providing the data to affected MACOMs in a timely manner to support preparation of DD Form 1390 and DD Form 1391, site plans, and other data required by AR 415–15 for new construction.

(c) *ORF.* Ensure that there are plans (that is, tasks, milestones, and responsibilities) and resources for refining ORF supply or storage facility requirement estimates during the EMD phase. Be sure there are plans for providing the data to affected MACOMs in a timely manner to support preparation of DD Form 1390 and DD Form 1391, site plans, and other data required by AR 415–15 for new construction.

(3) *GS/theater.* Ensure that preliminary GS/theater supply or storage facility requirements for NDI candidate systems have been determined in coordination with affected MACOMs. Be sure budget estimates have been submitted for projected new or modified facility requirements within the FYDP period.

(a) *War reserves.* Ensure that—

1. There are plans (that is, tasks, milestones, and responsibilities) and resources for refining theater war reserve storage (classes III, VII, and IX) facility requirement estimates during the EMD phase. Be sure there are plans for providing the data to affected MACOMs in a timely manner to support preparation of DD Form 1390 and DD Form 1391, site plans, and other data required by AR 415–15 for new construction.

2. If new or major modification to existing theater war reserve ammunition or toxic chemical storage facilities is anticipated, there are plans for submitting site layout and design data to the DOD Explosives Safety Board for approval according to AR 385–60 and AR 415–15.

3. There are plans for updating and providing theater war reserve ammunition delivery schedules and hazard classification data (such as quantity–distance class, storage compatibility group, DOT class, and conveyor spacing distances) in a timely manner to those organizations having an ammunition storage mission for use in facilities planning.

(b) *POMCUS.* Ensure that there are plans (that is, tasks, milestones, and responsibilities) and resources for refining theater war reserve storage (classes III, VII, VIII, and IX) facility requirement estimates during the EMD phase. Be sure there are plans for providing the data to affected MACOMs in a timely manner to support preparation of DD Form 1390 and DD Form 1391, site plans, and other data required by AR 415–15 for new construction.

(c) *Selected nonwar reserves.* Ensure that—

1. There are plans (that is, tasks, milestones, and responsibilities) and resources for refining GS selected nonwar reserve storage (classes III, VII, and IX) supply facility requirement estimates during the EMD phase. Be sure there are plans for providing the data to affected MACOMs in a timely manner to support preparation of DD

Form 1390 and DD Form 1391, site plans, and other data required by AR 415-15 for new construction.

2. If new or major modification to existing theater war reserve ammunition or toxic chemical storage facilities is anticipated, there are plans for submitting site layout and design data to the DOD Explosives Safety Board for approval according to AR 385-60 and AR 415-15.

3. There are plans for updating and providing GS supply base ammunition delivery schedules and hazard classification data (such as quantity-distance class, storage compatibility group, DOT class, and conveyor spacing distances) in a timely manner to those organizations having an ammunition storage mission for use in facilities planning.

(4) *Depot*. Ensure that preliminary depot supply and storage facility requirements for NDI candidate systems have been determined consistent with the baseline supply and storage concept and in coordination with affected MACOMs. Be sure budget estimates have been submitted for projected new or modified facility requirements within the FYDP period.

(a) *War reserves*. Ensure that—

1. There are plans (that is, tasks, milestones, and responsibilities) and resources for refining depot war reserve storage facility requirement estimates during the EMD phase. Be sure there are plans for providing the data to affected MACOMs in a timely manner to support preparation of DD Form 1390 and DD Form 1391, site plans, and other data required by AR 415-15 for new construction.

2. If new or major modification to existing war reserve ammunition or toxic chemical storage facilities is anticipated, there are plans for submitting site layout and design data to the DOD Explosives Safety Board for approval according to AR 385-60 and AR 415-15.

3. There are plans for updating and providing war reserve ammunition delivery schedules and hazard classification data (such as quantity-distance class, storage compatibility group, DOT class, and conveyor spacing distances) in a timely manner to those organizations having an ammunition storage mission for use in facilities planning.

(b) *RCF*. Ensure that there are plans (that is, tasks, milestones, and responsibilities) and resources for refining RCF storage facility requirements estimates during the EMD phase. Be sure there are plans for providing the data to affected MACOMs in a timely manner to support preparation of DD Form 1390 and DD Form 1391, site plans, and other data required by AR 415-15 for new construction.

(c) *Other operational projects*. Ensure that there are plans (that is, tasks, milestones, and responsibilities) and resources for refining other operational projects depot storage facility requirement estimates during the EMD phase system design. Be sure there are plans for providing the data to affected MACOMs in a timely manner to support preparation of DD Form 1390 and DD Form 1391, site plans, and other data required by AR 415-15 for new construction.

#### 6-44. Training

a. *General*. Ensure that—

(1) There are plans to conduct site surveys or other coordination with affected MACOMs to assist in updating or refining projected new or modified training (institutional and unit) facility requirements.

(2) Plans exist to provide the contractor with a description of existing training facilities characteristics/availability at the projected training locations for use in influencing training equipment/device development.

(3) Where possible, ensure the training elements of the OSCR program have been considered.

b. *Ranges*. Ensure that—

(1) Preliminary training range facility requirements (institutional and unit) and range safety data for NDI candidate systems have been determined based on market investigation results, survey of user experience and, if conducted, DT I/EUT&E and in coordination with affected MACOMs. Make sure budget estimates have been

prepared for projected new or modified facility requirements within the FYDP period.

(2) There are plans (that is, tasks, milestones, and responsibilities) and resources for refining training range facility requirement estimates and range safety data during the EMD phase. Make sure there are plans for providing the data to affected MACOMs in a timely manner to support preparation of DD Form 1390 and DD Form 1391, site plans, and other data required by AR 415-15 for new construction.

c. *Buildings*. Ensure that preliminary training (institutional and unit) buildings facility requirements for NDI candidate systems have been determined in coordination with affected MACOMs. Be sure budget estimates have been prepared for projected new or modified facility requirements within the FYDP period.

(1) *Classrooms*. Ensure that there are plans (that is, tasks, milestones, and responsibilities) and resources for refining training (institutional and unit) classroom facility requirement estimates during EMD phase. Be sure there are plans for providing the data to affected MACOMs in a timely manner to support preparation of DD Form 1390 and DD Form 1391, site plans, and other data required by AR 415-15 for new construction.

(2) *Training equipment and devices*. Ensure that there are plans (that is, tasks, milestones, and responsibilities) and resources for refining training equipment and device facility requirement estimates during the EMD phase. Be sure there are plans for providing the data to affected MACOMs in a timely manner to support preparation of DD Form 1390 and DD Form 1391, site plans, and other data required by AR 415-15 for new construction.

#### 6-45. Planning documentation—support facility annex

Ensure that—

a. For systems having potential facilities impact, the initial support facility annex to the ILSP has been prepared by the MATDEV- (with training input from the CBTDEV) and approved by the Office of the Chief of Engineers (OCE). Make sure the updated information has been distributed to all MACOMs and appropriate installations and HQDA staff elements to provide long-range planning data for MCA projects.

b. For systems having potential facilities impact, there are plans (that is, tasks, milestones, and responsibilities) to update the facilities support annex during the EMD phase. Make sure there are plans to distribute the updated information in sufficient time to assist gaining commands in programming funds for MCA projects if necessary.

### Section XII Standardization and Interoperability

#### 6-46. General

Ensure that—

a. The evaluation of alternative system concepts adequately considered all existing or programmed systems that could potentially satisfy the Army requirements; for example, systems being developed by another Service, the North Atlantic Treaty Organization (NATO), or a quadripartite country (United States, United Kingdom, Canada, or Australia).

b. For ACAT I and II systems, an International Armaments Cooperative Opportunities Plan has been prepared according to AR 70-41, and AR 34-1 by the program sponsor in coordination with the MATDEV.

c. The requirement document was coordinated with NATO and quadripartite countries, subject to national disclosure policy.

d. There are plans and resources to ensure continued coordination and cooperation with NATO and quadripartite countries in the adaptation of systems having standardization or interoperability implications.

e. For foreign developed items and other NDI, a list has been developed showing the data that the foreign or commercial source considers proprietary and any U.S. and foreign patents issued on the item or any component of the item. Ensure that adequate plans exist to ensure that a proprietary data license and, where necessary, a

patent license (or as a minimum a definitive option to acquire these licenses) are obtained before the items are tested, improved, or procured.

#### **6-47. Command, Control, and Communications (CCC)**

Ensure that—

*a.* The results of the market investigation of contractor data, survey of user experience, and, if conducted, DT I and EUT&E and other analyses indicate that CCC system standardization and interoperability objectives are achievable with an NDI adaptation acquisition strategy.

*b.* There are plans and resources to correct CCC system standardization and interoperability problem areas discovered during the market investigation, survey of user experience, and, if conducted, DT I and EUT&E and other analyses.

*c.* There are provisions in the DT II and IOT&E test plans for evaluating each CCC system standardization and interoperability requirement (from ORD or specification) and adhering to other standardization objectives.

*d.* The system requirement document (such as ORD/JSOR) and specification include—

(1) Interoperability requirements compatible with the Army Battlefield Interface Concept and the Army Command and Control Combat Development Plan.

(2) Identification of operational interfaces with other existing and developmental battlefield automated systems (Army, other Services, or allies) including application of existing NATO STANAGs, QSTAGs, or other agreements. (See DA Pam 310-35 for a partial list of agreements. Contact U.S. Army Security Affairs Command, ATTN: AMSAC-MC/S 5001 Eisenhower Ave., ALEX VA 22333-0001, for further information.)

(3) Requirements to use common or compatible ADPE and communications equipment.

(4) Requirements for two or more battlefield automated systems to directly exchange and process data.

#### **6-48. Battlefield surveillance and target designation and acquisition systems**

To assess these systems, ensure the following:

*a.* The results of the market investigation, survey of user experience, and, if conducted, DT I/EUT&E and other analyses indicate that battlefield surveillance and target designation and acquisition system standardization and interoperability objectives are achievable with an NDI adaptation acquisition strategy.

*b.* There are plans and resources to correct battlefield surveillance and target designation and acquisition system standardization and interoperability problem areas discovered during the market investigation, survey of user experience, and, if conducted, DT I/EUT&E and other analyses.

*c.* There are provisions in the DT II and IOT&E test plans for testing to assess each battlefield surveillance and target designation and acquisition system standardization and interoperability requirement (from ORD or specification) and adherence to other standardization objectives.

*d.* For battlefield surveillance and target designation systems, the requirement document (such as ORD or JSOR) and contract contain provisions to ensure the system will be able to interoperate with friendly (that is, Army, other Service, and allies) existing and developmental IFF equipment.

*e.* For battlefield surveillance and target designation and acquisition systems, the requirement document (such as ORD/JSOR) and specification include appropriate requirements to directly exchange and process data with other Army, other Service, and allied country battlefield automated systems.

*f.* The requirement document (such as ORD/JSOR) and specification include appropriate provisions for the weapon system to interoperate with existing or developmental Army, other Service, or allied country battlefield surveillance and target designation and acquisition systems.

#### **6-49. Ammunition**

Ensure that—

*a.* The results of the market investigation, survey of user experience, and, if conducted, DT I and EUT&E and other analyses indicate that weapon system ammunition standardization and interoperability objectives are achievable with an NDI adaption acquisition strategy.

*b.* There are plans and resources to correct weapon system ammunition standardization and interoperability problem areas discovered during the market investigation, survey of user experience, and, if conducted, DT I/EUT&E and other analyses.

*c.* There are provisions in the DT II and IOT&E test plans for testing to assess each weapon system ammunition standardization and interoperability requirement (from ORD or specification) and adherence to other standardization objectives.

*d.* The system requirement document (such as ORD or JSOR) and contract specification contain provisions to ensure the weapon system will be designed to effectively standardize or interoperate with ammunition used by existing or developmental Army, other Service, and allied nation equipment that is or may be required to implement NATO or other operational plans. Ensure these provisions include application of existing NATO STANAGs, QSTAGs, or other agreements. (See DA Pam 310-35 for a partial list of agreements. Contact U.S. Army Security Affairs Command, ATTN: AMSAC-MC/S, 5001 Eisenhower Ave., ALEX VA 22333-0001, for further information.)

#### **6-50. POL**

Ensure that—

*a.* The results of the market investigation, survey of user experience, and, if conducted, DT I/EUT&E and other analyses indicate that system POL standardization and interoperability objectives are achievable with an NDI adaptation acquisition strategy.

*b.* There are plans and resources to correct system POL standardization and interoperability problem areas discovered during the market investigation, survey of user experience, and, if conducted, DT I/EUT&E and other analyses.

*c.* There are provisions in the DT II and IOT&E test plans for testing to assess each system POL standardization and interoperability requirement (from ORD or specification) and adherence to other standardization objectives.

*d.* The system requirement document (such as ORD or JSOR) and contract specification contain provisions to ensure the system will be designed to effectively standardize or interoperate with POL used by existing or developmental Army, other Service, and allied nation equipment that is or may be required to implement NATO or other operational plans. Ensure these provisions include application of existing NATO STANAGs, QSTAGs, or other agreements. (See DA Pam 310-35 for a partial list of agreements. Contact U.S. Army Security Affairs Command, ATTN: AMSAC-MC/S, 5001 Eisenhower Ave., ALEX VA 22333-0001, for further information.)

*e.* There are contractual provisions requiring the system to be designed/redesigned, if feasible, to use Army-approved standard fuels and lubricants as listed in the AMDF, MIL-HDBK-113, MIL-HDBK 114, TB 703-1, and AR 710-2. Unless approved by the AAE, there are provisions to prohibit the NDI candidate system from being designed/redesigned to use gasoline-type fuels if the system is intended for deployment and/or employment outside the United States.

*f.* If a new fuel is proposed for entry into the Army logistics system, the proposal has been approved by the DCSLOG and the Assistant Secretary of Defense for Production and Logistics.

*g.* There are plans and contractual provisions to select, if no standard lubricant is considered acceptable for the intended application, the recommended lubricant according to the procedures (such as mandatory coordination with BRDEC (STRBE-VF)) in MIL-STD-838 and MIL-HDBK-113 as required by AR 710-2.

#### **6-51. Components and repair parts**

Ensure that—

a. For each NDI candidate system, the market investigation identified those components the manufacturer considers to be proprietary.

b. The results of the market investigation, survey of user experience, and, if conducted, DT I/EUT&E and other analyses indicate that component and repair parts standardization and interoperability objectives are achievable with an NDI adaptation acquisition strategy.

c. There are plans and resources to correct component and repair parts standardization, interchangeability, and interoperability problem areas discovered during the market investigation, survey of user experience, and, if conducted, DT I/EUT&E and other analyses.

d. There are provisions in the DT II and IOT&E test plans for testing to assess each component and repair parts standardization, and interoperability requirement (from ORD or specification) and adherence to other standardization objectives.

e. The system requirement document (such as ORD or JSOR) and contract specification contain provisions to ensure the system will be designed to effectively standardize or interchange to the extent feasible with components and repair parts from existing or developmental Army, other Service, and allied nation equipment that is or may be required to implement NATO or other operational plans. Ensure these provisions include application of existing NATO STANAGs, QSTAGs, or other agreements. (See DA Pam 310-35 for a partial list of agreements. Contact U.S. Army Security Affairs Command, ATTN: AMSAC-MC/S, 5001 Eisenhower Ave., ALEX VA 22331-0001, for further information.)

f. There are contractual provisions to require the NDI candidate item selected for the EMD phase to use metric components and repair parts unless the program decision authority has approved an exception in accordance with AR 70-1 and AR 700-1.

g. There are plans and contractual requirements for system redesign, where feasible, to use military standard parts and components and for conducting a parts control according to AR 700-47 and AR 700-60, respectively. All systems that do not intend to apply the DOD parts control program require approval from HQ AMC (AMCPD-SE).

h. The requirement document adequately considers standardization using existing vehicle chassis, airframes, and radars.

## 6-52. Aircraft servicing

Ensure that the following criteria have been met:

a. The results of the market investigation, survey of user experience, and, if conducted, DT I/EUT&E and other analyses indicate that aircraft cross-servicing standardization and interoperability objectives are achievable with an NDI adaptation acquisition strategy.

b. There are plans and resources to correct aircraft cross-servicing standardization and interoperability problem areas discovered during the market investigation, survey of user experience, and, if conducted, DT I/EUT&E and other analyses.

c. There are provisions in the DT II and IOT&E test plans for testing to assess each aircraft cross-servicing standardization and interoperability requirement (from ORD or specification) and adherence to other standardization objectives.

d. For aircraft ammunition and POL loading/dispensing equipment, the requirement document (such as ORD or JSOR) and contract specification contain provisions for the equipment to effectively interoperate with aircraft of other Services and allies to permit cross-servicing.

e. For aircraft systems, the requirement document (such as ORD or JSOR) and contract specifications contain provisions to ensure the aircraft system design is compatible with ammunition, POL, and associated loading and dispensing equipment of other services and allies to permit cross-servicing according to AR 34-1.

## Section XIII Reliability, Availability, and Maintainability

### 6-53. Reliability

a. *General.* To assess system reliability, make certain that—

(1) The market investigation evaluated those reliability program tasks identified in AR 702-3 and that the evaluation results including survey of user experience support the suitability of the NDI adaptation acquisition strategy in achieving system mission related reliability, logistics related reliability, and durability requirements.

(2) An FD/SC, consistent with the OMS/MP and RAM requirements (including assessment of incidents related to logistics burden), has been updated as necessary and coordinated with required agencies according to AR 702-3.

(3) The OMS/MP has been updated as necessary to be consistent with the latest MNS and quantitative RAM requirements.

(4) There are contractual provisions for conduct of a reliability program, according to MIL-STD-785, including appropriate engineering, test, and management/accounting tasks per AR 702-3 to balance LCC and system effectiveness.

(5) Firm operational and technical reliability thresholds for MDR III and IOC have been included in the IPS.

b. *Mission related.* Ensure that—

(1) Appropriate firm system reliability requirements related to operational effectiveness or mission success have been included in the requirement document and contractual specification for the EMD phase. Be sure the requirements have been compared to a baseline system.

(2) The results of the market investigation, to include survey of user experience and, if conducted, DT I/EUT&E, and engineering analysis indicate satisfactory progress toward meeting the system mission-related reliability requirements, resolution of problems typical of similar fielded systems, and identification of manageable technical risks or areas for improvement.

(3) Mission-related reliability growth plans have been established (ACAT I and II systems as a minimum) consistent with historical experience of similar NDI adaptation efforts and programmed research, development, test, and evaluation (RDTE)/funding, and development and test times.

(4) There are plans and resources to correct mission-related reliability deficiencies and shortcomings found during the market investigation, survey of user experience, and, if conducted, DT I/EUT&E.

(5) The DT II test planning includes sufficient RAM testing and test resources to—

(a) Evaluate achievement of contractual mission-related reliability requirements (for example, threshold value achieved at a high confidence level).

(b) Balance users' and producers' risks within available test resources.

(c) Evaluate RAM requirements under basic climatic conditions and those extreme conditions associated with a relatively high frequency of use in the OMS.

(d) Collect data according to LSA requirements.

(6) The IOT&E test planning includes enough RAM testing and test resources to—

(a) Evaluate achievement of the mission-related reliability requirement according to the OMS/MP and under field support conditions.

(b) Balance users' and producers' risks within available test resources.

(c) Collect data according to LSA requirements.

c. *Logistics-related requirements.* Ensure that—

(1) Appropriate firm system reliability requirements related to logistics resource requirements and costs have been included in the requirement document and contractual specification for the EMD phase. Make sure requirements have been compared to a baseline system.

(2) The results of the market investigation, survey of user experience, and, if conducted, DT I/EUT&E and engineering analysis indicate satisfactory progress toward meeting system logistics-related reliability requirements, resolution of problems typical of similar fielded systems, and identification of manageable technical risks or areas for improvement.

(3) There are plans and resources to correct logistics-related reliability deficiencies and shortcomings found during the market investigation, survey of user experience, and, if conducted, DT I/EUT&E.

(4) Logistics-related reliability growth plans have been established (ACAT I and II systems as a minimum) consistent with historical experience of similar NDI adaptation efforts and programmed RDTE funding, and development and test times.

(5) The DT II test planning includes enough RAM testing and test resources to—

(a) Evaluate achievement of contractual logistics-related reliability requirements (for example, threshold value achieved at a high confidence level).

(b) Balance users' and producers' risks within available test resources.

(c) Evaluate RAM requirements under basic climatic conditions and those extreme conditions associated with a relatively high frequency of use in the OMS.

(d) Collect data according to LSA requirements.

(6) The IOT&E test planning includes enough RAM testing and test resources to—

(a) Evaluate achievement of each logistics-related reliability requirement according to the OMS/MP and under field support conditions.

(b) Balance users' and producers' risks within available test resources.

(c) Collect data according to LSA requirements.

d. *Durability.* Ensure that—

(1) Appropriate firm system and major subsystem durability requirements have been included in the requirement document and contractual specification for the EMD phase. Be sure the requirements have been compared to a baseline system.

(2) The DT II test planning includes sufficient RAM testing and test resources to—

(a) Provide data to assess achievement of contractual durability requirements (for example, threshold value achieved at a high confidence level).

(b) Balance users' and producers' risks within available test resources.

(c) Evaluate durability requirements under basic climatic conditions and those extreme conditions associated with a relatively high frequency of use in the OMS.

(d) Collect data according to LSA requirements.

(3) The IOT&E test planning includes enough durability testing and test resources to—

(a) Provide data to assess achievement of each durability requirement according to the OMS/MP and under field support conditions.

(b) Balance users' and producers' risks within available test resources.

(c) Collect data according to LSA requirements.

#### **6-54. Availability and system readiness objective**

Ensure the following criteria have been met:

a. Firm SRO thresholds and availability criteria have been established in the requirements document and IPS consistent with the MNS and current technology.

b. The results of the market investigation, survey of user experience, and, if conducted, DT I/EUT&E and engineering analysis indicate satisfactory progress toward meeting system SRO and availability requirements, resolution of problems typical of similar fielded systems, and identification of manageable technical risks or areas for improvement.

c. There are plans and resources to correct SRO deficiencies and shortcomings found during the market investigation, survey of user experience, and, if conducted, DT I/EUT&E.

d. The mean administrative and logistics downtime projected in the SROs (or operational availability) is consistent with the MNS and historical data regarding anticipated supply, maintenance, and recovery and evacuation responsiveness. (See the Logistics Intelligence File, AR 700-18, and AR 725-50 for data regarding supply responsiveness.)

#### **6-55. Maintainability**

a. *General.* Ensure that—

(1) The market investigation evaluated those maintainability program tasks identified in AR 702-3 and the evaluation results support suitability of the NDI adaptation acquisition strategy in achieving system maintainability requirements.

(2) There are contractual provisions for conducting a maintainability program according to MIL-STD-470, MIL-STD-471 and AR 702-3, including appropriate engineering, test and management, or accounting tasks to balance LCC and system effectiveness.

(3) For electronic systems, applicable pre-milestone II testability program tasks per MIL-STD-2165 have been accomplished and applicable EMD phase tasks are programmed to be accomplished. Use market investigation results, survey of user experience, and, if conducted, DT I/EUT&E results to evaluate adequacy of those testability tasks normally conducted prior to milestone II.

b. *Qualitative.* Ensure qualitative requirements have been met as shown in the following areas:

(1) *Test points.*

(a) The results of the market investigation, survey of user experience, and, if conducted, DT I/EUT&E and engineering analysis indicate satisfactory progress toward meeting system testability requirements, resolution of problems typical of similar fielded systems, and identification of manageable technical risks or areas for improvement.

(b) There are contractual provisions for system adaptation to provide test points that are safe, protected, accessible, and of sufficient quantity and sensitivity to permit interface with existing ATE and fault isolation to the desired level, including monitoring BIT circuits.

(c) There are plans and resources to correct testability deficiencies and shortcomings found during the market investigation, survey of user experience, and, if conducted, DT I/EUT&E.

(d) The DT II test planning includes sufficient RAM testing and test resources to evaluate adequacy of system test points.

(e) The IOT&E test planning includes sufficient RAM testing and test resources to provide data for evaluation of design for testability.

(2) *Modularity.*

(a) The results of the market investigation, survey of user experience, and, if conducted, DT I/EUT&E and engineering analysis indicate satisfactory progress toward meeting system modularity requirements, resolution of problems typical of similar fielded systems, and identification of manageable technical risks or areas for improvement.

(b) There are contractual provisions to adapt the system so that LRUs and SRUs are physically and functionally modularized and independently testable to facilitate fault isolation and replacement by the using unit.

(c) There are plans and resources to correct system modularity deficiencies and shortcomings found during the market investigation, survey of user experience, and, if conducted, DT I/EUT&E.

(d) The IOT&E test planning includes sufficient maintainability testing and test resources to evaluate adequacy of system design for modularity.

(e) The IOT&E test planning includes sufficient maintainability testing and test resources to provide data for evaluation of design for modularity.

(3) *Accessibility.*

(a) The results of the market investigation, survey of user experience, and, if conducted, DT I/EUT&E and engineering analysis indicate satisfactory progress toward meeting system component accessibility requirements, resolution of problems typical of similar fielded systems, and identification of manageable technical risks or areas for improvement.

(b) There are contractual provisions to ensure system design provides for rapid access to each assembly or component for inspection, repair or replacement, or servicing.

(c) If the system is a candidate for inclusion in the Army Oil Analysis Program, there are plans and contractual provisions for designing oil sampling valves for the engine, transmission, and so forth.

(d) There are plans and resources to correct component accessibility deficiencies and shortcomings found during the market investigation, survey of user experience, and, if conducted, DT I/EUT&E.

(e) The DT II test planning includes sufficient maintainability testing and test resources to evaluate adequacy of system design for accessibility of components and assemblies under basic climatic conditions and those extreme conditions associated with a relatively high frequency of use in the OMS.

(f) The IOT&E test planning includes sufficient maintainability testing and test resources to provide data for evaluation of design for accessibility of components and assemblies.

c. *Quantitative.* Ensure that an FD/SC, consistent with the OMS/MP (including assessment of incidents related to assessing the quantitative maintainability requirements) has been prepared and coordinated with required agencies. Ensure that quantitative requirements have been met as shown in the following areas:

(1) *BIT/BITE.*

(a) Appropriate firm system BIT/BITE effectiveness requirements have been included in the requirement document and contractual specification for the EMD phase. Be sure the requirements have been compared to a baseline system and thresholds for MDR III and IOC have been included in the IPS.

(b) The results of the market investigation, survey of user experience, and, if conducted, DT I/EUT&E and engineering analysis indicate satisfactory progress toward meeting BIT/BITE effectiveness requirements, resolution of problems typical of similar fielded systems, and identification of manageable technical risks or areas for improvement.

(c) There are plans and resources to correct BIT/BITE effectiveness deficiencies and shortcomings found during the market investigation, survey of user experience, and, if conducted, DT I/EUT&E.

(d) The DT II test planning includes enough BIT/BITE effectiveness testing and test resources to evaluate achievement of requirement document (such as ORD, JSOR, or TDR) and contractual requirements (for example, threshold value met at a high confidence level).

(e) The IOT&E test planning includes enough RAM testing and test resources to provide data for evaluation of BITE effectiveness requirements.

(2) *On-system maintenance.*

(a) Appropriate firm system maintainability (on-system) requirements have been included in the requirement document and contractual specification for the EMD phase. Be sure the requirements have been compared to a baseline system and thresholds for MDR III and IOC have been included in the IPS.

(b) The results of the market investigation, survey of user experience, and, if conducted, DT I/EUT&E and engineering analysis indicate satisfactory progress toward meeting system maintainability (on-system) requirements, resolution of problems typical of similar fielded systems, and identification of manageable technical risks or areas for improvement.

(c) There are plans and resources to correct maintainability (on-system) deficiencies and shortcomings found during the market investigation, survey of user experience, and, if conducted, DT I/EUT&E.

(d) The DT II test planning includes enough RAM testing and test resources to—

1. Evaluate achievement of contractual maintainability (on-system) requirements (for example, threshold value met at a high confidence level).

2. Balance users' and producers' risks within available test resources.

3. Evaluate RAM requirements under basic climatic conditions and those extreme conditions associated with a relatively high frequency of use in the OMS.

4. Collect data according to LSA requirements.

(e) The IOT&E test planning includes enough RAM testing and test resources to—

1. Evaluate achievement of each maintainability (on-system) requirement according to the OMS/MP and under field support conditions.

2. Balance users' and producers' risks within available test resources.

3. Collect data according to LSA requirements.

(f) There are contractual provisions to implement RCM principles and methodology in the selection of scheduled maintenance requirements and to document RCM logic results according to MIL-STD-1388-2B.

(3) *Off-system maintenance.*

(a) Appropriate firm system maintainability (off-system) requirements have been included in the requirement document and contractual specification for the EMD phase. Be sure the requirements have been compared to a baseline system and thresholds for MDR III and IOC have been included in the IPS.

(b) The results of the market investigation, survey of user experience, and, if conducted, DT I/EUT&E and engineering analysis indicate satisfactory progress toward meeting system maintainability (off-system) requirements, resolution of problems typical of similar fielded systems, and identification of manageable technical risks or areas for improvement.

(c) There are plans and resources to correct maintainability (off-system) deficiencies and shortcomings found during the market investigation, survey of user experience, and, if conducted, DT I/EUT&E.

(d) The DT II test planning includes enough RAM testing and test resources to—

1. Evaluate achievement of contractual maintainability (off-system) requirements (for example, threshold value met at a high confidence level).

2. Balance users' and producers' risks within available test resources.

3. Evaluate RAM requirements under basic climatic conditions and those extreme conditions associated with a relatively high frequency of use in the OMS.

4. Collect data according to LSA requirements.

(e) The IO&TE test planning includes enough RAM testing and test resources to—

1. Evaluate achievement of each maintainability (off-system) requirement according to the OMS/MP and under field support conditions.

2. Balance users' and producers' risks within available test resources.

3. Collect data according to LSA requirements.

## **Section XIV Support Management and Analysis**

### **6-56. Support management**

a. *Logistics program planning documents.* Ensure appropriate action has been taken regarding the following:

(1) *ILSP.*

(a) An ILS management team (ILSMT) has been established for all ACAT I and II systems and selected ACAT III and IV programs as required by AR 700-127. An ILSMT or other appropriate procedure for coordinating overall ILS planning and execution has been established for other ACAT III and IV systems. Ensure the ILSMT includes membership according to AR 700-127, to include affected commands (i.e., MTMC, U.S. Army Depot System Command (DESCOM), and COE).

(b) The ILSP has been prepared, coordinated, and approved according to AR 700-127 and DA Pam 700-55, to include necessary tasks, responsibilities, and milestones for subsequent acquisition phases.

(c) The LSA strategy has been documented in the ILSP as required by AR 700-127.

(d) ILS managers have been assigned by the MATDEV, PEO/

PM, and by the supporting command (if different from the MAT-DEV) according to AR 700-127. Make certain they have participated with the CBTDEV ILS manager in concept exploration phase ILS activities.

(e) Provisions of the current System MANPRINT Management Plan have been integrated into the ILSP according to AR 700-127.

(f) (Applies only to the displaced systems.) The systems being displaced, if any, have been identified and a manager has been designated by the supporting command to conduct support planning for the displaced system.

(g) (Applies only to the displaced systems.) Key ILS management milestones for those displaced systems that are to be included in the AMIM have been established and included in the Acquisition Management Milestone System (AMMS) according to DA Pam 700-26.

(h) (Applies only to the displaced systems.) A first unit equipped date (FUED) and other key intermediate ILS milestones for displaced systems not included in the AMIM have been established and added to the AMMS according to DA Pam 700-26.

(i) Detailed ILS program events and tasks for the NDI adaptation system have been established in AMMS according to AR 700-127 and DA Pam 700-26. Be sure the milestones are consistent with AR 700-127 and materiel fielding planning time-phasing requirements and with the milestones addressed in the ILSP.

(2) *Configuration management plan.* The configuration management plan and technical data package management plan have been prepared to define procedures and responsibilities for managing the system configuration and revising the data package according to AR 70-1. (See MIL-STD-1456 for configuration management plan format.)

(3) *IPS.* A IPS has been prepared according to DOD 5000.2-M, to include the program baseline and NDI adaptation acquisition strategy coordinated with the acquisition team.

(4) *Acquisition strategy.* The NDI adaptation acquisition strategy has been prepared, coordinated with acquisition team members, and summarized in the IPS according to DOD 5000.2 to include a summary of ILS, MANPRINT, RAM, supportability test and evaluation, standardization, and support cost control plans.

b. *Requirement document.* Ensure required action has been taken in the following categories:

(1) *System.*

(a) A system requirement document (such as ORD or JSOR) has been prepared, coordinated and approved according to AR 71-9 to include logistic requirements and support cost estimates. A CSA, AAE, DCSOPS memorandum or message directive containing the information required, to include identifying the essential characteristics of the requirement, can serve in lieu of a materiel requirements document.

(b) The initial MNS has been updated (as necessary), and approved according to AR 71-9 to reflect changes in threat, technology, or doctrine.

(2) *Training devices.* TDRs/commercial training device requirements (CTDRs) have been prepared, coordinated and approved according to AR 71-9 for each new device that has been identified as necessary to increase the effectiveness and reduce the cost of training system operator or support personnel.

(3) *Support and test equipment.* A requirement document (such as ORD or JSOR) has been prepared, coordinated, and approved according to AR 71-9 for each new item of equipment required for system support and requiring type classification.

c. *BOIP.* Ensure appropriate action has been taken in the following categories:

(1) *System.*

(a) Unless a deferral is approved, a BOIP (if required by AR 71-2) has been approved by the Office of the Deputy Chief of Staff for Operations and Plans (ODCSOPS) and distributed to MACOMs, USAFISA, the logistician, and to other interested activities.

(b) Plans (that is, tasks, responsibilities, and milestones) have been established to review the BOIP as to any required changes and,

as necessary, to recoordinate and obtain ODCSOPS approval of the amended BOIP prior to MDR III, according to AR 71-2.

(2) *Support and test equipment.*

(a) If required by AR 71-2 and unless a deferral is approved, a BOIP for the support and test equipment required by the system has been approved by ODCSOPS and distributed to MACOMs, USAFISA, logistician and to other interested activities.

(b) Plans have been established to review the BOIP as to any required changes and, as necessary, to recoordinate and obtain ODCSOPS approval of the amended BOIP for the support and test equipment required by the system prior to MDR III.

(3) *Training devices.*

(a) If required by AR 71-2 and unless a deferral is approved, a BOIP for the training devices required by the NDI system adaptation has been approved by ODCSOPS and distributed to MACOMs, USAFISA, logistician, and to other interested activities.

(b) Plans have been established according to AR 71-2 to review the BOIP as to required changes and, as necessary, to recoordinate and obtain ODCSOPS approval of an amended BOIP for the training devices required by the system prior to MDR III.

d. *Test planning.* Ensure required actions have been taken as shown below.

(1) A Test Integration Working Group (TIWG) has been chartered for ACAT I and II systems and selected other systems according to AR 73-1 and DA Pam 70-21. The TIWG includes principal and appropriate associate membership by logistics-oriented activities (for example, logistician, CASCOM, MTMC, and major subordinate commands (MSCs)).

(2) An LD plan has been prepared. Make sure the plan includes provisions to accomplish the objectives specified in AR 700-127. (This is applicable after MDR I/II and prior to LD.)

(3) The TEMP has been prepared, coordinated, and approved according to AR 73-1, AR 70-1, and DA Pam 70-21. Make sure the TEMP includes appropriate LD, DT II, IOT&E, and production testing supportability test issues, criteria, objectives/scope, SSP availability, and special resources (for example, dedicated test article) requirements.

(a) *DT OTP.* If supplementary user troops are required, a DT II OTP has been prepared and coordinated according to AR 73-1 and DA Pam 73-1 to include supportability test objectives/scope, support resources to be evaluated, and logistics data collectors, as necessary.

(b) *OT OTP.* An IOT&E OTP has been prepared and coordinated according to AR 73-1 and DA Pam 73-1 to include supportability test objectives/scope, support resources to be evaluated, and logistics data collectors.

(c) *DT TDP.* The DT II TDP has been prepared and coordinated according to AR 73-1 to include test conditions, test criteria, data requirements, and data analysis procedures applicable to evaluating supportability issues contained in the TEMP and DT II IEP. (This is applicable after MDR I/II and prior to DT II.)

e. *Solicitation documents.* Ensure that the elements of ILS have been given enough weight in the source selection process as required by AR 700-127. Ensure required actions have been taken as shown below.

(1) *SOW.* The contractual (RFP) SOW for the EMD phase has been developed in coordination with the assigned major subordinate command (MSC) ILS organization to include requirements to plan for and accomplish applicable ILS tasks. (Consider issues from each of the 17 ILS assessment considerations.) Be sure there are provisions to deliver a system support package components list and elements of the system support package for LD, DT II, and IOT&E.

(2) *CDRL.* The CDRL for the EMD phase has been developed in coordination with the assigned MSC ILS organization to include delivery of the SSPCL and other data required for effective management of the ILS program.

(3) *Specifications.*

(a) The system specification/purchase description (including those for significant developmental support and test equipment and

training devices) for the EMD phase has been developed in coordination with the assigned MSC ILS organization. Be sure it includes, consistent with the requirement document(s), ILS-related design and support resource technical development goals/thresholds. (See related issues from each of the 17 ILS assessment considerations and evaluation procedures (for example, DT II/IOT&E).)

(b) The system specification/purchase description clearly defines a baseline operational scenario, BMC, and readiness/employment objectives.

(c) When possible, a commercial market specification or a performance specification is used for the NDI acquisition.

f. *IEP and TEP*. Ensure required actions have been taken as shown below.

(1) *DT IEP*. A DT II IEP has been prepared and coordinated according to AR 73-1. Be sure it includes supportability test issues (as developed from ORD/TDR/JSOR and AR 700-127 requirements, DA Pam 700-50, TEMP, specifications or other sources, test conditions), evaluation of the SSP identification of data requirements and sources, and evaluation criteria/methodology (related to O&S cost, manpower, or readiness). (This is applicable after MDR II and prior to DT II.)

(2) *OT TEP*. An IOT&E TEP has been prepared and coordinated according to AR 73-1 and DA Pam 73-1. Be sure it includes supportability test issues (as developed from ORD/TDR/JSOR and AR 700-127 requirements, DA Pam 73-1, TEMP, specification, or other sources), SSP evaluation, test conditions, identification of data requirements and sources, and evaluation criteria/methodology (related to O&S cost, manpower, or readiness). (This is applicable after MDR I/II and prior to IOT&E.)

g. *CALS*. CALS standards will be applied for those systems determined to have cost savings and/or quality improvements from changing weapon system paper deliverables to digital data delivery or access using the CALS standards. Ensure required actions have been taken as shown below. Solicitation documents for the next phase require specific schedule and cost proposals for:

(1) Integration of contractor technical information systems and processes,

(2) Authorized Government access to contractor technical data bases, and

(3) Delivery of technical information in digital form in accordance with CALS standards (MIL-STD-1840, MIL-D-28000, MIL-M-28001, MIL-M-28002, MIL-M-28003, and MIL-HDBK 59).

## 6-57. Support analysis

a. *Concept formulation*. Ensure the following documentation has been prepared according to AR 71-9 to document the evaluation of alternative system concepts:

- (1) Trade-off determination.
- (2) Trade-off analysis.
- (3) Best technical approach.
- (4) COEA. (See section XV).

b. *Test data*. Ensure required actions have been taken as shown below.

(1) *DT TR*.

(a) The market investigation report and, if conducted, DT I TR has been provided to those organizations specified in AR 73-1 for their use in developing MDR I/II IPR/ASARC recommendations.

(b) There are plans to prepare and distribute the DT II TR according to AR 73-1 prior to MDR III.

(2) *DT IER*.

(a) The market investigation/DT I IER has been provided to those organizations specified in AR 73-1 for their use in developing MDR I/II IPR/ASARC recommendations.

(b) There are plans to prepare and distribute the DT II IER according to AR 73-1 prior to MDR III.

(3) *OT TR*.

(a) If EUT&E is conducted, the EUT&E TR has been provided

to those organizations specified in AR 73-1 for their use in developing MDR I/II IPR/ASARC recommendations.

(b) There are plans to prepare and distribute the IOT&E TR according to AR 73-1 prior to MDR III.

(4) *OT IER*.

(a) The market investigation/EUT&E IER has been provided to those organizations specified in AR 73-1 for their use in developing MDR I/II IPR/ASARC recommendations.

(b) There are plans to prepare and distribute the IOT&E IER according to AR 73-1 prior to MDR III.

(5) *LD report*. There are plans to provide the LD report prior to MDR III to those organizations involved in the MDR process.

c. *LSA*. Ensure that—

(1) An LSA review team of Government ILS functional and managerial representatives has been established according to AR 700-127.

(2) Required actions have been taken in the areas shown below. (See AR 700-127 for required MANPRINT integration with LSA.) Use market investigation results, survey of user experience, and, if conducted, DT I/EUT&E results to evaluate adequacy of those pre-Milestone II LSA tasks normally conducted by the contractor.

(a) Applicable pre-Milestone II phase program planning and control LSA tasks have been accomplished. (See MIL-STD-1388-1A and AR 700-127 guidance to determine applicable tasks.)

(b) There are plans to accomplish applicable EMD phase program planning and control LSA tasks. (See MIL-STD-1388-1A and AR 700-127 for guidance regarding task selection.)

(3) Mission and support system definition.

(a) Applicable pre-Milestone II phase mission and support system definition LSA tasks have been accomplished. (See MIL-STD-1388-1A and AR 700-127.) LSAR "A" sheet has been prepared for items with maintenance objectives or constraints imposed.

1. The results of the comparative analysis are being used to identify the items with the greatest logistics burden.

2. Maximum use is being made of technological opportunities in system NDI adaptation to reduce the logistics burden, including those items identified by the comparative analysis.

(b) There are plans to accomplish applicable EMD phase mission and support system definition LSA tasks. (See MIL-STD-1388-1A and AR 700-127 for guidance regarding task selection.)

(4) Preparation and evaluation of alternatives.

(a) Applicable pre-Milestone II phase preparation and evaluation of alternative LSA tasks have been accomplished. (See MIL-STD-1388-1A and AR 700-127 guidance to determine applicable tasks.)

(b) There are plans to accomplish applicable EMD phase preparation and evaluation of alternative LSA tasks. (See MIL-STD-1388-1A and AR 700-127 for guidance regarding task selection.)

(5) Support resources identification.

(a) There are plans to provide LSA data sheets and summaries to TRADOC on a timely basis to satisfy their needs.

(b) Applicable pre-Milestone II phase support resources identification LSA tasks have been accomplished. (See MIL-STD-1388-1A and AR 700-127 guidance to determine applicable tasks.)

(c) There are plans to accomplish applicable EMD phase support resources identification LSA tasks. (See MIL-STD-1388-1A and AR 700-127 for guidance regarding task selection.)

1. The LSA/LSAR data are scheduled to be available in time to serve as source data for each of the ILS products being developed (for example, TMs, MAC, RPSTL, QQPRI, and provisioning). Make sure the schedule is realistic.

2. The EMD contract specifies a quality control program for the LSAR data.

(6) Supportability assessment.

(a) Applicable pre-Milestone II phase supportability assessment LSA tasks have been accomplished. (See MIL-STD-1388-1A and AR 700-127 guidance to determine applicable tasks.)

(b) There are plans to accomplish applicable EMD phase supportability assessment LSA tasks. (See MIL-STD-1388-1A and AR 700-127 for guidance regarding task selection.)

## Section XV Cost Analysis and Funding

### 6-58. Logistics-related research and development

Ensure adequate funds have been programmed for the purposes stated below.

a. *LSA*. Accomplish applicable EMD phase LSA tasks. (See MIL-STD-1388-1A and AR 700-127 for guidance regarding task selection.)

b. *LD*. Fabricate a prototype of the NDI adaptation system and provide the resources to conduct an LD for the system and any peculiar support and test equipment requiring type classification.

c. *SSP*. Develop/prepare SSP elements for delivery at DT II and IOT&E for the items below. (See AR 700-127 for detailed definition of SSP elements.)

- (1) Technical data.
- (2) Training services and equipment.
- (3) Support and test equipment.
- (4) TPSs.
- (5) Repair parts.

### 6-59. Logistics-related investment—procurement

Ensure that—

a. Adequate funds have been programmed for technical data package acquisition when included in the acquisition strategy according to DOD 5000.2.

b. Adequate funds have been programmed for procurement of the long lead time items for the following:

- (1) End item/system.
- (2) Ammunition.
- (3) Support and test equipment.
- (4) Training devices.

c. Plans have been established to obtain necessary fund approval prior to obligation for long lead time items.

### 6-60. Cost analysis documentation

Ensure the following have been updated:

a. *BCE*. The BCE (development estimate) has been prepared consistent with results of market investigation activities and, if conducted, DT I/EUT&E. Be sure ILS program funding requirements have been included.

b. *ICE*. The ICE has been prepared to test the reasonableness of the BCE (development estimate).

c. *ACP*. For ACAT I and II systems, the ACP has been prepared by ASA(FM) to compare the BCE and ICE.

d. *MSRS*.

(1) The MSRS has been prepared consistent with results of the market investigation. (See AR 11-18 for MSRS format.)

(2) Milestones have been established to update the MSRS in a timely manner prior to MDR III and to provide the updated document to the organization responsible for the ICE.

e. *COEA/CTEA*.

(1) The COEA/CTEA (ACAT I and II systems only) has been prepared according to AR 71-9 and approved by HQDA (ODCSOPS) to document the evaluation of alternative system and training concepts, to include NDI.

(2) The cost and benefanalysis (for IPR programs) has been prepared according to AR 71-9 to document the evaluation of alternative system and training concepts, to include NDI.

f. *OSCR*. Where appropriate, ensure the cost analysis and funding related elements of the OSCR program have been adequately considered.

## Section XVI Materiel Fielding Planning

### 6-61. Developer

a. *AMIM*. If the system will have a resource impact (for example, repair parts, POL, training, personnel, or facilities) on gaining MACOMs and meets other selection criteria per DA Pam 5-25, ensure that the system has been included according to the format and information requirements published by HQDA (DAMO-FDR) to facilitate MACOM budget submittals.

b. *Memorandum of notification (MON)*. Ensure there are plans to forward the MON to gaining MACOMs according to the NDI fielding milestones specified in AR 700-142.

c. *Materiel fielding plan (MFP)*. If the system may have a support impact on the gaining MACOM, ensure there are plans for preparing a draft MFP according to DA Pam 700-142. Make sure there are plans for coordinating the draft MFP with gaining MACOMs and ILS program participants according to the NDI fielding milestones specified in AR 700-142. ( *Note*: Gaining command concurrence is required to waive the requirement for and MFP.)

d. *Materiel transfer plan (MTP)*. For each displaced system (applies only to the displaced system) that may have a support impact on the gaining MACOM and is being fielded to that MACOM for the first time, ensure there are plans for preparing and coordinating a draft MTP according to the NDI fielding milestones specified in AR 700-142. If an MTP is not required, ensure that milestones have been established between gaining and losing MACOMs to formulate a memorandum of agreement (MOA) prior to system transfer.

### 6-62. Gaining commands—mission support plans

Ensure that—

a. There are plans for MACOMs receiving the new system to provide proposed and final mission support plans (MSPs) according to the NDI fielding milestones in AR 700-142.

b. There are plans for gaining MACOMs (receiving the displaced system) to provide proposed and final MSPs according to the milestones shown in AR 700-142 (applies only to the displaced system).

## Section XVII Environmental Planning

### 6-63. Safety

Ensure that—

a. If residual hazards to operator or maintenance personnel could exist, there are plans established for the MATDEV to provide decision review members an SSRA per AR 385-16 at least 60 days prior to MDR III.

b. For systems requiring medical advice to evaluate health hazards, plans exist for TSG to provide a health hazard assessment to the technical testing agency at least 60 days prior to the start of testing.

c. There are contractual provisions for delivering the results of operating hazard analyses (MIL-STD-882) to identify hazardous functions and the effects of personnel error.

d. The DT II and IOT&E test planning documents have been coordinated with TSG. Make sure the documents include provisions for demonstrating that safety and health characteristics of system design have eliminated or controlled operator personnel and equipment hazards.

e. Plans have been developed (and approved by the Chief, Safety Office, Headquarters, AMC) to conduct tests (that is, DT II), or establish analogies with previously tested items, according to TB 700-2, in order to generate data sufficient for explosive hazard classification for all new items of ammunition and explosives, as packaged for storage and transportation.

### 6-64. Design

Ensure that—

a. Historical safety and health data (for example, data from the Army Safety Management Information System and the Hazardous

Materials Information System) and operation and maintenance issues of similar fielded systems have been documented. Make certain that plans exist to provide this information to the contractor to potentially influence system redesign.

*b.* There are contractual provisions to design or redesign the system so that maintenance actions can be performed to minimize hazardous conditions such as proximity to high voltage, radiation, moving parts, high temperature components, noise (MIL-STD-1474), toxic fumes, skin irritants, lasers, pressure vessels, and so forth. Also ensure there are provisions to reduce or eliminate hazardous waste generation or emissions/discharges in the system design.

*c.* There are contractual provisions to design or redesign the system so that operator actions can be performed to minimize hazardous conditions such as proximity to high voltage, radiation, moving parts, high temperature components, noise (MIL-STD-1474), toxic fumes, skin irritants, lasers, pressure vessels, and so forth.

#### **6-65. Testing**

Ensure that—

*a.* Plans have been established for the MATDEV to provide a Safety Assessment Report to the CBTDEV and technical and operational test activities at least 60 days prior to the start of their respective tests (DT II and IOT&E).

*b.* There are plans for the MATDEV to provide the DT II and IOT&E testers, Army Safety Center, and CBTDEV with a Safety Assessment Report defining hazards to test operator and maintenance personnel at least 60 days prior to the start of testing. Make sure that plans are established to provide the operational tester, prior to IOT&E, with a safety release. (See AR 385-16 for format.)

#### **6-66. Hazardous Materials**

Ensure that—

*a.* There are plans established to develop the data required for the AMDF Hazardous Materials Data Segment (AR 708-1) whenever items are identified that meet the criteria per FED-STD-13 as hazardous material.

*b.* Material used in the systems identified during the market investigation has been checked against the list of hazardous materials published in the Resource Conservation and Recovery Act, Volume 40, CFR 260-Series. If material used is on this list, plans and contractual provisions exist to conduct studies to find substitutes for them to the maximum feasible extent.

*c.* For ACAT I and II programs, a System Safety Working Group has been established to track hazards and ensure program coordination.

*d.* There are plans and contractual provisions to conduct sufficient analysis to identify all hazardous material, as defined in AR 708-1, required for system operation and support. Be sure there are plans to develop necessary storage and transportation data as required by the AMDF. (See AR 708-1 for data requirements.)

*e.* There are plans and contractual options for developing and verifying outloading and storage drawings and procedures according to AR 740-1 and AR 746-1 for new ammunition and other hazardous materiel.

#### **6-67. Environmental documentation**

Ensure that environmental documentation has been developed to reflect the impact of operating and maintaining the system as required by AR 200-2.

#### **6-68. Packaging, handling, and storage**

Ensure that—

*a.* There are plans and contractual constraints to maximize use of packaging material that is reusable, recyclable, degradable, or easily disposable and there are plans to conduct an environmental impact assessment for each new packaging material as required by AR 746-1 and AR 700-15.

*b.* There are contractual provisions requiring hazardous materials

packaging to comply with performance oriented packaging (POP) requirements.

#### **6-69. Materiel Fielding**

Ensure that fielding is accomplished IAW the environmental requirements of AR 200-1, AR 200-2, AR 385-16, AR 700-142, and DA Pam 700-142.

#### **6-70. Demil, EOD, and disposal**

Ensure that—

*a.* There are plans and contractual options (selected according to MIL-M-7298 evaluation procedures) for acquisition of manufacturers manuals, supplementing or changing manufacturers manuals, and developing DA demil and disposal procedures to meet applicable environmental and security requirements, maximize recycling of resources, or prevent enemy use. (See AR 200-1). Make certain these procedures will be included in appropriate TMs. Be sure there are plans to assign demilitarization codes (position 6 of the SMR Code) for specified systems and consumables (such as, new batteries and ammunition) consistent with AR 708-1.

*b.* Ensure that, for new ammunition items, there are plans to develop and obtain approval of a demil/eod/disposal plan prior to IOT&E. This plan should identify environmental impact and alternative methods, tools, and equipment requirements.

#### **6-71. Other**

Ensure compliance with other environmental requirements, procedures, and policies of AR 200-2, and in this pamphlet are met, especially as addressed in sections relating to documentation, safety, ammunition and explosive items, hazardous materials, packaging, handling, storage, demil, EOD, and disposal.

## **Chapter 7 Milestone I/III Decision Review Issues/Criteria for Basic Nondevelopmental Items**

### **Section I Design Influence**

#### **7-1. General**

The criteria below apply to the Milestone I/III decision involving a basic NDI acquisition strategy. This strategy involves off-the-shelf (U.S. commercial, foreign, and/or other Services) items that the market investigation (to include contractor data and survey of user experience) results indicate can be used by the Army in the same environment for which it was designed without any further development effort. Criteria associated with displaced systems can be found in chapter 4.

#### **7-2. Safety and health hazard assessment**

*a. General.* Ensure that—

(1) The U.S. Army Health Services Command has prepared the health hazard assessment report.

(2) In those cases where safety or health hazards to operator or support personnel exist based on the market investigation results and, if conducted, verification testing (DT I/EUT&E), the proposed course of action adequately considers the hazard category, as defined in MIL-STD-882, the likelihood of occurrence; engineering risks; and impact on operational effectiveness, acquisition or procurement costs, and schedules as required by AR 40-10.

(3) Acceptance of risk associated with residual safety or health hazards, if any, by the Army Acquisition Executive or other appropriate management level of risk acceptance has been documented according to AR 385-16.

(4) The U.S. Army Safety Center, CBTDEV, U.S. Army Medical Research and Development Command, and, for Acquisition Category (ACAT) I and II systems, the Office of the Deputy Chief of Staff for Personnel and Office of the Assistant Secretary of the

Army (Research, Development, and Acquisition) have provided recommendations on acceptability of those risks as specified in AR 385-16.

(5) The MATDEV has prepared an SSRA as documentation for accepting risk associated with residual hazards, if any.

(6) A Nuclear Regulatory Commission (NRC) license or DA authorization, as appropriate, has been obtained for items containing radioactive materiel.

(7) For ACAT I and II systems, a System Safety Working Group has been established to track hazards and ensure program coordination.

(8) The System Safety Management Plan and System Safety Program Plan have been prepared to reflect results of completed market investigation actions and plans for production and deployment phase activities according to AR 385-16, and MIL-STD-882.

(9) Materiel used in the systems identified during the market investigation has been checked against the list of hazardous materiel published in the Resource Conservation and Recovery Act, Volume 40, Code of Federal Regulations, CFR 260 Series. If materiel used is on this list, plans and contractual provisions exist to conduct studies to find substitutes for them to the maximum feasible extent.

*b. Operation.* Ensure that—

(1) All health hazards to system operators (for example, noise, vibrations, toxicants, and radioactive and laser emissions) identified during the market investigation and, if conducted, DT I/EUT&E have been evaluated by TSG and corrective action taken on those findings according to AR 70-1.

(2) Hazard analyses, market investigation results and, if conducted, DT I/EUT&E indicate that system operator safety requirements have been met and all Category III (critical) and IV (catastrophic) hazards have been eliminated or controlled to an acceptable degree.

(3) For each new ammunition and explosives item—

(a) Sufficient data per TB 700-2 has been generated for explosive hazard classification.

(b) The Director, AMC Field Safety Activity has approved a hazard classification.

(4) Safety confirmation letters from the market investigation activities and the safety and health data sheet have been approved by the MATDEV certifying safety of operator personnel.

(5) The production phase RFP includes provisions for testing the production item for compliance with essential design requirements related to operator safety.

*c. Maintenance.* Ensure that—

(1) All health hazards to system maintainers (for example, noise, vibrations, toxicants, and radioactive and laser emissions) identified during the market investigation and, if conducted, DT I/EUT&E have been evaluated by TSG and corrective action taken on those findings.

(2) Hazard analyses and market investigation results indicate that system maintainer safety requirements have been met and any Category III (critical) and IV (catastrophic) hazards have been eliminated or controlled to an acceptable degree.

(3) Safety confirmation letters from market investigation activities and the safety and health data sheet have been approved by the MATDEV certifying safety of maintenance personnel.

(4) The production phase RFP includes provisions for testing the production item for compliance with essential design requirements related to safety of maintenance personnel.

### 7-3. Energy efficiency

Ensure that the following criteria have been met:

*a.* The system requirement document includes an assessment of system energy requirements, direct and indirect, to ensure the system will be the most efficient considering life cycle costs.

*b.* The results of market investigation and, if conducted, DT I/EUT&E confirm the ability to attain energy-related thresholds. If not, make certain that the proposed course of action reflects

the proper balance between acquisition costs and schedule, support costs, and mission effectiveness.

### 7-4. Other design parameters

*a.* Other ILS-related design parameters, even though addressed as separate ILS assessment elements, should be assessed under this paragraph in order to provide a comprehensive evaluation of ILS program influence on system design. Where possible, ensure the design related elements of the OSCR program have been considered.

(1) MDR I/III issues for the following elements should be assessed:

(a) Transportation and transportability.

(b) Standardization and interoperability.

(c) RAM.

(2) System design-related issues affecting other ILS elements such as maintenance planning, supply support, training and training devices, manpower and personnel, and facilities also need to be assessed. Determine whether NDI candidate systems minimize use of strategic/scarcely resources in system operation and maintenance.

*b.* Other issues, not necessarily ILS-related, must be assessed in order to make an informed IPR or ASARC decision regarding the acceptability of an item for its intended mission. Achievement of design-related requirements such as the following should be assessed for the NDI candidate systems under this paragraph:

(1) Essential system operational performance characteristics.

(2) Human factors engineering considerations (other than those addressed under paras 7-1 and 7-52). (See AR 602-1, MIL-HDBK-759, and MIL-STD-1472 for program and design considerations.)

(3) NBC survivability and supportability considerations.

## Section II Maintenance Planning

### 7-5. General

*a.* Inclusion of assessment issues for each maintenance level is not meant to imply that every acquisition program must utilize all maintenance levels.

*b.* Ensure the following issues/criteria have been met for maintenance planning:

(1) Ensure the market investigation determined the contractor maintenance support capabilities for the NDI candidate systems.

(2) Ensure that there are plans to coordinate proposed maintenance allocation charts with the CBTDEV and to submit them to HQDA (DALO-SMP) for final approval prior to publication according to AR 700-127 and AR 750-1.

(3) For each NDI candidate system, ensure a proposed baseline maintenance concept unit (or aviation unit maintenance (AVUM) for aircraft through depot level) has been established that—

(a) Is consistent with the following:

1. The system readiness objective, RAM goals, and operational concept.

2. Other Army maintenance support objectives and policies (for example, appropriate use of HNS, ISSA), and contractor maintenance according to AR 570-9, AR 700-127, and AR 750-1).

(b) Reflects consideration of associated support resource requirements and costs.

(4) If HNS or interservice support is an element of the BMC, there are plans/milestones for timely preparation of necessary support agreements.

(5) If the weapon system or item of equipment is planned for depot level support, that it is submitted by the MATDEV for depot maintenance interservice study consideration to HQ AMC (AMCSM-MMD) within 90 days of production phase contract award.

(6) For items considered as weapon systems, either a warranty waiver has been requested or action has been initiated to obtain a warranty as required by AR 700-139.

(7) Each NDI candidate system has been reviewed to determine if it is a warranty candidate according to criteria of AR 700-139.

For items considered as weapon systems, there are plans to conduct a cost effectiveness analysis per AR 11-18 prior to negotiated procurement of the warranty as required by AR 700-139.

(8) If a warranty is proposed, there are plans to include warranty application procedures in the MFP, the appropriate TBs prepared according to MIL-M-63034, or other authorized media.

(9) Where possible, ensure the maintenance planning elements of the OSCR program have been addressed.

#### **7-6. Unit, DS, and GS (or AVUM and AVIM) levels**

Ensure that—

*a.* There are adequate plans for revising and verifying the unit, DS, and GS (or AVUM and AVIM) level maintenance concepts when an adequate maintenance allocation chart is not in existence. Such plans would be included in documents such as the ILSP, logistic demonstration (LD) plan, sample data collection (SDC) plan, and follow-on test and evaluation (FOT&E) TEP.

*b.* If a Reliability Improvement Warranty is proposed for items repairable at unit, DS, or GS level, it is feasible, cost effective, and advantageous to the Army.

*c.* Realistically achievable activation dates, acceptable to the user, have been established for organic unit, DS, and GS level maintenance capability.

*d.* A plan has been prepared for smooth transition from contractor to organic unit, DS, or GS level maintenance support (if applicable) and for wartime contingency.

#### **7-7. Depot level**

Ensure that—

*a.* There are plans for conducting a pilot depot overhaul program to validate the depot maintenance concept.

*b.* System depot maintenance tasks have been determined for NDI candidate items based on market investigation results. Make certain an initial determination of responsible organization (that is, Army depot, other Service, contractor, or other country) has been made utilizing the decision tree logic process required by AR 750-2. Plans exist to review task and organization assignments after contract award.

*c.* A plan has been prepared for efficient transition from contractor to organic depot support (if applicable).

*d.* A depot maintenance support plan has been prepared and coordinated. (See DA Pam 700-55 for format.) For Class VIII materiel, depot maintenance support planning is coordinated through the National Maintenance Point, USAMMA, Frederick, MD 21701-5001.

### **Section III**

#### **Manpower and Personnel**

#### **7-8. General**

Ensure plans exist to—

*a.* Provide contractors with a description of existing and projected Army manpower and skill capabilities/availability (for example, AR 611-201 and tables of organization and equipment (TOEs) of operator, crew and support personnel) to influence support planning and potential system redesign.

*b.* Compute TOE maintenance and support manpower requirements consistent with AR 570-2.

*c.* Confirm, through the LSA process, initial estimates of operator/crew, supply, and maintenance personnel manpower and skill requirements as contained in the BOIP, QQPRI, and draft plan TOE.

#### **7-9. Operator/crew**

For operator/crew manpower requirements, ensure that—

*a.* The results of the market investigation and, if conducted, DT I/EUT&E confirm that operator/crew manpower (numbers and skills) thresholds in the requirements document and IPS can be achieved using NDI equipment.

*b.* The results of the market investigation and, if conducted, DTI /EUT&E are consistent with operator/crew manpower and skill data contained in the draft plan TOE, BOIP, QQPRI, IPS, MER, and

updated LCC estimates (BCE and ICE). (See AR 570-2 for MARC procedures.)

*c.* The MOS decision for system operator/crew personnel has been approved by the Deputy Chief of Staff for Personnel (DCSPER) or DCSPER has granted to defer QQPRI submittal according to AR 71-2.

*d.* System operator/crew manpower requirements have been programmed into the Army personnel recruiting and training systems, as necessary, to meet deployment milestones.

*e.* If design modifications or support concept revisions affecting operator/crew manpower or skill requirements are required, an FOT&E or other operational evaluation should be scheduled to evaluate the impact on programmed crew manpower and skill requirements.

*f.* Projected modification table of organization and equipment (MTOE)/TDA crew manpower requirements can be supported by Army programmed resources (FYDP, consolidated guidance and supporting program guidance), or an acceptable level of readiness can be maintained with assets programmed to be available.

*g.* Job specifications have been prepared, coordinated, and approved according to AR 71-2 for each approved new or revised crew MOS, SSI, or ASI.

#### **7-10. Maintenance**

If design modifications or support concept revisions affecting maintenance support manpower or skill requirements are required to be implemented, ensure that an FOT&E or other operational evaluation has been scheduled to evaluate the impact on programmed manpower and skill requirements. Ensure the appropriate issues/criteria have been met at the levels shown below.

*a. Unit, DS, and GS (or AVUM and AVIM) levels.*

(1) The results of the market investigation performed and, if conducted, DT I/EUT&E demonstrate that unit through GS level maintenance manpower (numbers and skills) thresholds have been achieved.

(2) The results of the market investigation and, if conducted, DT I/EUT&E are consistent with unit through GS level maintenance manpower and skill data in the draft plan TOE, BOIP, QQPRI, IPS, MER, and updated LCC estimates (BCE and ICE). (See AR 570-2 for MARC procedures.)

(3) The MOS decision for system unit through GS level maintenance personnel has been approved by DCSPER or DCSPER has granted to defer QQPRI submittal according to AR 71-2.

(4) System unit through GS level maintenance manpower requirements have been programmed into the Army personnel recruiting and training systems, as necessary, to meet deployment milestones.

(5) Projected MTOE/TDA unit through GS level maintenance manpower requirements can be supported by Army programmed resources (FYDP, consolidated guidance, and supporting program guidance), or an acceptable level of readiness can be maintained with assets programmed to be available.

(6) Job specifications have been prepared, coordinated, and approved according to AR 71-2 for each approved new or revised unit through GS level maintenance MOS, SSI, or ASI (and civilian occupational series, if appropriate).

*b. Depot level.*

(1) The results of market investigation are consistent with depot maintenance manpower and skill data in the depot maintenance support plan, QQPRI, IPS, MER, and updated LCC estimates (BCE and ICE).

(2) Projected TDA depot maintenance manpower requirements can be supported by Army programmed resources (FYDP, consolidated guidance, and supporting program guidance), or an acceptable level of readiness can be maintained with assets programmed to be available.

(3) There are adequate plans to—

(a) Update depot maintenance manpower and skill requirements on completion of depot maintenance work requirements (DMWRs).

(b) Revise affected TDAs and job specifications as necessary.

(c) Recruit personnel in time to meet projected organic depot workload requirements.

## 7-11. Supply

Ensure that appropriate action has been taken as shown in the categories below.

### a. General.

(1) The results of the market investigation and, if conducted, DT I/EUT&E demonstrate that system-related supply support personnel manpower (numbers and skills) thresholds, if any, have been achieved.

(2) Job specifications have been prepared, coordinated, and approved according to AR 71-2 for each approved new or revised supply support personnel MOS, SSI, ASI, or civilian occupational series.

(3) Each proposed new or revised MOS, SSI, or ASI for system supply support personnel has been approved by the DCSPER or DCSPER has granted to defer QQPRI submittal according to AR 71-2.

### b. Organizational level—unit supply.

(1) The results of the market investigation are consistent with unit supply (for example, MOS 76Y) personnel manpower and skill data in the draft plan TOE, IPS, MER, and updated LCC estimates (BCE, ICE). (See AR 570-2 for MARC procedures.)

(2) System unit supply personnel manpower requirements have been programmed into the Army personnel recruiting and training systems, as necessary, to meet deployment milestones.

(3) Projected MTOE/TDA unit supply personnel requirements can be supported by Army programmed resources (FYDP, consolidated guidance, and supporting program guidance), or an acceptable level of readiness can be maintained with assets programmed to be available.

### c. DS.

#### (1) POL supply.

(a) The results of the market investigation are consistent with DS POL supply personnel (for example, MOS 76W) manpower and skill data in the draft plan TOE, IPS, and updated LCC estimates (BCE, ICE). (See AR 570-2 for MARC procedures.)

(b) System DS POL supply personnel manpower requirements have been programmed into the Army personnel recruiting and training systems, as necessary, to meet deployment milestones.

(c) Projected MTOE/TDA DS POL supply personnel requirements can be supported by Army programmed resources (FYDP, consolidated guidance, and supporting program guidance), or an acceptable level of readiness can be maintained with assets programmed to be available.

#### (2) Materials handling and storage.

(a) The results of the market investigation are consistent with DS materials handling and storage personnel (for example, MOS 76V) manpower and skill data in the draft plan TOE, IPS, MER, and updated LCC estimates (BCE, ICE). (See AR 570-2 for MARC procedures.)

(b) System DS materials handling and storage personnel manpower requirements have been programmed into the Army personnel recruiting and training systems, as necessary, to meet deployment milestones.

(c) Projected MTOE/TDA DS materials handling and storage personnel requirements can be supported by Army programmed resources (FYDP, consolidated guidance, and supporting program guidance), or an acceptable level of readiness can be maintained with assets programmed to be available.

#### (3) Ammunition.

(a) The results of the market investigation are consistent with DS ammunition support personnel (for example, 55-series MOS; 76Y MOS) manpower and skill data in the draft plan TOE, IPS, MER, and updated LCC estimates (BCE and ICE). (See AR 570-2 for MARC procedures.)

(b) System DS ammunition support personnel manpower requirements have been programmed into the Army personnel recruiting and training systems, as necessary, to meet deployment milestones.

(c) Projected MTOE/TDA DS ammunition support personnel requirements can be supported by Army programmed resources (FYDP, consolidated guidance, and supporting program guidance), or an acceptable level of readiness can be maintained with assets programmed to be available.

### d. GS/theater.

#### (1) POL supply.

(a) The results of the market investigation are consistent with GS/theater POL supply personnel (for example, MOS 76W) manpower and skill data in the draft plan TOE, IPS, MER, and updated LCC estimates (BCE and ICE). (See AR 570-2 for MARC procedures.)

(b) System GS/theater POL supply personnel manpower requirements have been programmed into the Army personnel recruiting and training systems, as necessary, to meet deployment milestones.

(c) Projected MTOE/TDA GS/theater POL supply personnel manpower requirements can be supported by Army programmed resources (FYDP, consolidated guidance, and supporting program guidance), or an acceptable level of readiness can be maintained with assets programmed to be available.

#### (2) Materials handling and storage.

(a) The results of the market investigation are consistent with GS/theater materials handling and storage personnel (for example, 76Y MOS) manpower and skill data in the draft plan TOE, IPS, MER, and updated LCC estimates (BCE and ICE). (See AR 570-2 for MARC procedures.)

(b) System GS/theater materials handling and storage personnel manpower requirements have been programmed into the Army personnel recruiting and training systems, as necessary, to meet deployment milestones.

(c) Projected MTOE/TDA GS/theater materials handling and storage personnel manpower requirements can be supported by Army programmed resources (FYDP, consolidated guidance, and supporting program guidance), or an acceptable level of readiness can be maintained with assets programmed to be available.

#### (3) Ammunition.

(a) The results of the market investigation are consistent with GS/theater ammunition support personnel (for example, 55-series MOS; 76Y MOS) manpower and skill data in the appropriate draft plan TOE, IPS, MER, and updated LCC estimates (BCE and ICE). (See AR 570-2 for MARC procedures.)

(b) System GS/theater ammunition support personnel manpower requirements have been programmed into the Army personnel recruiting and training systems, as necessary, to meet deployment milestones.

(c) Projected MTOE/TDA GS/theater ammunition support personnel manpower requirements can be supported by Army programmed resources (FYDP, consolidated guidance, and supporting program guidance), or an acceptable level of readiness can be maintained with assets programmed to be available.

## 7-12. Transportation—vehicle operators

Ensure that the results of the market investigation demonstrate that ammunition and fuel distribution vehicle operator manpower (numbers and skills) thresholds can be achieved. (See AR 570-2 for MARC procedures.) Ensure that appropriate action has been taken as shown in the categories below.

### a. POL resupply.

(1) The results of the market investigation are consistent with fuel distribution vehicle operator personnel (for example, MOS 64C) manpower and skill data in the draft plan TOE, IPS, MER, and updated LCC estimates (BCE and ICE).

(2) System fuel distribution vehicle operator requirements have been programmed into the Army personnel recruiting and training systems, as necessary, to meet deployment milestones.

(3) Projected MTOE/TDA fuel distribution vehicle operator manpower requirements can be supported by Army programmed resources (FYDP, consolidated guidance, and supporting program guidance), or an acceptable level of readiness can be maintained with assets programmed to be available.

### b. Ammunition resupply.

(1) The results of the market investigation are consistent with ammunition resupply vehicle operator personnel (for example, MOS 64C) manpower and skill data in the draft plan TOE, IPS, MER, and updated LCC estimates (BCE and ICE).

(2) System ammunition resupply vehicle operator manpower requirements have been programmed into the Army personnel recruiting and training systems, as necessary, to meet deployment milestones.

(3) Projected MTOE/TDA ammunition resupply vehicle operator manpower requirements can be supported by Army programmed resources (FYDP, consolidated guidance, and supporting program guidance), or an acceptable level of readiness can be maintained with assets programmed to be available.

### 7-13. Analysis documentation

a. *QQPRI*. Ensure that the QQPRI has been reviewed and approved by DCSPER or DCSPER has granted to defer QQPRI submission according to AR 71-2.

b. *MER*. Ensure that for ACAT I programs an MER has been prepared by HQDA ODCSOPS in coordination with ODCSPER, reviewed by ASA (MRA) and submitted to OSD as required by AR 70-1.

## Section IV Supply Support

### 7-14. General

Ensure that—

a. There are plans to establish a U.S. production base for combat essential foreign developed systems.

b. Market investigation results of contractor data and surveys of user experience have determined the availability and adequacy of commercial distribution channels to satisfy Government requirements.

c. The baseline supply support concept (for POL, ammunition, and repair parts) adequately considers capabilities of other military Services, contractor support, and HNS. (See AR 700-18, AR 700-127, and AR 570-9 for applicable policy.)

d. If HNS or interservice support is envisioned in the system supply support concept, make certain that responsibilities and milestones have been established for timely preparation of necessary support agreements.

e. There are plans to screen all items recommended for procurement against the Defense Logistics Services Center (DLSC) Total Item Record to determine availability of existing NSNs and other logistics information according to AR 708-1.

f. For each support item required in the provisioning of the system, there are plans to accomplish the following coding and cataloging per AR 700-18:

(1) SMR codes will be assigned according to AR 700-82 and consistent with the maintenance plan.

(2) Essentiality codes will be assigned consistent with MIL-STD-1388-2B and the failure modes, effect, and criticality analysis.

(3) Item management codes will be assigned according to DOD 4140.26-M, Vol 1, and AR 710-1.

(4) Federal item identification and national item identification number have been assigned according to DOD guidance.

(5) The appropriate Federal supply classification code has been assigned according to DOD guidance and cataloging handbooks.

(6) Failure factors/maintenance replacement rates will be assigned according to AR 700-18.

g. If any system design changes are proposed or anticipated during the production phase, there are adequate plans for analyzing their impact on supply support requirements and performing the actions necessary to meet the FUE supply support criteria and objectives. System modifications should not be necessary under the NDI basic acquisition strategy.

h. An initial post-production support (PPS) plan has been prepared and included as an annex to the ILSP according to AR

700-127 and DA Pam 700-55. Ensure there are contractual provisions to prepare a final PPS plan through the LSA process prior to production phaseout.

i. Army acquisition objective (AAO) and alternative production and deployment schedules for the system have been determined.

j. Determination has been made and documented in the ILSP as to whether the system has a mobilization or surge requirement.

k. If a requirement exists, there are specific plans, resources, and contractual provisions to conduct industrial preparedness studies to support production surge and mobilization needs.

l. NDI candidate items have been analyzed to identify strategic/scarc materials and unique foreign technologies or materials component dependencies that may constrain production to meet potential surge and mobilization needs.

### 7-15. Retail

Ensure appropriate actions have been taken as shown in the following categories:

#### a. General.

(1) Project codes, weapon system designator, and the method of support item distribution (free-flow or packaged) have been determined and entered in the draft MFP according to AR 700-120.

(2) If interim or life cycle contractor retail supply support is proposed, it has been determined to be feasible and beneficial to the Government based on readiness, economic analysis (AR 11-18), and logistic risk or acquisition (production and administrative) lead-time considerations according to AR 700-18. Ensure approval has been granted by HQDA (DALO-SMP).

(3) If interim contractor supply support (class IX) and/or warranty is anticipated, contractual provisions exist for repair or spare parts demand data being provided to the Government in order to update provisioning data.

(4) For commercial items, there are plans to provide supply support (class IX) according to policies of AR 700-18.

(5) If use of an IMPL is envisioned, the necessary data has been provided to HQDA (DALO-SMP) and their approval of the IMPL concept obtained as required by AR 700-18.

#### b. Organizational level.

##### (1) Class III (POL).

(a) *Packaged*. To provide system support, unit level stockage requirements for packaged POL have been determined for the NDI candidate items and procurement programmed consistent with the system deployment plan.

(b) *Bulk*. According to AR 710-2, the gaining MACOMs have designated the units that are required to keep basic loads of bulk POL, and the method of establishing stockage level.

##### (2) Class V (ammunition).

(a) According to AR 710-2, the gaining MACOMs have designated the units that are required to keep basic loads of ammunition and the method of establishing stockage level.

(b) Sufficient ammunition has been programmed for procurement to meet unit basic load requirements.

##### (3) Class IX (PLL).

(a) There are plans and contractual provisions to identify, through the LSA process, and to procure repair parts to be stocked at the unit level for system support, consistent with the following:

##### 1. Maintenance plan.

2. Sparing to availability using the Selected-Essential Item Stockage for Availability Method (SESAME).

3. Initial Mandatory Parts List (IMPL) stockage criteria, if applicable.

4. Order ship times (OST) and SRO. (See AR 700-18, AR 700-142, and DA Pam 700-142 for guidance on OST.)

5. Limitation on lines of stockage as specified in AR 710-2. If over the maximum number of lines, ensure approval has been granted by HQDA, DALO-SMP.

(b) NSNs will be assigned to recommended PLL items prior to system deployment and according to criteria of AR 708-1.

#### c. DS.

##### (1) Class III (POL).

(a) *Packaged*. To provide system support, there are plans to determine DS level stockage requirements for packaged POL and to procure items consistent with the system deployment plan.

(b) *Bulk*. There are plans to determine DS level bulk POL stockage requirements for system support.

(2) *Class V (ammunition)*. Initial estimates of ammunition requirements for stockage at the ASP have been determined. There are plans to finalize these ammunition requirements and sufficient procurement has been programmed to support the system deployment plan.

(3) *ORF (Class VII)*.

(a) Ensure ORF factors and distribution requirements, if applicable, have been determined according to AR 750-1, AR 750-2 and AR 710-1. Make sure they were approved by HQDA (DALO-SMM), procurement has been programmed, and requirements were entered in the TAEDP data base.

(4) *ASL (class IX)*.

(a) An initial recommended DS level repair parts stockage has been constructed to balance equipment readiness with mobility and fiscal constraints according to AR 710-2. If not, ensure there are plans to develop and procure provisioning levels according to this objective.

(b) The OST, SRO and operational availability that will be used in computation of the ASL stockage levels are consistent with the requirements of AR 700-18, AR 700-120, and AR 700-142.

(c) Adequate plans exist to assign NSNs to recommended ASL items prior to system deployment and according to criteria of AR 708-1.

(d) The results of the market investigation provided data to establish the planned DS level repair parts stockage required to meet the demand satisfaction objectives of AR 710-2. If not, ensure there are plans to identify and procure provisioning levels to meet these objectives.

(e) The results of the market investigation provided data to establish the planned DS level stockage of reparable exchange items according to criteria of AR 700-18 and AR 710-2. If not, ensure there are plans to identify and procure provisioning levels to meet these requirements.

(f) The proposed size of the ASL is within mobility and other objectives specified in AR 710-2 or steps have been taken to meet these objectives.

(g) There are plans to update provisioning estimates for ASL items with the results of sample data collection and/or FOT&E, if applicable.

d. *GS*.

(1) *Class III (packaged POL)*. To provide system support, there are plans to determine and procure GS level stockage requirements for packaged POL consistent with the system deployment schedule.

(2) *Class V (ammunition)*. There are plans to determine and procure ammunition requirements for stockage at the corps storage area consistent with the system deployment plan.

(3) *Class IX (repair parts)*.

(a) There are plans to determine the range and quantity of repair parts to be stocked at GS level according to criteria established in AR 700-18 and AR 710-2. Ensure that procurement has been programmed consistent with the system deployment plan.

(b) There are plans to assign NSNs, prior to initial fielding, according to criteria of AR 708-1 for repair parts recommended for stockage at GS level.

(c) The results of market investigation provided data to establish the planned GS stockage of reparable exchange items according to criteria of AR 700-18 and AR 710-2. If not, ensure there are plans to identify and procure provisioning levels to meet these requirements.

e. *Theater*.

(1) *War reserves*.

(a) *Class III (bulk POL)*. Initial bulk POL theater war reserve requirements have been estimated according to the Army Guidance and AR 11-11. These estimates will be updated after contract award.

(b) *Class V (ammunition)*. Ammunition theater war reserve requirements have been determined, approved by ODCSOPS, and procurement has been programmed according to AR 11-11.

(c) *Class VII (end items)*. Class VII (for example, system and specified support and test equipment) war reserve requirements for theater stockage have been determined. Ensure that they have been approved by ODCSOPS, entered in the TAEDP data base, and procurement programmed according to AR 11-11, AR 700-120, and AR 710-1.

(d) *Class IX (repair parts)*. War reserve repair parts requirements (for identified class VII items) for theater stockage have been determined and procurement has been programmed according to AR 11-11 and AR 710-1.

(2) *POMCUS*.

(a) *Class VII (end items)*. Class VII (for example, system and specified support and test equipment) POMCUS stockage requirements have been determined. Ensure that they have been approved, procurement has been programmed, and requirements entered in the TAEDP data base according to AR 11-11, AR 700-120, and AR 710-1.

(b) *Class IX (repair parts)*. Plans exist to select repair parts for POMCUS stockage and for procurement according to AR 11-11. Ensure that the determination is based on sparing to availability using the selected essential item stockage for availability method (SESAME), combat PLL/ASL program, and IMPL criteria.

## 7-16. Wholesale

For commercial items, ensure there are plans to provide wholesale supply support (for class IX items) according to the policies of AR 700-18.

a. *War reserves*. Ensure that the War Reserve Stockage List has been determined, coordinated, and approved according to AR 710-1 criteria and procedures. Ensure war reserve requirements have been determined for the following classes:

(1) *Class III (POL)*. System POL war reserve stockage (CONUS) requirements have been determined according to AR 11-11 and AR 710-1. Make certain plans are established to assure their availability according to the system deployment plan.

(2) *Class V (ammunition)*. Ammunition war reserve (CONUS stockage) requirements have been determined, approved by ODCSOPS, and procurement programmed according to the Army Guidance, AR 11-11, AR 710-1.

(3) *Class VII (end items)*. Distribution requirements for wholesale level stockage of war reserve (class VII) have been determined. Ensure that they were approved by ODCSOPS, entered in the TAEDP data base, and procurement programmed according to the Army Guidance, AR 11-11, AR 700-120, and AR 710-1.

(4) *Class IX (repair parts)*. War reserve repair parts requirements for CONUS stockage have been determined and procurement programmed according to AR 11-11 and AR 710-1.

b. *RCF (class VII)*. Ensure determination has been made of the need for RCF according to the criteria of AR 750-1 and AR 710-1. If need exists, ensure RCF factors and distribution requirements have been determined according to AR 750-1 and AR 710-1. Make sure they were approved by ODCSLOG (DALO-SMM), procurement was programmed, and requirements were entered in the TAEDP data base.

c. *Repair parts (nonwar reserve)*. Ensure there are plans to update repair parts (nonwar reserve) wholesale stockage provisioning estimates with the results of sample data collection and/or FOT&E according to AR 700-18.

(1) *Depot maintenance*. Ensure that estimates of initial issue allowance quantities for depot level spares have been determined and plans and contractual provisions exist to finalize requirements and procure items for depot maintenance actions anticipated during the demand development period.

(2) *Retail replenishment*. Make sure identification of repair parts for wholesale stockage has been determined and procurement programmed consistent with the criteria of AR 700-18 and AR 710-1.

*d. Operational projects.* Ensure that class VII distribution requirements to support other non-POMCUS DA-approved operational projects have been determined according to AR 710-1. Make certain that procurement has been programmed and requirements entered in the TAEDP data base.

#### **7-17. Planning documentation—Provisioning Plan (PP).**

Ensure that—

*a.* The PP has been prepared and coordinated with affected organizations to include remaining tasks, responsibilities, and milestones for procuring and delivering system support materiel to gaining commands.

*b.* Sufficient provisioning guidance meetings and conferences are scheduled (to include DLA, affected MSCs, other Services, and so forth) to manage the provisioning effort.

*c.* A provisioning milestone schedule and a provisioning performance schedule have been prepared according to MIL-STD-1561 and AR 700-18.

*d.* A provisioning funding memorandum of agreement has been prepared.

### **Section V**

#### **Packaging, Handling, and Storage**

#### **7-18. Packaging**

*a. Preservation and packing.* Ensure that—

(1) The results of market investigation and other analyses have initially verified the adequacy of packaging and preservation methods, materials, and designs for the intended shipping, handling, and storage environment/period. Verification of these methods is part of the Government acceptance testing.

(2) Maximum use has been made of packaging material that is cost effective, reusable, recyclable, or easily disposable. Make sure an environmental impact assessment for each new packaging material has been prepared as required by AR 700-15.

(3) There are contractual provisions to require hazardous materials packaging to comply with performance oriented packaging requirements.

(4) There are contractual provisions for preparing packaging data prescriptions for each stocked item, according to AR 746-1, MIL-T-60530, and MIL-STD-2073 or other appropriate standards.

(5) There are plans and contractual provisions requiring cleaning, packaging, and preservation data as identified in AR 708-1 that will be developed for each stocked item, as required for the AMDF.

(6) There are contractual provisions to require new packaged petroleum products, if any, be packaged, packed, and marked according to MIL-STD-290.

*b. Unitization.* Ensure that—

(1) Requirements for (reusable) containers for reparable system components have been determined and procurement or distribution programmed to meet deployment requirements.

(2) There are plans and contractual provisions for the use and design of palletized unit loads consistent with the application criteria (such as, weight and volume limits and meeting MIL-STD-147 requirements) of AR 746-1. (See DA Pam 746-1 for information on pallet selection for shipment and storage (for example, 4 way, 40-inch by 48-inch pallet is standard Army pallet for shipment and storage.))

#### **7-19. Handling and storage**

*a. Special handling.* Ensure that, for each stocked item, appropriate special handling codes will be assigned according to AR 708-1 for inclusion in the AMDF.

*b. Shelf life.* Ensure that for each stocked item, there are plans to have assigned appropriate shelf life codes according to AR 700-89 and AR 708-1 for inclusion in the AMDF.

#### **7-20. Security**

*a. AMDF requirements.* Ensure that for new arms, ammunition, explosives, communications security (COMSEC) devices, and other

support items, appropriate physical security, sensitivity and pilferage codes will be assigned according to AR 708-1 as required for the AMDF.

*b. Physical security.* Ensure that—

(1) The results of market investigation and other analyses confirm the potential to attain system physical security requirements with a basic NDI acquisition strategy.

(2) If security requirements cannot be met, the proposed course of action reflects the proper balance between acquisition costs and schedule, mission effectiveness, and support costs.

### **Section VI**

#### **Support Equipment and TMDE**

#### **7-21. General**

Ensure that market investigation of contractor data and survey of user experience and, if conducted, DT I/EUT&E results identified, for each NDI candidate system, the support equipment and TMDE that the manufacturer and equipment users possess or recommend for performing the following:

*a.* Functions associated with system supply support.

*b.* System maintenance, such as tools, TMDE, MHE, calibration equipment, recovery equipment, evacuation equipment, shelters, trailers, vans, and vehicles.

#### **7-22. Supply**

Ensure that criteria have been met as shown in the categories below.

*a. General.*

(1) If any system design changes are proposed or anticipated during the production phase, there are plans to assess the impact on programmed support equipment requirements for system supply support. System modifications should not be necessary under the NDI basic acquisition strategy.

(2) A support capability has been planned for each item of system-peculiar equipment and increased authorizations of common items required for supply support (*b* through *e* below). (Apply MDR I/III issues as they apply to supporting the support equipment.)

(3) There are contractual provisions requiring that the equipment to support system supply operations be evaluated to maximize use of equipment already available in the Army inventory.

(4) Where possible, ensure related elements of the OSCR program have been considered.

*b. POL resupply vehicles and distribution equipment.*

(1) Bulk fuel distribution vehicle requirements (type and quantity) to provide system support have been determined, consistent with the supply concept and market investigation results. If in excess of current TOE/TDA authorizations, ensure that procurement or other action is programmed to correct the shortfall according to the system deployment plan.

(2) Bulk fuel distribution and storage equipment requirements (type and quantity) to provide system support have been determined, consistent with the supply concept and market investigation results. If in excess of current TOE/TDA authorizations, ensure that procurement or other action is programmed to correct the shortfall according to the system deployment plan.

*c. Ammunition resupply vehicles.* Ammunition resupply vehicle requirements (type and quantity) to provide system support have been determined, consistent with the supply concept and market investigation results. If in excess of current TOE/TDA authorizations, ensure that procurement or other action is programmed to correct the shortfall according to the system deployment plan.

*d. Repair parts storage vans and transport vehicles.*

(1) Repair parts storage van or transport vehicle requirements (type and quantity) to provide system support and support unit mobility have been determined, consistent with the supply concept and market investigation results.

(2) If projected repair parts storage van or transport vehicle requirements are in excess of current TOE/TDA authorizations, procurement or other action is programmed to correct the shortfall according to the system deployment plan.

*e. MHE.*

(1) *Unit, DS, and GS (or AVUM and AVIM) levels.* MHE requirements (type and quantity) to provide system supply support at the unit, DS, and GS levels have been determined, consistent with the supply concept and market investigation results. If requirements are in excess of current TOE/TDA authorizations, ensure that procurement or other action is programmed to correct the shortfall according to the system deployment plan.

(2) *Theater level.* MHE requirements (type and quantity) to provide system support at the theater level have been determined, consistent with the supply concept and market investigation results. If requirements are in excess of current TOE/TDA authorizations, ensure that procurement or other action is programmed to correct the shortfall according to the system deployment plan.

(3) *POD/POE.* MHE requirements (type and quantity) to provide system support at anticipated POD/POE have been determined, consistent with the supply concept and market investigation results. If requirements are in excess of current TOE/TDA authorizations, ensure that procurement or other action is programmed to correct the shortfall according to the system deployment plan.

(4) *Depot level.* MHE requirements (type and quantity) to provide system depot level supply support have been determined, consistent with the deployment or distribution plan. If requirements are in excess of current TOE/TDA authorizations, ensure that procurement or other action is programmed to correct the shortfall according to the system deployment plan.

### 7-23. Maintenance

*a. General.* Ensure that—

(1) If any system design changes are proposed or anticipated during the production phase, there are plans to assess the impact on programmed support and test equipment requirements for system maintenance support, including maintenance unit mobility. System modifications should not be required under the NDI basic acquisition strategy.

(2) There are plans and contractual provisions requiring that the tools, TMDE, MHE, calibration equipment, and shelters/trailers/vans/vehicles for system maintenance operations (operator/crew through depot level) be evaluated to maximize the use of items available in the Army inventory.

(3) For each proposed item of system peculiar TMDE or calibration equipment, approval to initiate development or procurement has been obtained from the appropriate Army activity (USATA). In the case of medical TMDE, approval must also be obtained from the Office of The Surgeon General, Health Care Logistics (DASG-HCL).

(4) There are plans and contractual provisions to refine estimates of support and test equipment requirements range and quantity for system maintenance (unit through depot level) through the LSA process to include workload analysis.

(5) A support capability exists for system-peculiar support equipment (for example, TMDE, calibration equipment and standards, MHE, and shelters/trailers/vans/vehicles) required for maintenance support of the NDI candidate systems. Make sure a support capability has been developed for increased authorization of common items, if any, required for maintenance support. (Apply MDR I/III issues as they apply to supporting the new support and test equipment.)

(6) Where possible, ensure the elements of the OSCR program have been considered.

*b. Tools.* Ensure that proper actions have been taken as shown in (1) through (3) below.

(1) *Operator/crew.* Operator/crew tool requirements (type and quantity) to provide system support have been identified and verified consistent with the maintenance concept and market investigation results. If requirements are in excess of current authorizations, make sure that procurement or other action is programmed to correct the shortfall according to the system deployment plan. These requirements will be updated/verified based on the LSA and LD accomplished in the production phase.

(2) *Unit, DS, and GS (or AVUM and AVIM) levels.* Tool requirements (type and quantity), including maintenance platforms, to provide system unit, DS, and GS level maintenance support have been identified and verified consistent with the maintenance concept and market investigation results. If requirements are in excess of current authorizations, make sure that procurement or other action is programmed to correct the shortfall according to the system deployment plan. These requirements will be updated/verified during production as part of the LSA and LD.

(3) *Depot level.* The current status and plans for identification, verification, procurement, and distribution of tool requirements for system depot maintenance are consistent with scheduled pilot overhaul and desired initiation of organic depot capability.

*c. TMDE.* Ensure there are plans for obtaining a certificate of supportability from USATA prior to release of any TMDE to gaining MACOMs.

(1) *Unit, DS, and GS (or AVUM and AVIM) levels.* (If ATE is required for system support, the issues identified in paragraph 7-34 for the associated TPS must be addressed.) Ensure that—

(a) TMDE requirements (type and quantity) to provide system unit, DS, and GS level maintenance support have been determined consistent with the maintenance concept and market investigation results. If requirements are in excess of current TOE/TDA authorizations, ensure that procurement or other action is programmed to correct the shortfall according to the system deployment plan. These requirements will be updated/verified during production as part of the LSA and LD.

(b) USATA has reviewed and concurred in requests for procurement of proposed unit, DS, and GS level TMDE according to AR 750-43.

(c) If use of the system or major subassemblies in lieu of procuring unit, DS, and GS level TMDE is proposed, HQDA (DALO-SM) has granted approval of this concept.

(2) *Depot level.*

(a) The current status and plans for identification, verification, procurement, and distribution of TMDE requirements for depot maintenance are consistent with scheduled pilot overhaul and desired initiation of organic depot capability.

(b) If use of the system or major subassemblies in lieu of procuring or developing depot TMDE is proposed, HQDA (DALO-SM) has granted approval of this concept.

*d. Calibration equipment and standards.* Ensure the following have been met:

(1) Calibration equipment and standards requirements (type and quantity) to provide system/TMDE (unit through GS levels) support have been identified and verified based on market investigation results.

(2) If development or procurement of new calibration equipment is proposed, approval from USATA has been obtained.

(3) A final determination is planned to be made as to the type calibration facilities (for example, maintenance unit, area TMDE support team, or ACRC/ACL) to be responsible for calibration support of each new item of unit through GS level TMDE.

(4) If calibration equipment and standards requirements (type and quantity) are in excess of current TOE/TDA authorizations, ensure that procurement or other action is programmed to correct the shortfall according to the system deployment plan.

*e. MHE.* Ensure the appropriate actions have been taken as shown in the following classifications:

(1) *Recovery equipment.* Recovery equipment requirements (type and quantity) to provide system support have been identified and verified consistent with market investigation results. If requirements are in excess of current TOE/TDA authorizations, make sure that procurement or other action is programmed to correct the shortfall according to the system deployment plan.

(2) *Evacuation equipment.* Battlefield evacuation equipment requirements (type and quantity) to provide system support have been identified and verified consistent with the support concept and market investigation results. If requirements are in excess of current TOE/TDA authorizations, make certain that procurement or other

action is programmed to correct the shortfall according to the system deployment plan.

(3) *Other equipment.*

(a) Other MHE (for example, cranes, forklifts, slings, hoists, maintenance stands, or EOD equipment) equipment requirements (type and quantity) to provide system maintenance support at unit through GS levels and EOD support have been identified and verified, consistent with the maintenance concept and market investigation results.

(b) If these other MHE requirements are in excess of current TOE/TDA authorizations, procurement or other action is programmed to correct the shortfall according to the system deployment plan.

(c) The current status and plans for identification, verification, procurement, and distribution of MHE requirements for system depot maintenance are consistent with scheduled pilot overhaul and desired initiation of organic depot capability.

*f. Shelters/trailers/vans/vehicles.* Ensure that—

(1) Shelter/trailer/van/vehicle requirements (type and quantity) to provide system maintenance (unit through GS level) support and maintenance unit mobility have been identified and verified, consistent with the maintenance concept and market investigation results.

(2) If maintenance shelter/trailer/van/vehicle requirements are in excess of current TOE/TDA authorization, procurement, or other action is programmed to correct the shortfall according to the system deployment plan.

### 7-24. Ancillary operational equipment

*a. General.* Ensure that—

(1) If system design changes are proposed for the production phase, there are plans to assess the impact on programmed ancillary operational equipment requirements.

(2) There are plans and contractual provisions to use engineering and logistic support analyses to refine estimates of ancillary equipment requirements for system operation and support obtained from the market investigation and, if conducted, DT I/EUT&E.

(3) There are plans and contractual provisions requiring that the ancillary equipment for system operation and support be evaluated to maximize the use of equipment already available in the Army inventory.

(4) Coordination with supporting garrisons is planned to assure power, environmental, and communications support is available when needed.

(5) A support capability exists for each item of system peculiar ancillary equipment (b through e below) and increased authorization of common items required for system operation and support. (Apply MDR I/III issues as they apply to supporting the ancillary items.)

*b. Power generation.*

(1) Ancillary power generation equipment, battery, and battery charger requirements (type and quantity) to provide system operation and support have been identified and verified based on market investigation results and, if conducted, DT I/EUT&E. If requirements are in excess of current TOE/TDA authorizations, make sure that procurement or other action is programmed to correct the shortfall according to the system deployment plan. Make sure plans and contractual provisions exist to obtain USAETDL approval for use of a nonstandard battery or battery charger.

(2) If the system proposes to use an MEPSG other than the DOD standard family of generators, plans and contractual provisions exist to obtain deviation approval from the PM-MEP. (See AR 700-101 for approval guidelines.)

*c. Environmental control.* Ancillary environmental control equipment requirements (type and quantity) to provide system operation and support have been identified and verified based on market investigation results and, if conducted, DT I/EUT&E. If requirements are in excess of current TOE/TDA authorizations, make certain that procurement or other action is programmed to correct the shortfall according to the system deployment plan.

*d. Communications.* Ancillary communications equipment requirements (type and quantity) to provide for system operation have

been identified and verified based on market investigation results and, if conducted, DT I/EUT&E. If requirements are in excess of current TOE/TDA authorizations, procurement or other action is programmed to correct the shortfall according to the system deployment plan.

*e. Prime mover.* System prime mover requirements (type and quantity) to provide for system operation have been identified and verified as adequate based on market investigation results. If requirements are in excess of current TOE/TDA authorizations, make certain that procurement or other action is programmed to correct the shortfall according to the system deployment plan. These requirements will be updated/revalidated after contract award.

*f. Other requirements.* Other major ancillary equipment or component requirements (type and quantity) to provide for system operation (for example, winterization kits or installation kits) have been identified and verified as adequate based on market investigation results. If requirements are in excess of current TOE/TDA authorizations, ensure procurement or other action is programmed to correct the shortfall according to the system deployment plan. These requirements will be updated/revalidated after contract award.

## Section VII Training and Training Devices

### 7-25. General

Ensure that—

*a.* Market investigation results of contractor data and survey of user experience and, if conducted, DT I/EUT&E determined, for the NDI candidate systems, the availability of manufacturer's—

- (1) Training material.
- (2) Training equipment (to include training ammunition).
- (3) Training devices for system operator and support personnel.
- (4) Embedded training capability.

*b.* The CBTDEV and trainer have evaluated adequacy of the items listed above to satisfy Army requirements, completely or partially, for institutional and unit training of system operators and support personnel.

*c.* There are plans for conducting sufficient LSA to permit refining the critical operator and support task identification and the institutional and unit training concepts.

### 7-26. Institutional training

Ensure adequate plans and contractual provisions exist for use of interim or life cycle contractor conducted institutional training of system operator and/or supporter personnel when considered by the training and CBTDEV to be an acceptable system training plan. Ensure that criteria have been met as shown in the categories below.

*a. Operator training.* An initial front end analysis (FEA), based on market investigation results, has been conducted to identify critical operator tasks requiring training for the NDI candidate systems. The scheduled institutional operator training program includes Reserve Component requirements.

(1) *Training concept.* Based on market investigation results and, if conducted, DT I/EUT&E, a proposed operator institutional training concept has been developed to identify, in general, who is to be trained, what skills are to be trained, and when, where, and how training is to be accomplished.

(2) *Training material.*

(a) The adequacy of available training materials for the NDI candidate systems for the system operator was evaluated during market investigation and, if conducted, user testing.

(b) The acquisition schedule allows sufficient time to complete development, verification, publication, and distribution of all training material required for institutional operator training prior to the required resident course start date for each MOS.

(3) *Instructors.* Estimates of system operator institutional training instructor requirements (for at least the next 5 years) have been updated and plans established to resolve any anticipated shortfalls.

(4) *Training equipment.*

(a) *System or end item.* System or end item (and related major subassemblies) training equipment requirements and distribution plan

have been finalized. Make certain that procurement has been programmed for enough items to satisfy resident operator training requirements, both initial and sustaining.

(b) *Training ammunition.*

1. For each new training round, the results of market investigation indicate the round is acceptable for the mission intended.

2. Training ammunition procurement requirements and distribution plan have been established and sufficient ammunition programmed to satisfy resident training requirements.

(5) *Training devices.*

(a) The results of the market investigation indicate that proposed operator training devices (peculiar and common) meet established performance requirements and provide effective training.

(b) There are adequate provisions for planning to support the system institutional operator training devices. (Apply appropriate MDR I/III issues from each of the ILS assessment considerations.)

(c) Training device requirements (common and peculiar) and distribution plans have been identified and sufficient procurement programmed to satisfy initial and sustainment system operator training workload projections. These requirements will be finalized after contract award.

b. *Supporter training.* An initial FEA has been conducted using market investigation results to identify, for NDI candidate systems, critical system support tasks requiring training. The scheduled institutional system supporter (maintenance, supply) training program includes Reserve Component requirements.

(1) *Training material.*

(a) The adequacy of available training materials for NDI candidate systems for institutional training of system support personnel was evaluated during the market investigation.

(b) The acquisition schedule allows sufficient time to complete development, verification, publication, and distribution of all training material required for institutional training of system support personnel prior to the required resident course start date for each MOS.

(2) *Instructors.* Estimates of institutional training instructor requirements (for at least the next 5 years) for system support personnel have been updated and plans established to resolve any anticipated shortfall.

(3) *Training equipment.*

(a) *System or end item.* Sufficient system or end item (and related major subassemblies) training equipment procurement is programmed to satisfy initial and sustainment institutional training of system support personnel MOS.

(b) *Support and test equipment.* Procurement of sufficient support and test equipment (common and peculiar; see fig 1-7 for areas to be considered) and related computer resources support is programmed to satisfy initial and sustainment institutional training of system support personnel MOS. These requirements will be updated/finalized after contract award.

(4) *Training devices.*

(a) The results of the market investigation indicate that proposed training devices (peculiar and common) for system support personnel meet established performance requirements and provide effective training.

(b) Training device requirements (common and peculiar) and distribution plans have been identified and sufficient procurement planned to satisfy initial and sustainment system support personnel training workload projections. These requirements will be updated/finalized after contract award.

(c) There are adequate plans and contractual provisions for planning to support the institutional training devices required to train system support personnel. (Apply appropriate MDR I/III issues from each of the 17 ILS assessment considerations.)

## 7-27. Unit Training

a. *Individual.* Ensure that criteria for the system individual (operator and support personnel MOS) unit training program have been met in the following areas:

(1) *ETM.*

(a) Initial estimates of new and revised ETM requirements resulting from introduction of the NDI candidate systems have been determined.

(b) There are plans for developing necessary extension/exportable training materials (operator and support personnel) providing draft materials in time to train FOT&E or other test player personnel, and distributing the approved materials prior to initial fielding (FUE).

(2) *Soldiers manuals.*

(a) Initial estimates of new and revised soldiers manuals (operator and support personnel MOS) requirements have been determined for the NDI candidate systems.

(b) There are plans to develop draft soldiers manuals for each affected MOS, deliver as part of the FOT&E or other test training support package, and to distribute the approved manuals to the gaining command not later than the scheduled FUE date.

(3) *Trainer guides.*

(a) Initial estimates of new and revised trainer guide requirements have been determined.

(b) There are plans to develop draft trainer guides for each affected MOS, deliver as part of the FOT&E or other test training support package, and to distribute the approved guides to the gaining command not later than the scheduled FUE date.

(4) *SQT.*

(a) Initial estimates of new and revised SQT requirements resulting from introduction of the NDI candidate systems have been determined.

(b) There are plans to develop draft SQTs for each affected MOS, deliver as part of the FOT&E or other test training support package, and to distribute the approved SQTs to the gaining command not later than 1 year after the scheduled FUE date.

(5) *Training devices.*

(a) Initial estimates have been made of training device (common and peculiar) requirements and distribution plan for unit individual training of operator and support personnel.

(b) Plans exist to finalize, early in the production and deployment phase, the need for new training devices for unit individual training and to prepare, coordinate, and obtain approval according to AR 71-9 for each new device judged to be required based on a CTEA.

(c) There are adequate plans and contractual provisions to establish a capability to support the system-peculiar unit individual training devices (operator and support personnel). (Apply appropriate MDR I/III issues from each of the 17 ILS assessment considerations as they apply to supporting these devices.)

(d) There are plans to develop prototypes of new system-related unit training devices and provide as part of the IPT and FOT&E or other test training packages.

b. *Collective.* Ensure that the following areas have been addressed:

(1) *Training concept.* The TRADOC proponent has conducted an FEA using market investigation results and other analysis to establish a list of collective operational tasks to serve as a basis for refining the unit collective training program. A draft collective training concept (what, when, where, and how) has been developed and included in the STRAP.

(2) *ARTEP.*

(a) Initial estimates of new and revised ARTEP requirements resulting from introduction of the new system have been identified.

(b) There are plans for preparing draft test edition ARTEPs, providing them as part of the FOT&E or other test training support package, and delivering the test edition ARTEP to the gaining command not later than the scheduled FUE date.

(3) *Training ammunition.*

(a) Initial estimates have been made of system ammunition requirements and distribution plan for initial and sustainment system-related collective training.

(b) There are plans or contractual provisions to provide sufficient training ammunition, consistent with the STRAP, to provide collective training for FOT&E or other test player personnel.

(4) *Instructors.* Initial estimates have been made of system-related collective training instructor requirements (for at least the next 5 years) and their availability.

### 7-28. New equipment training (NET)

Ensure that criteria have been met as shown in the categories below.

*a. DT/OT personnel.* There are plans to provide NET for, if conducted, FOT&E or other test player personnel representative of those required to operate and support the system when fielded.

*b. Institutional instructors.* All necessary training of institutional instructors for system operator and support personnel MOS is planned for completion after contract award.

*c. Depot maintenance personnel.*

(1) Depot maintenance personnel training requirements (who, what, when, and how) have been determined and/or planned.

(2) Sufficient resources (personnel, facilities, support materiel, and so forth) have been programmed to be available to meet depot maintenance personnel NET requirements.

*d. Using and support unit and other personnel.*

(1) There are plans to provide appropriate NET to Reserve Component personnel.

(2) NET requirements (who, what, when, and how) have been determined and/or planned for using and support personnel of each gaining command.

(3) Sufficient resources (personnel, facilities, support materiel) have been programmed to be available to meet NET requirements of each gaining command.

(4) There are plans and sufficient resources to provide appropriate NET to Logistic Assistance Representatives.

### 7-29. Planning documentation

*a. NETP.* Ensure that—

(1) The NETP has been prepared with training information for the production and deployment phase (for example, for initial production testing (IPT) and gaining command personnel). Make sure it has been coordinated, approved, and distributed according to AR 350-35 and DA Pam 350-40.

*b. STRAP.* Unless waived by USATSC, make certain the STRAP has been prepared, coordinated, and approved to reflect plans for completing development and validation of the training subsystem prior to FUE.

## Section VIII Technical Data

### 7-30. Equipment manuals

Ensure that appropriate action has been taken as shown in the categories below.

*a. Supply and storage publications.*

(1) *Bulletins.*

(a) Storage serviceability standards.

1. There are plans for preparing storage serviceability standards for new deteriorative stocked items that will be identified in the AMDF with acquisition advice codes A, B, C, D, K, M, P, R, or Z as defined in AR 708-1.

2. There are plans to assure storage serviceability standard data is consistent with data in the AMDF or packaging data microfilm file (PDMF).

*(b) Ammunition surveillance procedure.* Plans exist for development and publication, prior to FUE, of procedures for conducting an ammunition stockpile reliability program.

*(c) Consumption rates.*

1. *Ammunition.* Ammunition consumption rates have been developed and coordinated with USACASCOM and HQDA (DAMO-RQR) for each weapon by type of propelling charge, round, and applicable geographical region per AR 700-8.

2. *POL.* Projected system POL combat consumption rates, have been developed and coordinated with USACASCOM and USAGMPA according to AR 700-8.

*(d) Replacement and float factors.*

1. Replacement factors or life expectancy (peacetime and war-time) for new end items have been established and coordinated with USACASCOM and HQDA (DAMO-RQR) based on similar items, engineering estimates, and available test data. Ensure they have been included in the SSN data file.

2. ORF and RCF factors have been established according to AR 750-1, AR 750-2, and AR 710-1; approved by the Office of the Deputy Chief of Staff for Logistics (ODCSLOG) (DALO-SMM); and included in the SSN data file.

(2) *Supply catalogs for SKO.*

(a) Contractual options exist to acquire or develop and verify draft supply catalogs listing components of each new SKO required for system operation or support.

(b) There are plans for publication and distribution of supply catalogs listing components of applicable SKOs to meet deployment requirements.

*b. Other publications.*

(1) *Load and rigging procedures.*

(a) Ensure that the need for a Transportability Guidance Technical Manual according to MIL-M-63023 has been determined between the MATDEV and MTMCTEA.

(b) Ensure that there are plans and contractual options for—

1. Acquisition of manufacturer's manuals, supplementing or changing manufacturer's manuals, and, if determined necessary, developing procedures (and obtaining MTMCTEA approval) in cooperation with the U.S. Air Force (USAF) for disassembly, loading, restraining, and offloading for internal air transport of materiel (transportability problem items) with format according to MIL-M-63023. Be sure there are plans for developing procedures, as necessary, for other required transport modes. Options will be selected based on evaluation according to MIL-M-7298.

2. Developing and verifying, in cooperation with the USAF, rigging procedures for airdrop of materiel where such a requirement exists.

3. Developing and verifying outloading and storage drawings and procedures according to AR 740-1 and AR 746-1 for new ammunition and other hazardous material.

(c) Ensure critical and major defects in manufacturer's loading and rigging procedures, when required, have been identified during market investigation and plans established for their resolution.

(d) Ensure there are plans and resources for verifying, prior to FUE, correction of remaining defects in manufacturer's loading and rigging procedures discovered during the market investigation. Verify for readability, format, organization, safety instructions, and usefulness in providing instructions to the target audience.

(e) Ensure there are plans to submit final draft loading and rigging procedures, when required, to the U.S. Army Publications and Printing Command in sufficient time to assure availability at time of equipment delivery.

(2) *Packaging and preservation procedures.* Ensure that there are contractual provisions requiring that technical manuals or bulletins include appropriate packaging procedures based on requirements for like or similar items for the military levels of protection applicable to the user.

(3) *Security procedures.* Ensure that—

(a) There are plans to identify, through the LSA process, the security classification or pilferage control associated with each item subject to supply support.

(b) The SSCG has been prepared and approved according to AR 380-5.

*c. Operation and maintenance manuals.* If fielding with "advance copy" operator and/or maintenance manuals is anticipated, the proposal has been approved by TRADOC and AMC. Make sure there are adequate plans to assure other AR 25-30 requirements for these manuals are met.

(1) *Operator manuals.*

(a) Plans exist to verify all draft operator manuals for readability, format, organization, safety instructions, and usefulness in providing instructions to the target audience.

(b) If manufacturers' operator manuals are proposed for use (non-developmental item (NDI)), the proposal has been coordinated with the CBTDEV. Make sure there are contractual provisions requesting copyright release and requiring publications to meet requirements of MIL-M-7298, including necessary supplementation per AR 25-30 and AR 750-1.

(c) There are plans to submit final draft operator manuals to the U.S. Army Publications and Printing Command in sufficient time to assure availability at time of equipment delivery.

(d) Critical and major defects in draft operator manuals have been identified during market investigation and plans established for their resolution.

(e) There are plans and resources for verifying, prior to FUE, correction of remaining defects in draft operator manuals discovered during the market investigation.

(2) *Unit, DS, and GS (or AVUM and AVIM) manuals.*

(a) Plans exist to verify all draft unit through GS maintenance manuals for readability, format, organization, safety instructions, and usefulness in providing instructions to the target audience.

(b) If manufacturers' unit through GS level maintenance manuals are proposed for use (NDI), the proposal has been coordinated with the CBTDEV. Make sure there are contractual provisions requesting copyright release and requiring publications to meet requirements of MIL-M-7298, including necessary supplementation per AR 25-30 and AR 750-1.

(c) There are plans to submit final draft unit through GS level maintenance manuals to the U.S. Army Publications and Printing Command in sufficient time to assure availability at time of equipment delivery.

(d) All critical and major defects in draft unit through GS level maintenance manuals have been identified during market investigation and plans established for their resolution.

(e) There are plans and resources for verifying, prior to FUE, correction of remaining defects in draft unit through GS level maintenance manuals discovered during market investigation.

(3) *RPSTL.*

(a) Plans are in place to verify all draft RPSTLs for technical accuracy, readability, format, organization, completeness, consistency with the maintenance concept, and usefulness in providing instructions to the target audience.

(b) If manufacturers' RPSTLs are proposed for use (NDI), the proposal has been coordinated with the CBTDEV. Make sure there are contractual provisions requesting copyright release and requiring publications to meet requirements of MIL-M-7298, MIL-STD-335, and AR 700-18.

(c) There are plans to submit final draft RPSTLs to the U.S. Army Publications and Printing Command in sufficient time to assure availability at time of equipment delivery.

(d) Critical and major defects in draft RPSTLs have been identified during market investigation and plans established for their resolution.

(e) There are plans and resources for verifying, prior to FUE, correction of remaining defects in draft RPSTLs discovered during market investigation.

(4) *MAC.* Plans have been established to prepare an MAC and to correct identified shortcomings in manufacturer's publications. Plans include appropriate verification procedures prior to FUE.

(5) *Calibration procedures.*

(a) There are contractual provisions requiring that calibration procedures—

1. Make maximum use of manufacturer's manuals, with or without supplementation or changes subject to an evaluation according to MIL-M-7298.

2. Make maximum use of existing instruments at the area TMDE support team or supporting DS and GS maintenance units as appropriate.

3. Be prepared, for special-purpose TMDE, according to MIL-M-38793 and coordinated with USATA.

(b) Plans exist to verify all new or revised calibration procedures for accuracy prior to FUE.

(c) The DA Form 260 (Request for Printing of Publication) to publish or revise a DA TB calibration procedure will be sent to and approved by USATA after contract award.

(6) *DMWR.*

(a) There are contractual provisions for preparation of DMWRs (when system MAC specifies depot tasks) according to AR 25-30, AR 750-1, and applicable military specifications.

(b) If depot tasks are specified, there are plans and resources to conduct a pilot depot overhaul program to validate DMWRs and Depot Maintenance Parts Requirements List.

(7) *FTs.*

(a) Plans and resources have been programmed for enough range firings of production items to develop final FTs and TCs.

(b) The schedule for development, printing, and distribution of final FTs/TCs is consistent with deployment plans.

(8) *Demilitarization procedures and EOD procedures.*

(a) Requirements exist to include demilitarization and EOD procedures consistent with DOD guidance in appropriate TMs and demilitarization codes in the AMDF. For ammunition items, plans exist to provide a copy of the approved demilitarization and disposal plan to the Single Manager for Conventional Ammunition.

(b) The EOD TI, which accompanies all movement or shipment within CONUS of all new, improved, and modified U.S. and foreign ordnance for which published EOD procedures are not available, has been prepared and approved by ARDEC, ATTN: SMCAR-FSM-E, Dover, NJ 07801-5001.

(c) Plans exist to have all statements pertaining to EOD in the manual of the weapon system; that is, "call EOD," "notify EOD," and so forth, reviewed and approved by ARDEC.

(d) Plans exist to have ARDEC conduct validation tests of the EOD RSP and applicable techniques, tools, and equipment.

(e) For new explosive ordnance items, the development, validation, procurement, and deployment status of EOD publications (and associated tools and equipment) is planned. Make certain ARDEC approval is granted in time for items to be available to Army EOD field units 30 days prior to FUE or stockpile dates. (Joint service publications require 18 months.)

(9) *Lubrication order (LO).*

(a) Ensure market investigation results and other analyses verify adequacy of LOs for NDI candidate systems.

(b) Technical approval of manufacturer's LOs was obtained from BRDEC (STRBE-VF), Fort Belvoir, VA 22060-5606.

(c) There are contractual provisions for—

1. Making maximum use of manufacturer's manuals, with or without supplementation or change subject to an evaluation according to MIL-M-7298.

2. Preparing new lubrication instructions according to MIL-M-63004 (either as separate LO or as part of TM 10 or TM 20-series or permanently mounting instruction on the equipment).

(10) *Other publications.* Other equipment manuals required for system operation or maintenance have been verified and distribution scheduled consistent with the system deployment plan.

### **7-31. Authorization documents**

Ensure that, for those systems requiring development of a new using or support organization (TOE), an AURS has been prepared and submitted to HQDA (DAMO-FDR) with the initial BOIP, or a deferral approval obtained as required by AR 71-2. Ensure that appropriate criteria have been met as shown below.

*a. Using unit(s).*

(1) The TOE development schedule allows sufficient time prior to FUE for—

(a) Revising or updating draft plan TOEs.

(b) Coordinating and obtaining HQDA approval of plan TOEs.

(c) Preparing and printing final TOEs.

(d) Preparing MTOEs and reorganizing units, as necessary, for all affected using units. (See AR 25-301.)

(2) A proposed standard line item number (LIN) has been requested by the MATDEV and assigned to the system by CDA as required by AR 70-1.

(3) There are plans for accomplishing (following type classification approval), in a timely manner, the actions necessary to incorporate the system LINs into SB 700–20.

*b. Support unit(s).*

(1) The TOE development schedule allows sufficient time prior to FUE for—

(a) Revising or updating draft plan TOEs.

(b) Coordinating and obtaining HQDA approval of plan TOEs.

(c) Preparing and printing final TOEs.

(d) Preparing MTOEs and reorganizing units, as necessary, for all affected combat service support units.

(2) Proposed standard LINs have been requested by the MAT-DEV and assigned by CDA to each item of system–peculiar support and test equipment to be included in TOE, TDA, or common table of allowances (CTA) documents. There are plans for accomplishing, in a timely manner (following type classification approval), the actions necessary to incorporate these LINs into SB 700–20.

### 7–32. Drawings

Ensure there are developmental design or product engineering drawings and associated lists.

## Section IX Computer Resources Support

### 7–33. General

Ensure that—

*a.* Results of the market investigation and, if conducted, DT I/EUT&E indicate that computer resources support requirements for performance, standardization, and so forth are achievable with a basic NDI acquisition strategy.

*b.* Market investigation results determined those operational and maintenance support computer software for NDI candidate systems that are considered to be propriety. There are plans for resolving issues regarding proprietary rights.

*c.* The RFP includes a requirement for either unlimited rights to all technical data and documentation for CPCI and associated support resources or at least limited rights with permission to use the data to prepare, modify, and maintain the same or similar CPCIs and associated support resources. Data rights should be acquired according to provisions of Part 27 of the FAR, DFARS, and AFARS.

*d.* Market investigation and, if conducted, DT I/EUT&E have determined, for the NDI candidate systems, the extent of use of common hardware and software materiel system computer resources. Appropriate requirements for maximum use of common hardware and software materiel system computer resources have been established for the system.

### 7–34. System or end item operation

For load modules (tape and program), ensure that—

*a.* The results of the market investigation confirm the adequacy of the operational computer programs and, if required, the adequacy of these programs will be verified during Government acceptance testing prior to FUE.

*b.* There are adequate plans and resources (considering contractor's software correction history) for incorporating and verifying remaining changes to operational computer programs resulting from the market investigation or anticipated system design changes prior to fielding.

### 7–35. System or end item maintenance

Ensure that the plans and current status for identification and procurement of required system computer resources support (maintenance) not currently authorized to the receiving or support unit are compatible with the established FUE. Ensure that the criteria below have been met.

*a. ATE interconnecting devices.*

(1) The results of the market investigation confirm the availability and adequacy of a representative sample of ATE interface devices. Plans exist to determine and verify required ATE interface devices prior to FUE.

(2) Plans exist to verify that the peculiar ATE interface devices (at least a representative sample) are supportable. (Apply appropriate MDR I/III issues from the 17 assessment considerations.)

(3) There are adequate plans and resources (considering contractor's software correction history) for accomplishing and verifying the necessary redesign of ATE interface devices resulting from market investigation, Government acceptance testing, or anticipated system design changes.

(4) There are adequate plans and resources to develop and verify ATE interface devices prior to initial fielding or acceptable "workarounds" exist to provide support until devices are available.

*b. Load modules (tape and program).*

(1) The results of market investigation confirm the availability and adequacy of the representative sample of maintenance computer programs.

(2) There are adequate plans and resources (considering contractor's software correction history) for incorporating and verifying changes to maintenance computer programs resulting from market investigation, Government acceptance testing, or anticipated system design changes prior to fielding.

(3) There are adequate plans and resources to develop and verify those maintenance programs not provided during market investigation prior to initial fielding, or acceptable "workarounds" exist to provide support until the programs are available.

(4) For development of new maintenance computer programs there are requirements for use of the Common Abbreviated Test Language for all Systems (C/ATLAS) as specified in The Institute of Electrical and Electronics Engineers Standard 716 or to obtain a waiver as required by AR 750–43.

*c. User instructions.*

(1) The results of market investigation confirm the availability and adequacy of the representative sample of user instructions for ATE interface.

(2) There are adequate plans and resources for incorporating and verifying changes to user instructions (for interfacing with ATE) resulting from market investigation, Government acceptance testing, or anticipated system design changes prior to fielding.

(3) Displayed user instructions (for interfacing with ATE) have been prepared in accordance with MIL–STD–334.

### 7–36. PDSS

Ensure that PDSS responsibilities and software modification, configuration control, and verification procedures have been established. Ensure that—

*a. Equipment.* The support equipment available at the proposed PDSS center is adequate to maintain the computer software. If not, ensure that there are plans, consistent with transition milestones, for procurement of necessary support equipment (such as compilers, environmental simulators, test case generators, and analyzers), required by the PDSS center to effectively maintain the computer software.

*b. Personnel.* Personnel and training requirements (PDSS center) for maintenance of the computer programs have been determined and, as necessary, plans established to obtain additional personnel and training to meet desired support transition milestones.

*c. Software documentation.*

(1) The results of market investigation confirm the availability and adequacy of a representative sample of operational and maintenance software documentation.

(2) There are adequate plans and resources for incorporating and verifying changes to software documentation resulting from market investigation, Government acceptance testing, or anticipated system design changes prior to fielding.

(3) There are adequate plans and resources to develop and verify prior to initial fielding the remaining software documentation not provided during market investigation and Government acceptance

testing, or acceptable “workarounds” exist to provide support until documentation is available.

(4) The computer program product specifications (Type C–5, MIL–STD–490) have been prepared for operational and maintenance programs. Make sure plans exist to conduct preliminary and critical design reviews.

### **7–37. Management planning**

Ensure that—

*a. Computer Resources Management Plan (CRMP).* The CRMP has been prepared, coordinated with the responsible LCSS engineering center, and, for AMC activities, approved by HQAMC (AMCDE–SB) to define production and deployment phase computer resources support development, procurement, and deployment activities. A plan has been prepared for orderly transition of software support responsibility from the developer to the PDSS activity.

*b. Computer resources working group (CRWG).* A CRWG has been established to assist in the management of computer resources support development.

*c. Test Program Set Management Plan (TPSMP).* The TPS management plan has been prepared, coordinated, and submitted to OPM TMDE (AMCPM–TMDE) according to AR 750–43.

## **Section X**

### **Transportation and Transportability**

#### **7–38. Mobility—strategic and tactical**

*a. Strategic.* Ensure market investigation results and other analyses verify compliance of NDI candidate systems with transportability requirements related to strategic mobility of the system and ASIOE.

*b. Tactical.* Ensure market investigation results and other analyses verify compliance with transportability requirements related to tactical mobility of the system and ASIOE.

#### **7–39. Transportability**

Ensure appropriate action has been taken as shown in the following categories:

*a. General.*

(1) In those cases where a transportability requirement is not met, the proposed course of action is adequate considering engineering risks and impact on acquisition or procurement costs and schedules, deployability, and operational effectiveness.

(2) Market investigation and, if conducted, Government verification testing results and other analyses verify compliance with system requirements for rapid deployment.

(3) For required modes of transportation, there are contractual provisions for correcting lifting and tie–down deficiencies discovered during the market investigation and, if conducted, DT I/ EUT&E. Provisions exist for designing system lifting and tie–down specifications according to MIL–STD–209, to include the requirement for a transportation data plate or decal.

(4) Ensure transportability related OSCR elements have been adequately addressed.

*b. Highway.*

(1) Market investigation results and other analyses verify compliance with highway transportability requirements.

(2) If item has a stated transportability requirement or is a transportability problem item, highway transportability approval has been affirmed by MTMC per AR 70–47.

*c. Rail.*

(1) Market investigation results and other analyses verify compliance with rail transportability requirements.

(2) If item has a stated transportability requirement or is a transportability problem item, rail transportability approval has been affirmed by MTMC per AR 70–47.

(3) Plans exist for the loading drawing to be prepared by the MATDEV and submitted to MTMCTEA for review, coordination, approval, and inclusion in the Association of American Railroads (AAR) Open Top Car Loading Manual.

*d. Marine.*

(1) Market investigation results and other analyses verify compliance with marine transportability requirements.

(2) If item has a stated transportability requirement or is a transportability problem item, marine transportability approval has been affirmed by MTMC per AR 70–47.

*e. Containerization.*

(1) Market investigation results and other analyses verify compliance with design for containerization requirements.

(2) If item has a stated containerization requirement, approval for containerization has been affirmed by MTMC.

*f. Airdrop/LAPES.*

(1) Market investigation results and other analyses verify compliance with airdrop/LAPES requirements.

(2) If item has a stated airdrop requirement, airdrop approval has been affirmed by MTMC.

*g. Aircraft.*

*(1) Fixed wing.*

*(a)* Market investigation results and other analyses verify compliance with aircraft (fixed wing) transportability requirements.

*(b)* If item has a stated transportability requirement or is a transportability problem item, aircraft (fixed wing) transportability approval has been affirmed by MTMC per AR 70–47.

*(c)* For items requiring aircraft transportability and meeting criteria of AR 70–44 and AR 70–47, an air test loading by USAF has been planned to be accomplished prior to FUE.

*(2) Rotary wing.*

*(a) Internal.*

*1.* Market investigation results and other analyses verify compliance with aircraft (rotary wing—internal cargo) requirements.

*2.* If item has a stated transportability requirement or is a transportability problem item, aircraft (rotary wing—internal cargo) transportability approval has been affirmed by MTMC per AR 70–47.

*(b) External.*

*1.* Market investigation results and other analyses verify compliance with aircraft (rotary wing—external cargo) transportability requirements.

*2.* If item has a stated transportability requirement or is a transportability problem item, aircraft (rotary wing—external cargo) transportability approval has been affirmed by MTMC per AR 70–47.

#### **7–40. Transportability report and engineering analysis**

*a.* Ensure that a transportability report has been provided to MTMCTEA in accordance with AR 70–47 or MIL–STD–1367. If so, make certain MTMCTEA has prepared and distributed a transportability engineering analysis.

*b.* If changes in item shipping dimensions or weight are anticipated after MTMC approval, ensure that there are plans for preparing a revised transportability report and requesting new approval for modified item. System modifications should not be necessary under the NDI basic acquisition strategy.

## **Section XI Facilities**

#### **7–41. Base operations and services support**

Programmed base operations and services support facility requirements must be consistent with the results of market investigation. Make sure plans exist to conduct site surveys or other coordination with affected MACOMs to refine base operations and services support facility requirements after contract award. Ensure that the criteria below have been met.

*a. Systems operations center.*

(1) System operations center facility requirements have been identified and their projected availability is consistent with current deployment schedules and operational concepts.

(2) Appropriate documentation has been submitted to COE according to AR 415-15 consistent with identified short-range, intermediate-range, and long-range construction program requirements for new or modified system operations center facilities.

*b. Aviation.*

(1) All aviation operational facility requirements have been identified. Make sure their projected availability is consistent with current deployment schedules and operational concepts.

(2) Appropriate documentation has been submitted to COE according to AR 415-15 consistent with identified short-range, intermediate-range, and long-range construction program requirements for new or modified aviation facilities.

(3) The Federal Aviation Administration (FAA) has been notified per AR 95-2 of any proposal to construct or substantially modify aviation, missile, or rocket facilities.

*c. Administrative and headquarters.*

(1) All administrative and headquarters facility requirements have been identified. Make certain their projected availability is consistent with current deployment schedules and operational concepts.

(2) Appropriate documentation has been submitted to COE according to AR 415-15 consistent with identified short-range, intermediate-range, and long-range construction program requirements for new or modified administrative and headquarters facilities.

*d. Troop barracks and dining.*

(1) All troop barracks and dining facility requirements have been identified. Make certain their projected availability is consistent with current deployment schedules and operational concepts.

(2) Appropriate documentation has been submitted to COE according to AR 415-15 consistent with identified short-range, intermediate-range, and long-range construction program requirements for new or modified troop barracks and dining facilities.

(3) All proposals for new or modified dining facilities have been validated as necessary by the U.S. Army Aviation and Troop Support Command according to AR 415-15.

*e. Military family housing.*

(1) All military family housing facility requirements have been identified. Make sure their projected availability is consistent with current deployment schedules and operational concepts.

(2) Appropriate documentation has been submitted to COE consistent with identified short-range, intermediate-range, and long-range construction program requirements for new or modified military family housing facilities. (See AR 415-15.)

*f. Morale, welfare, and recreation.*

(1) All morale, welfare, and recreation facility requirements have been identified. Ensure that their projected availability is consistent with current deployment schedules and operational concepts.

(2) Appropriate documentation has been submitted to COE according to AR 415-15 consistent with identified short-range, intermediate-range, and long-range construction program requirements for new or modified morale, welfare, and recreation facilities.

## 7-42. Logistical

Ensure that issues/criteria for logistical facilities have been met as shown below. Ensure plans exist to conduct site surveys or other coordination with affected MACOMs to refine logistical facility requirements, as necessary, after contract award. Where possible, ensure the elements of the OSCR program have been considered.

*a. Maintenance.* See TM 43-10 also for additional assessment considerations.

*(1) Unit, DS, and GS (or AVUM and AVIM) levels.*

(a) All unit through GS level maintenance facility requirements have been identified. Make certain their projected availability is consistent with current deployment schedules and operational and support concepts.

(b) Appropriate documentation has been submitted to COE according to AR 415-15 consistent with identified short-range, intermediate-range, and long-range construction program requirements for new or modified unit or DS and GS level maintenance facilities.

(c) Programmed unit through GS level maintenance facility requirements are consistent with the results of market investigation.

*(2) Depot level.*

(a) All depot maintenance facility requirements have been identified and are projected to be available consistent with current system deployment scheduled and depot maintenance workloading.

(b) Appropriate documentation has been submitted to COE according to AR 415-15 consistent with identified short-range, intermediate-range, and long-range construction program requirements for new or modified depot maintenance facilities.

*b. Supply and storage.*

(1) *Organizational.* Appropriate documentation has been submitted to COE according to AR 415-15 consistent with identified short-range, intermediate-range, and long-range construction program requirements for new or modified organizational level supply and storage facilities.

(a) *PLL.* All PLL storage facility requirements have been identified and are projected to be available consistent with current system deployment schedules.

(b) *Arms room.* All unit arms room facility requirements (including arms racks and containers (AR 190-11)) have been identified and are projected to be available consistent with current system deployment schedules.

*(c) Basic load (ammunition.)*

1. All unit level ammunition storage and supply facility requirements have been identified and are projected to be available consistent with current system deployment schedules.

2. Plans for new or major modification to existing unit level ammunition storage facilities have been approved by the DOD Explosive Safety Board as required by AR 415-15 and AR 385-60.

3. Ammunition delivery schedules and hazard classification data (for example, quantity-distance class, storage compatibility group, DOT class, and conveyor spacing distances) have been provided to each using unit for use in facilities planning.

(d) *Basic load (POL).* All organizational level POL storage and supply facility requirements have been identified and are projected to be available consistent with current system deployment schedules.

(2) *DS.* Appropriate documentation has been submitted to COE according to AR 415-15 consistent with identified short-range, intermediate-range, and long-range construction program requirements for new or modified DS supply and storage facilities.

*(a) ASP.*

1. All ASP facility requirements have been identified and are projected to be available consistent with current system deployment schedules.

2. Plans for new or major modification to existing ammunition storage facilities (at the ASP) have been approved by the DOD Explosive Safety Board as required by AR 415-15 and AR 385-60.

3. Ammunition delivery schedules and hazard classification data (for example, quantity-distance class, storage compatibility group, DOT class, and conveyor spacing distances) have been provided to those organizations operating an ASP for use in facilities planning.

(b) *ASL.* All ASL supply storage facility requirements have been identified and are projected to be available consistent with current system deployment schedules.

(c) *ORF.* All ORF supply storage facility requirements have been identified and are projected to be available consistent with current system deployment schedules.

(3) *GS/theater.* Appropriate documentation has been submitted to COE according to AR 415-15 consistent with identified short-range, intermediate-range, and long-range construction program requirements for new or modified GS/theater supply and storage facilities.

*(a) War reserve.*

1. All theater war reserve (classes III, V, VII, and IX) storage facility requirements have been identified and are projected to be available consistent with current system deployment schedules.

2. Plans for new or major modification to existing theater war reserve ammunition storage facilities have been approved by the DOD Explosive Safety Board as required by AR 415-15 and AR 385-60.

3. Theater war reserve ammunition delivery schedules and hazard classification data (for example, quantity-distance class, storage

compatibility group, DOT class, and conveyor spacing distances) have been provided to those organizations having a storage mission for use in facilities planning.

(b) *POMCUS*. All POMCUS storage facility requirements have been identified and are projected to be available consistent with current system deployment schedules.

(c) *Selected nonwar reserves*.

1. All GS supply base (classes III, V, and IX) facility requirements have been identified and are projected to be available consistent with current system deployment schedules.

2. Plans for new or major modification to existing GS supply base ammunition storage facilities have been approved by the DOD Explosive Safety Board as required by AR 415-15 and AR 385-60.

3. Ammunition delivery schedules and hazard classification data (for example, quantity-distance class, storage compatibility group, DOT class, and conveyor spacing distances) have been provided to those organizations having a GS supply base storage mission for use in facilities planning.

(4) *Depot*.

(a) Appropriate documentation has been submitted to COE according to AR 415-15 consistent with identified short-range, intermediate-range, and long-range construction program requirements for new or modified depot supply and storage facilities.

(b) Plans for new or major modification to existing war reserve ammunition depot storage facilities have been approved by the DOD Explosive Safety Board as required by AR 415-15 and AR 385-60.

(c) War reserve ammunition delivery schedules and hazard classification data (for example, quantity-distance class, storage compatibility group, DOT class, and conveyor spacing distances) have been provided to those depots having a storage mission for use in facilities planning.

(d) All RCF storage facility requirements have been identified and are projected to be available consistent with current system deployment schedules.

(e) All depot storage facility requirements for other HQDA-approved operational projects have been identified and are projected to be available consistent with current system deployment schedules.

### **7-43. Training**

Ensure plans exist to conduct site surveys or other coordination with affected MACOMs to refine training facility requirement, as necessary, after contract award. Make sure that the elements of the OSCR program have been considered where appropriate. Additionally, ensure that—

a. *Ranges*.

(1) All training range (unit and institutional) facility requirements have been identified and are projected to be available consistent with current training schedules.

(2) Appropriate documentation has been submitted to COE according to AR 415-15 consistent with identified short-range, intermediate-range, and long-range construction program requirements for new or modified training range facilities.

b. *Buildings*. Appropriate documentation has been submitted to COE according to AR 415-15 consistent with identified short-range, intermediate-range, and long-range construction program requirements for new or modified training (institutional and unit) buildings facilities.

(1) *Classrooms*. Make sure all training classroom facility requirements have been identified and that they are projected to be available consistent with current training schedules.

(2) *Training equipment and devices*. Make certain all training equipment and device facility requirements have been identified and are projected to be available consistent with current training schedules.

### **7-44. Planning documentation—support facility annex**

For systems having potential facilities impact, ensure that a support facility annex to the ILSP has been prepared. Be sure the updated

information has been distributed to all MACOMs, appropriate installations, and ARSTAF elements. Ensure plans exist to review and, as necessary, update and redistribute the annex after contract award.

## **Section XII Standardization and Interoperability**

### **7-45. General**

For foreign developed items and other NDI, ensure a list has been developed showing the data that the foreign or commercial source considers proprietary and any U.S. and foreign patents issued on the item or any component of the item. Ensure that adequate plans exist to assure that a proprietary data license and, where necessary, a patent license (or as a minimum a definitive option to acquire these licenses) are obtained before the items are tested, improved, or procured.

### **7-46. Command, control, and communications (CCC)**

Ensure that—

a. The results of the market investigation and other analyses confirm attainment of CCC system standardization and interoperability requirements (ORD and specification) using a basic NDI acquisition strategy.

b. Plans exist to demonstrate interoperability of CCC equipment used by troops in Europe with equipment of other NATO members.

c. If CCC system standardization and interoperability requirements have not been met, the proposed course of action reflects the proper balance between acquisition costs and schedule, mission effectiveness, and support cost.

### **7-47. Battlefield surveillance and target designation and acquisition systems**

Ensure that—

a. The results of market investigation and other analyses confirm attainment of battlefield surveillance and target designation and acquisition system standardization and interoperability requirements (ORD and specification) using a basic NDI acquisition strategy.

b. Plans exist to demonstrate the inoperability of equipment for use by troops in Europe with battlefield surveillance and target designation and acquisition systems and IFF equipment of other NATO members.

c. If battlefield surveillance and target designation and acquisition system and IFF equipment standardization and interoperability requirements have not been met, the proposed course of action reflects the proper balance between acquisition costs and schedule, mission effectiveness and safety, and support cost.

### **7-48. Ammunition**

Ensure that—

a. The results of market investigation and other analyses confirm attainment of weapon system ammunition standardization and interoperability requirements (ORD and specification) using a basic NDI acquisition strategy.

b. Plans exist to demonstrate interoperability of the system and associated ammunition for use by troops in Europe with equipment and ammunition of other NATO members.

c. If weapon system ammunition standardization and interoperability requirements have not been met, the proposed course of action reflects the proper balance between acquisition costs and schedule, mission effectiveness, and support cost.

### **7-49. POL**

Ensure that—

a. The results of market investigation and other analyses confirm attainment of weapon system POL standardization and interoperability requirements (ORD and specification) using a basic NDI acquisition strategy.

b. Plans exist to demonstrate interoperability for the system and associated POL for use by troops in Europe with equipment and POL of other NATO members.

c. If weapon system POL standardization and interoperability requirements have not been met, the proposed course of action reflects the proper balance between acquisition costs and schedule, mission effectiveness, and support cost.

#### **7-50. Components and repair parts**

Ensure that—

a. The results of market investigation and other analyses confirm attainment of system component and repair parts standardization and interoperability requirements (ORD and specification) using a basic NDI acquisition strategy.

b. Equipment for use by troops in Europe has demonstrated an acceptable level of component and repair parts standardization or interchangeability with equipment of other NATO members.

c. If component and repair parts standardization, interchangeability and interoperability requirements have not been met, the proposed course of action reflects the proper balance between acquisition costs and schedule, mission effectiveness, and support cost.

#### **7-51. Aircraft servicing**

Ensure that—

a. The results of market investigation and other analyses confirm attainment of system standardization and interoperability requirements (ORD and specifications) related to aircraft cross-servicing using a basic NDI acquisition strategy.

b. Aircraft for use by troops in Europe has been demonstrated as being capable of being cross-serviced using the POL, ammunition, and loading and dispensing equipment of other NATO members.

c. If aircraft cross-servicing standardization and interoperability requirements have not been met, the proposed course of action reflects the proper balance between acquisition costs and schedule, mission effectiveness, and support cost.

### **Section XIII Reliability, Availability, and Maintainability**

#### **7-52. General**

Ensure that—

a. The market investigation evaluated those reliability and maintainability program tasks identified in AR 702-3.

b. There are contractual provisions for conduct of a reliability and maintainability program, according to MIL-STD-785 and MIL-STD-470 respectively, including appropriate tasks tailored per AR 702-3.

c. Appropriate system reliability, availability, and maintainability requirements related to operational effectiveness and logistic resource requirements and costs have been included in the requirement document and contractual specification for the production phase. Be sure the requirements have been compared to a baseline system.

d. In those cases where design changes impacting system RAM are programmed for production, there are plans to verify these changes during Government acceptance testing and/or FOT&E.

e. Appropriate plans and funding have been established for field RAM engineering data collection (ACAT I and II systems as a minimum), such as SDC, to monitor system RAM characteristics and to provide baseline data for future systems development.

f. RAM scoring and assessment conference results, if any, and corrective action status have been prepared and distributed among the CBTDEV, MATDEV, testers, evaluators, and logistician.

#### **7-53. Reliability**

a. *Mission-related.* Ensure that—

(1) The results of market investigation demonstrate the ability to achieve the IOC operational threshold (or other approved threshold) mission-related reliability requirements at a high confidence level using a basic NDI acquisition strategy. Be sure there are adequate (considering engineering risks and impact on acquisition or procurement costs and schedules, and operational effectiveness) plans and

resources for either accepting or correcting (and retesting prior to deployment) remaining failure modes.

(2) The production contract includes specific quality assurance tasks and controls and RAM testing to verify manufacture and delivery of equipment meeting system mission-related reliability requirements.

b. *Logistics-related.* Ensure that—

(1) The results of market investigation demonstrate the ability to achieve the IOC operational threshold (or other approved threshold) logistics-related reliability requirements at a high confidence level using a basic NDI acquisition strategy. Be sure there are adequate (considering engineering risks and impact on acquisition or procurement costs and schedules, and support materiel and manpower burden) plans and resources for either accepting (and adjusting support resource procurement and authorization accordingly) or correcting (and retesting prior to deployment) remaining failure modes.

(2) The production contract includes specific quality assurance tasks and controls and RAM testing to verify manufacture and delivery of equipment meeting system logistics-related reliability requirements.

c. *Durability.* Ensure that—

(1) The results of market investigation demonstrate the ability to achieve the IOC operational threshold (or other approved threshold) durability requirements at a high confidence level using a basic NDI acquisition strategy. Be sure there are adequate (considering engineering risks and impact on acquisition or procurement costs and schedules, operational effectiveness, support materiel and manpower burden) plans and resources for either accepting (and provisioning accordingly) or correcting (and retesting prior to deployment) remaining failure modes.

(2) The production contract includes specific quality assurance tasks and controls and RAM testing to verify manufacture and delivery of equipment meeting system durability requirements.

#### **7-54. Availability and system readiness objective**

Ensure that—

a. The results of market investigation demonstrate the ability to achieve the IOC operational threshold (or other approved threshold) SRO and availability requirements using a basic NDI acquisition strategy. Be sure there are adequate (considering engineering risks and impact on acquisition/procurement costs and schedules, operational effectiveness, support materiel and manpower burden) plans and resources for either accepting (and adjusting support resource procurement and authorization accordingly) or correcting (and retesting prior to deployment) remaining failure modes and maintainability shortcomings.

b. The mean administrative and logistics downtime projected in the SROs (or operational availability) has been estimated as necessary to reflect the results of market investigation and the current supply, maintenance, recovery, and evacuation concepts.

#### **7-55. Maintainability**

Ensure that criteria have been met as shown below.

a. *Qualitative.* The market investigation and, if conducted, DT I/EUT&E identified the testability, modularity, and accessibility characteristics of the NDI candidate systems.

(1) *Test points.* The results of market investigation demonstrate the ability to achieve system testability requirements using a basic NDI acquisition strategy. Make certain there are adequate (considering engineering risks and impact on acquisition or procurement costs and schedules, and support materiel and manpower burden) plans and resources for either accepting or correcting (and retesting prior to deployment) remaining maintainability shortcomings.

(2) *Modularity.* The results of market investigation demonstrate the ability to achieve the system modular design requirements using a basic NDI acquisition strategy. Be sure there are adequate (considering engineering risks and impact on acquisition or procurement costs and schedules, and support materiel and manpower burden) plans and resources for either accepting or correcting (and retesting prior to deployment) remaining maintainability shortcomings.

(3) *Accessibility.*

(a) The results of market investigation demonstrate the ability to achieve the requirements for component or assembly accessibility using a basic NDI acquisition strategy. Ensure there are adequate (considering engineering risks and impact on acquisition or procurement costs and schedules, and support materiel and manpower burden) plans and resources for either accepting or correcting (and retesting prior to deployment) remaining maintainability shortcomings.

(b) If the system is to be included in the Army Oil Analysis Program, system design includes enough oil sampling valves for ease of access.

*b. Quantitative.*

(1) *BIT and BITE.*

(a) For electronic systems, use market investigation results and, if conducted, DT I/EUT&E results to evaluate adequacy of those testability program tasks (MIL-STD-2165) normally conducted prior to milestone III.

(b) The results of market investigation demonstrate the ability to achieve the IOC operational threshold (or other approved threshold) system BIT/BITE effectiveness requirements using a basic NDI acquisition strategy. Be sure there are adequate (considering engineering risks and impact on acquisition or procurement costs and schedules, and support materiel and manpower burden) plans and resources for either accepting (and provisioning accordingly) or correcting (and retesting prior to deployment) remaining shortcomings.

(c) The production contract includes specific quality assurance tasks and controls and RAM testing to verify manufacture and delivery of equipment meeting system BIT/BITE effectiveness requirements.

(2) *On-system maintenance.*

(a) The results of market investigation demonstrate the ability to achieve of the IOC operational threshold (or other approved threshold) system maintainability (on-system) requirements using a basic NDI acquisition strategy. Make sure there are adequate (considering engineering risks and impact on acquisition or procurement costs and schedules, operational effectiveness, and support materiel and manpower burden) plans and resources for either accepting (and programming support resources accordingly) or correcting (and retesting prior to deployment) remaining shortcomings.

(b) The production contract includes specific quality assurance tasks and controls and RAM testing to verify manufacture and delivery of equipment meeting system maintainability (on-system) requirements.

(c) The list of scheduled maintenance tasks for NDI candidate systems reflects application of RCM principles and methodology.

(3) *Off-system maintenance.*

(a) The results of market investigation demonstrate the ability to achieve the IOC operational threshold (other approved threshold) maintainability (off-system) requirements using a basic NDI acquisition strategy. Make sure there are adequate (considering engineering risks and impact on acquisition or procurement costs and schedules, and support materiel and manpower burden) plans and resources for either accepting (and programming support resources accordingly) or correcting (and retesting prior to deployment) remaining failure modes and maintainability shortcomings.

(b) The production contract includes specific quality assurance tasks and controls and RAM testing to verify manufacture and delivery of equipment meeting system maintainability (off-system) requirements.

## **Section XIV Support Management and Analysis**

### **7-56. Support management**

Ensure that criteria have been met as shown below.

*a. Logistics program planning documents.*

(1) *ILSP.*

(a) The ILSP has been prepared, coordinated, and approved according to AR 700-127 and DA Pam 700-55 to include production

and deployment phase tasks, responsibilities, and milestones for accomplishing the ILS program.

(b) Provisions of the current System MANPRINT Management Plan have been integrated into the ILSP according to AR 700-127.

(c) Detailed ILS program events and tasks have been prepared, as necessary, in the Acquisition Management Milestone System according to AR 700-127 and DA Pam 700-26. Make sure these milestones are consistent with policy regarding materiel fielding planning timeline requirements and the milestones addressed in the ILSP.

(d) The ILSP includes a plan for the post-fielding ILS assessment as required by AR 700-127.

(e) A PPS plan has been developed and included as an ILSP annex to document management and support actions necessary to ensure system supportability after cessation of production.

(f) An ILS management team (ILSMT) has been established for all ACAT I and II systems and selected ACAT III and IV programs as required by AR 700-127. An ILSMT or other appropriate procedure for coordinating overall ILS planning and execution has been established for other ACAT III and IV systems. Ensure the ILSMT includes membership according to AR 700-127, to include affected commands (for example, MTMC, U.S. Army Depot System Command (DESCOM), and COE).

(g) ILS managers have been assigned by the MATDEV, PEO/PM and by the supporting command (if different from the Mat Dev) according to AR 700-127. Make certain they have participated with the CBTDEV ILS manager in concept exploration phase ILS activities.

(2) *Configuration management plan.* The configuration management plan has been prepared, as necessary, to define procedures and responsibilities for managing the system configuration during the production and deployment and operation and support phases according to AR 70-1.

(3) *IPS.* The IPS has been prepared according to DOD 5000.2-M to include the program baseline and the basic NDI acquisition strategy coordinated with the acquisition team.

(4) *Acquisition strategy.* The basic NDI acquisition strategy has been prepared, coordinated with acquisition team members, and summarized in the IPS according to DOD 5000.2 to include a summary ILS, MANPRINT, RAM, supportability test and evaluation, standardization, and support cost control plans.

*b. Requirement documents.*

(1) *System.*

(a) A system requirement document (such as ORD or JSOR) has been prepared according to DOD 5000.2-M, coordinated and approved according to AR 71-9 to include logistic requirements and support cost estimates. A CSA, AAE, DCSOPS memorandum or message directive containing the information identifying the essential characteristics of the requirement can serve in lieu of a materiel requirements document.

(b) The initial MNS has been updated (as necessary), coordinated, and approved according to AR 71-9 to reflect changes in threat, technology, or doctrine.

(2) *Training devices.* TDRs/commercial training device requirements (CTDRs) have been prepared, coordinated, and approved according to AR 71-9 for each new device that has been identified as necessary to increase the effectiveness and reduce the cost of training system operator or support personnel.

(3) *Support and test equipment.* A requirement document (such as ORD or JSOR) has been prepared, coordinated, and approved according to AR 71-9 for each new item of equipment required for system support and requiring type classification.

*c. BOIP.* If approved BOIP for the system, support and test equipment, and/or training devices is not available, DCSOPS (DAMO-FDR) has granted approval to defer BOIP submittal. Plans (that is, tasks, responsibilities, and milestones) have been established to review the BOIPs after contract award as to any required changes and, as necessary, to recoordinate and obtain ODCSOPS approval of the amended BOIP according to AR 71-2.

(1) *System.* The BOIP has been prepared, reviewed, approved, and distributed according to AR 71-2.

(2) *Support and test equipment.* If required by AR 71-2 and unless a deferral is approved, BOIPs for newly identified system support and test equipment have been developed, coordinated, approved, and distributed.

(3) *Training devices.* If required by AR 71-2, and unless a deferral is approved, BOIPs for newly identified system training devices have been developed, coordinated, approved, and distributed.

*d. Test planning.*

(1) *SDC plan.*

(a) The need for SDC has been determined in planning for post-fielding ILS assessments.

(b) If SDC is needed, there are plans to develop, coordinate, obtain DCSLOG approval of, as necessary, and distribute a narrative concept paper, SDC plan, and field procedure guide according to the time frame, coordination, and content requirements specified in AR 750-1 and AR 750-2.

(2) *LD plan.* If LD has not been accomplished, an LD plan has been prepared. Make sure the plan includes provisions to accomplish the objectives specified in AR 700-127. (This is applicable after MDR I/III and prior to LD.)

(3) *TEMP.* The TEMP has been prepared according to DOD 5000.2-M, coordinated, and approved according to AR 70-1, AR 73-1, and DA Pam 70-21 to include appropriate production and deployment phase testing, supportability test issues, criteria, requirements/scope, SSP availability, and special resources.

(a) *DT OTP.* If supplementary user troops are required, an IPT OTP has been prepared and coordinated according to AR 73-1 and DA Pam 73-1 to include supportability test objectives and scope, support resources to be evaluated, and logistics data collectors as necessary.

(b) *OT OTP.* If scheduled, an FOT&E/force development test and experimentation (FDTE) OTP has been prepared and coordinated according to AR 73-1 and DA Pam 73-1 to include supportability test objectives and scope, support resources to be evaluated, and logistics data collectors.

(c) *DT TDP.* The IPT TDP has been prepared and coordinated according to AR 73-1 to include test conditions, test criteria, data requirements, and data analysis procedures applicable to evaluating supportability issues contained in the IPT IEP. (This is applicable after MDR I/III and prior to IPT.)

*e. Solicitation documents.*

(1) *SOW.* The contractual (RFP) SOW for the production phase has been developed in coordination with the assigned MSC ILS organization, TRADOC ILS proponent, and the logistician. Make sure the SOW includes requirements to—

(a) Plan for and accomplish applicable ILS tasks. (Consider issues from the 17 ILS assessment considerations in this chapter.)

(b) Deliver elements of the SSP for IPT (and FOT&E/FDTE and LD if applicable).

(c) Deliver system support materiel to meet deployment schedules.

(2) *CDRL.* The CDRL for the production phase has been developed in coordination with the assigned MSC ILS organization, the TRADOC ILS proponent, and logistician to include delivery of data required for effective management of the ILS program.

(3) *Specifications.* The product specification(s) for the production phase have been developed in coordination with the assigned supporting or readiness command(s) to include, consistent with the system requirements document, ILS-related design and support resource technical requirements and evaluation procedures (such as IPT). When possible, a commercial market specification or a performance specification is used for the NDI acquisition.

*f. IEPs.*

(1) *DT IEP.* An IPT IEP has been prepared and coordinated per AR 73-1 including—

(a) Supportability test issues (as developed from the specification, AR 700-127 requirements, DA Pam 700-50, and so forth).

(b) Identification of data sources.

(c) Evaluation criteria and methodology (related to O&S cost,

manpower, or readiness). (This is applicable after MDR I/III and prior to IPT.)

(2) *OT TEP.* If scheduled, an FOT&E/FDTE TEP has been prepared and coordinated per AR 73-1 and DA Pam 73-1 including—

(a) Supportability test issues not completely addressed by market investigation.

(b) Identification of data sources.

(c) Evaluation criteria and methodology (related to O&S cost, manpower or readiness). (This is applicable after MDR I/III and prior to FOT&E/FDTE.)

g. *CALS.* Ensure required actions have been accomplished as shown below.

(1) CALS standards have been applied for those systems determined to result in cost savings or quality improvements by changing weapon system paper deliverables to digital data delivery or access using the CALS standards.

(2) Solicitation documents for the production and deployment phase require specific schedule and cost proposals for:

(a) Integration of contractor technical information in digital form in accordance with CALS standards (MIL-STD-1840, MIL-D-28000, MIL-M-28001, MIL-R-28002, MIL-D-28003, and MIL-HDBK 59).

## 7-57. Support analysis

Ensure that criteria have been met as shown below.

*a. Test data.*

(1) *DT test report (TR).*

(a) The market investigation report and, if conducted, the DT I TR have been provided for review to those organizations specified in AR 73-1 for use in developing MDR I/III IPR or ASARC recommendations.

(b) There are plans to provide the IPT TR to those organizations specified in AR 73-1 prior to materiel release decision.

(2) *DT and OT IERs.*

(a) The market investigation/DT I IER and market investigation/EUT&E IER have been provided for review to those organizations specified in AR 73-1 for use in developing MDR I/III IPR or ASARC recommendations.

(b) There are plans to provide the IPT IER to those organizations specified in AR 73-1 prior to the materiel release decision.

(3) *OT TR.*

(a) The market investigation report (to include survey of user experience) and, if conducted, the EUT&E TR have been provided for review to those organizations specified in AR 73-1 for use in developing MDR I/III IPR or ASARC recommendations.

(b) There are plans to provide the FDTE or FOT&E test report, or emerging test results, to those organizations specified in AR 73-1 prior to the materiel release decision.

(4) *LD report.* Plans exist to conduct the LD and provide the LD report to those organizations involved in the MDR process for their use.

*b. LSA.* Ensure that—

(1) *General.*

(a) An LSA review team of Government ILS functional and managerial representatives have been established according to AR 700-127.

(b) Required actions have been taken in the areas shown below. (See AR 700-127 for required MANPRINT integration with LSA.) Use market investigation results to include survey of user experience and, if conducted, DT I/EUT&E results to evaluate adequacy of those pre-Milestone III LSA tasks normally conducted by the contractor.

(2) *Program planning and control.* Applicable tailored LSA program planning and control tasks (see MIL-STD-1388-1A and AR 700-127 for guidance) have been included in the RFP.

(3) *Mission and support system definition.* Applicable mission and support system definition LSA tasks (see MIL-STD-1388-1A and AR 700-127 for guidance) have been included in the RFP.

(4) *Preparation and evaluation of alternatives.* Applicable preparation and evaluation of alternatives LSA tasks have been included

in the RFP. (See MIL-STD-1388-1A and AR 700-127 for guidance.)

(5) *Support resource identification.*

(a) Applicable support resource identification LSA tasks have been included in the RFP. (See MIL-STD-1388-1A and AR 700-127 for guidance.)

(b) Plans exist to maintain the LSAR data up to date with system design and Government recommendations.

(c) Plans exist to use the LSAR data as source data to develop/update equipment publications, provisioning data, QQPRI, and other ILS products.

(6) *Supportability assessment.* Applicable supportability assessment LSA tasks have been included in the RFP. (See MIL-STD-1388-1A and AR 700-127 for guidance.)

## Section XV

### Cost Analysis and Funding

#### 7-58. Logistics-related research and development

a. *LSA.* Ensure that adequate funds have been programmed to accomplish applicable LSA tasks during the production phase.

b. *LD.* Provide the NDI system and the resources to conduct, if not previously accomplished, an LD for the system and any peculiar support and test equipment requiring type classification.

c. *SSP-TPSs.* Ensure that adequate funds have been programmed for development and for the technical data packages of the TPSs required to maintain the system.

#### 7-59. Logistics-related investment

Ensure that criteria have been met as shown in the areas discussed below.

a. *Initial spares and repair parts.* Adequate funds have been programmed by affected major subordinate commands for provisioning of initial spares and repair parts according to AR 700-18.

b. *Facilities activation.* Budget estimates for construction of new or modified facilities, as determined by market investigation and coordination with gaining commands, have been prepared (according to AR 415-17 cost estimating procedures for family housing) and included in the FYDP. (See fig 1-11 for areas of consideration.)

c. *Special support services (SSS).* If the system is expected to pose an exceptional operational or logistic burden on the user, funds have been programmed to accomplish the SSS as defined in the draft MFP.

d. *Technical assistance.* Funds have been programmed as necessary to provide technical assistance to the gaining command for initial fielding and post deployment according to AR 700-4 and AR 750-2.

e. *Transportation—first destination.* Funds have been programmed for first destination transportation costs of moving the system and associated equipment to a CONUS depot or other point of Government acceptance.

f. *Procurement.*

(1) *End item or system.* Funds have been programmed for procurement of items to meet the end item AAO (for example, unit equipment, training equipment, maintenance float, PDSS equipment, and war reserves).

(2) *Ammunition.* Funds have been programmed for procurement of sufficient ammunition to meet the AAO (for example, basic load and war reserves).

(3) *Support and test equipment.* Funds have been programmed for procurement of enough common and system-peculiar support and test equipment to meet the AAO (for example, unit equipment, training equipment, and PDSS equipment) for system operation and support. (See fig 1-6 for areas of consideration.)

(4) *Training devices.* Funds have been programmed for procurement of enough common and system-peculiar training devices to meet the AAO (that is, initial and sustainment institutional and unit training of operator and support personnel).

(5) *TPS.* Funds have been programmed for procurement of

enough TPS (that is, ATE interconnection devices, load modules (tape and program), or equipment publications) to satisfy support unit (including PDSS site) and trainer requirements.

(6) *Technical data package.* Adequate funds have been programmed for technical data package acquisition when TDP acquisition is part of the acquisition strategy.

#### 7-60. Logistics-related operation and support

Ensure criteria have been met as shown in the following areas:

a. *Replenishment spares.* Funds have been programmed for procurement of enough replenishment spares consistent with results of market investigation and, if conducted, DT I/EUT&E.

b. *POL.* There are enough funds programmed for procurement of POL required for operation of the system and associated support and test equipment, including initial deployment, training, and war reserve requirements.

c. *Training ammunition.* Sufficient funds have been programmed for procurement of ammunition and missiles to be consumed during unit training exercises.

d. *PDSS.* There are enough funds programmed for personnel and other costs associated with maintenance of computer software required for system operation and maintenance.

e. *Depot maintenance.*

(1) There are enough funds programmed for the anticipated labor, materiel, and transportation costs associated with depot level maintenance for the system.

f. *Contract maintenance.* There are enough funds programmed for the anticipated labor, materiel, and transportation costs associated with interim or life cycle contractor support if applicable.

g. *Facilities maintenance and utilities.* Enough funds have been programmed for the cost of maintenance and utilities associated with the new or modified facilities. (See fig 1-11 for areas to be considered.)

h. *Military personnel.* If applicable, there are enough funds programmed for pay and allowances for the additional or higher graded crew and support personnel required for operation and support of the system and associated items.

i. *Personnel replacements.* If applicable, enough funds have been programmed for the cost of training replacements for the additional personnel required for operation and support of the system and associated items.

#### 7-61. Cost analysis documentation

Ensure criteria have been met as shown in the following areas:

a. *BCE.* The BCE has been prepared consistent with results of market investigation and, if conducted, test activities.

b. *ICE.* The ICE has been prepared to test the reasonableness of the updated BCE.

c. *ACP.* The ACP has been prepared to compare latest BCE and ICE, including recommended changes to the BCE if any.

d. *MSRS.* The MSRS has been prepared to reflect market investigation results and the latest program requirements.

e. *COEA/CTEA.* The COEA/CTEA has been prepared, if requested by HQDA, to reflect considerations such as the current MNS, threat results, and market investigation results.

f. *OSCR.* Where possible, the related elements of the OSCR program have been considered.

## Section XVI

### Materiel Fielding Planning

#### 7-62. Developer

Ensure that the following criteria have been met:

a. *AMIM.* If the system will have a resource impact (for example, repair parts, POL, training, personnel, or facilities) on gaining MACOMs, the information in DA Pam 5-25 has been prepared with results of market investigation activities to facilitate MACOM budget submittals.

b. *MON.* MONs were provided to and acknowledged by gaining MACOMs in accordance with the NDI fielding milestones specified in AR 700-142.

c. *MFP*. Draft MFPs have been prepared if there is potential for the system to have a support impact on the gaining MACOM. Make sure initial coordination with gaining MACOMs and ILS program participants was completed at least 3 months prior to the projected production contract award date in accordance with NDI fielding milestones specified in AR 700-142 and DA Pam 700-142.

*Note*: Gaining command concurrence is required to waive the requirement for an MFP. Substitute modification work order (MWO) fielding plans in lieu of MFPs for user testing-test nonsignificant product improvement programs. (See AR 750-10 for MWO fielding plan format.)

d. *Master support list/materiel requirements list (MSL/MRL)*. There are plans to provide the MSL/MRL to each MACOM receiving the new system in accordance with the NDI fielding milestones specified in AR 700-142.

e. *SLAC deck*. (Only apply this issue if the MSL/MRL is not applicable.) There are plans to provide the SLAC deck, according to AR 700-120, to each MACOM receiving the new system at least 170 days prior to anticipated deployment dates.

f. *Materiel release*. There are plans for the MATDEV to conduct a comprehensive review of system supportability as required by AR 700-127 and AR 700-142 prior to shipment to gaining MACOMs.

### **7-63. Gaining commands—MSP**

Ensure that—

a. Proposed MSPs were prepared by the gaining MACOMs and provided to the MATDEV according to the NDI fielding milestones specified in AR 700-142.

b. There are plans for gaining MACOMs receiving the new system to provide, if requested by the MATDEV, a final MSP at least 4 months prior to anticipated deployment dates.

## **Section XVII**

### **Environmental Planning**

#### **7-64. Safety**

a. Ensure that all health hazards to system operators and supporters (for example, noise, vibrations, toxicants, and radioactive and laser emissions) have been identified during the market investigation and, if conducted, DT I/EUT&E have been evaluated by TSG, and corrective action has been taken on those findings.

b. For each new ammunition and explosives item, ensure—

(1) Sufficient data per TB 700-2 have been generated for explosive hazard classification.

(2) The Director, AMC Field Safety Activity has approved a hazard classification.

#### **7-65. Design**

Ensure that historical safety and health data (for example, data from the Army Safety Management Information System and the Hazardous Materials Information System) and operation and maintenance issues of similar fielded systems have been documented. Make certain that plans exist to provide this information to the contractor to potentially influence system redesign to include reduction or elimination of hazardous waste generation or emissions/discharges in the system design.

#### **7-66. Hazardous Materials**

a. Ensure that, for those items that have been identified during market investigation or certified as hazardous according to the criteria prescribed in FED-STD 313, the data required for the AMDF Hazardous Materials Data Segment have been developed for submittal to the AMC CDA after production contract award. (See AR 708-1 for data elements.)

b. Ensure that all hazardous materials required for system operation and support have been identified. Make certain that necessary storage and transportation data have been developed as required for the AMDF. (See AR 708-1 for data requirements.)

#### **7-67. Environmental documentation**

Ensure environmental documentation prepared to support system

development has been reviewed and updated according to AR 200-2.

#### **7-68. Packaging**

a. Ensure that maximum use has been made of packaging material that is cost effective, reusable, recyclable, or easily disposable. Make sure an environmental impact assessment for each new packaging material has been prepared as required by AR 700-15.

b. Ensure that there are contractual provisions to require hazardous materials packaging to comply with performance oriented packaging requirements.

#### **7-69. Materiel fielding**

Ensure that the materiel release and materiel fielding processes are accomplished according to the environmental requirements of AR 200-1, AR 200-2, AR 385-16, AR 700-142, and DA Pam 700-142. Ensure that there are plans for the MATDEV to conduct a comprehensive review of system supportability as required by AR 700-127 and AR 700-142 prior to shipment to gaining MACOMs.

#### **7-70. Other**

Ensure compliance with other environmental requirements, procedures, and policies of AR 200-1, AR 200-2 and this pamphlet, especially as addressed in sections relating to documentation, safety, ammunition and explosive items, hazardous materials, packaging, handling, storage, demil, EOD, and disposal.

## Appendix A References

### Section I Required Publications

#### AR 70-1

System Acquisition Policy and Procedures. (Cited in paras 1-4, 1-6, 2-1, 2-10, 2-27, 2-30, 2-31, 2-33, 2-41, 2-46, 2-51, 3-1, 3-12, 3-13, 3-28, 3-31, 3-34, 3-52, 4-1, 4-11, 4-26, 4-27, 4-50, 5-27, 6-2, 6-14, 6-15, 6-32, 6-35, 6-38, 6-46, 6-51, 6-56, 7-2, 7-13, 7-36 and 7-54.)

#### AR 71-2

Basis of Issue Plan (BOIP), Qualitative and Quantitative Personnel Requirements Information. (Cited in paras 2-7, 2-10, 2-27, 3-8, 3-9, 3-12, 3-20, 3-21, 3-28, 3-52, 4-7, 4-8, 4-9, 4-11, 4-50, 6-27, 6-28, 6-56, 6-57, 6-60, 7-9, 7-10, 7-11, 7-30, and 7-54.)

#### AR 700-18

Provisioning of U.S. Army Equipment. (Cited in paras 2-12, 2-49, 3-13, 3-14, 3-15, 3-16, 3-27, 3-50, 4-12, 4-13, 4-14, 4-26, 4-53, 5-12, 5-13, 6-15, 6-16, 6-17, 6-18, 6-31, 6-54, 7-14, 7-15, 7-16, 7-17, and 7-29.)

#### AR 700-127

Integrated Logistic Support. (Cited in paras 1-4, 1-5, 1-8, 2-11, 2-13, 2-17, 2-38, 3-5, 3-13, 3-14, 3-20, 3-21, 3-27, 3-52, 3-54, 4-4, 4-12, 4-50, 4-51, 4-54, 5-5, 5-48, 6-5, 6-6, 6-15, 6-16, 6-23, 6-24, 6-25, 6-56, 6-57, 6-58, 7-5, 7-14, 7-56, 7-57, and 7-62.)

#### AR 700-142

Materiel Release, Fielding, and Transfer. (Cited in paras 3-14, 3-57, 3-58, 4-13, 4-56, 4-57, 5-27, 5-48, 5-49, 6-16, 6-61, 6-62, 7-15, 7-62 and 7-63.)

#### AR 708-1

Cataloging and Supply Management Data. (Cited in paras 2-14, 3-1, 3-14, 3-18, 3-19, 3-27, 4-1, 4-12, 4-13, 4-17, 4-18, 4-26, 5-14, 5-23, 5-28, 6-2, 6-16, 6-19, 6-21, 6-31, 7-2, 7-14, 7-15, 7-8, 7-19, 7-20, and 7-30.)

#### AR 710-1

Centralized Inventory Management of the Army Supply System. (Cited in paras 1-9, 2-27, 3-14, 3-15, 3-28, 4-12, 4-13, 4-14, 4-26, 5-13, 6-16, 6-17, 6-31, 6-32, 7-14, 7-15, 7-16, and 7-30.)

#### AR 750-1

Army Materiel Maintenance Concepts and Policies. (Cited in paras 1-9, 2-3, 3-3, 3-4, 3-5, 3-6, 3-7, 3-14, 3-15, 3-27, 4-3, 4-4, 4-13, 4-14, 4-26, 4-50, 5-5, 5-6, 5-44, 5-54, 6-4, 6-5, 6-8, 6-15, 6-16, 6-17, 6-31, 7-5, 7-15, 7-16, 7-30, and 7-56.)

### Section II Related Publications

A related publication is merely a source of additional information. The user does not have to read it to understand this publication.

#### AR 11-11

(C) War Reserves

#### AR 11-18

The Cost Analysis Program

#### AR 12-16

Mutual Logistic Support Between the United States and Other NATO Forces

#### AR 25-1

Army Information Resources Management Program

#### AR 25-3

Army Life Cycle Management of Information Systems

#### AR 25-30

The Army Integrated Publishing and Printing Program

#### AR 34-1

International Military Rationalization, Standardization and Interoperability

#### AR 40-10

Health Hazard Assessment Program in Support of the Materiel Acquisition Decision

#### AR 40-60

Policies and Procedures for the Acquisition of Medical Materiel

#### AR 40-61

Medical Logistics Policies and Procedures

#### AR 70-41

Cooperation with Allies and Other Nations in Research, Development and Defense Equipment

#### AR 70-44

DOD Engineering for Transportability

#### AR 70-47

Engineering for Transportability

#### AR 70-59

Department of Defense Tactical Shelter Program

#### AR 71-9

Materiel Objectives and Requirements

#### AR 71-31

Management System for Tables of Organization and Equipment

#### AR 75-15

Responsibilities and Procedures for Explosive Ordnance Disposal.

#### AR 190-11

Physical Security of Arms, Ammunition, and Explosives

#### AR 200-1

Environmental Protection and Enhancement

#### AR 200-2

Environmental Effects of Army Actions

#### AR 210-50

Family Housing Management

#### AR 310-49

The Army Authorization Document System (TAADS)

#### AR 350-35

Army Modernization Training

#### AR 350-38

Training Devices: Policies and Management

#### AR 380-5

Department of the Army Information Security Program

#### AR 385-16

System Safety Engineering and Management

#### AR 385-60

Coordination with Department of Defense Explosives Safety Board

**AR 415-15**  
Military Construction, Army (MCA) Program Development

**AR 415-17**  
Cost Estimating for Military Programming

**AR 570-2**  
Manpower Requirements Criteria (MARC) Tables of Organization and Equipment

**AR 570-9**  
Host Nation Support

**AR 602-1**  
Human Factors Engineering Program

**AR 602-2**  
Manpower and Personnel Integration (MANPRINT) in the Materiel Acquisition Process

**AR 611-201**  
Enlisted Career Management Fields and Military Occupational Specialties

**AR 700-4**  
Logistics Assistance Program

**AR 700-8**  
Logistics Planning Factors Management

**AR 700-15**  
Packaging of Materiel

**AR 700-47**  
Defense Standardization and Specification Program

**AR 700-60**  
Department of Defense Parts Control Program

**AR 700-72**  
Mobile Electric Power (MEP)

**AR 700-82**  
Joint Regulation Governing the Use and Application of Uniform Source, Maintenance, and Recoverability Codes

**AR 700-89**  
Identification, Control, and Utilization of Shelf-life Items

**AR 700-101**  
Joint Operating Procedures:Management and Standardization of Mobile Electric Power Generating Sources

**AR 700-115**  
Environmental Control Equipment Policy

**AR 700-120**  
Materiel Distribution Management for Major Items

**AR 700-129**  
Management and Execution of Integrated Logistics Support for Multi-Service Acquisitions

**AR 700-139**  
Army Warranty Program Concepts and Policies

**AR 702-3**  
Army Materiel Reliability, Availability, and Maintainability (RAM)

**AR 710-2**  
Supply Policy Below the Wholesale Level

**AR 725-50**  
Requisitioning, Receipt, and Issue System

**AR 740-1**  
Storage and Supply Activity Operations

**AR 740-26**  
Physical Inventory Control

**AR 746-1**  
Packaging of Army Materiel for Shipment and Storage

**AR 750-2**  
Wholesale Level Maintenance

**AR 750-43**  
Test, Measurement, and Diagnostic Equipment (TMDE)

**DA Pam 5-25**  
Army Modernization Information Memorandum (AMIM)

**DA Pam 11-2**  
Research and Development Cost Guide for Army Materiel Systems

**DA Pam 11-3**  
Investment Cost Guide for Army Materiel Systems

**DA Pam 70-21**  
Research and Development—A Test and Evaluation Guide

**DA Pam 73-1**  
Test and Evaluation Guidelines

**DA Pam 75-5**  
Index of Storage and Outloading Drawings for Ammunition

**DA Pam 310-35**  
Index of International Standardization Agreements

**DA Pam 350-40**  
Army Modernization Training Plans for New and Displaced Equipment

**DA Pam 700-20**  
The Army Test, Measurement, and Diagnostic Equipment Register

**DA Pam 700-21**  
The Army TMDE Register Index and Instructions

**DA Pam 700-21-1**  
TMDE Preferred Items List

**DA Pam 700-26**  
Acquisition Management Milestone System

**DA Pam 700-30**  
Logistic Control Activity Information and Procedures

**DA Pam 746-1**  
Pallets and Storage Aids for Army Use

**DA Pam 700-50**  
Integrated Logistic Support:Developmental Supportability Test and Evaluation Guide

**DA Pam 700-55**  
Instructions for Preparing the Integrated Logistic Support Plan

**DA Pam 700-142**  
Instructions for Materiel Release, Fielding and Transfer

**DA Pam 710-2-2**  
The Supply Support Activity (SSA) Supply System

**DA Pam 750-40**  
Guide to RCM for Fielded Equipment

**DOD-STD-100**  
Engineering Drawing Practices

**DOD 1100.19-I**  
Wartime Manpower Mobilization Planning Policies and Procedures (FM&P)

**DODD 2010.8**  
Department of Defense Policy for NATO logistics

**DODD 3405.1**  
Computer Programming Language Policy

**DOD 4100.39-M**  
Defense Integrated Data System (DIDS) Procedures Manual (Vols. 1-16).

**DOD 4130.2-M**  
Federal Catalog System Policy Manual

**DOD 4140.26-M**  
Defense Integrated Materiel Management Manual for Consumable Items (Vols. I and II)

**DOD 4140.42-I**  
Determination of Initial Requirements for Secondary Item Spare and Repair Parts

**DOD 4145.19-R-1**  
Storage and Materiels Handling

**DOD 4151.7-I**  
Uniform Technical Documentation for Use in Provisioning of End Item of Materiel

**DODD 4151.16**  
DOD Equipment Maintenance Programs

**DOD 4160.21-M**  
Defense Utilization and Disposal Manual

**DOD 4160.21-M-1**  
Defense Demilitarization Manual (Restructured)

**DOD 4210.15**  
Hazardous Materiel Pollution Prevention

**DOD 4270.1-M**  
Construction Criteria

**DODD 5000.1**  
Defense Acquisition

**DODI 5000.2**  
Defense Acquisition Management Policies and Procedures

**DOD 5000.2-M**  
Defense Acquisition Management Documentation and Reports

**DOD 5100.76-M**  
Physical Security of Sensitive Conventional Arms, Ammunition, and Explosives

**FED-STD-101**  
Test Procedures for Packaging Materiels

**FED-STD-313**  
Materiel Safety Data Sheets, Preparation and the Submission of

**MIL-C-63013**  
Catalog, Supply, Sets, Kits, and Outfits Components Lists

**MIL-D-28000**  
Digital Representation for Communication of Product Data: IGES Application Subsets

**MIL-D-28003**  
Digital Representation for Communication of Illustration Data: CGM Application Profile

**MIL-D-46845**  
Design Requirements for Missile Weapon Systems, Packaging and Packing

**MIL-HDBK-59**  
CALS Implementation Guide

**MIL-HDBK-113**  
Guide for the Selection of Lubricants, Functional Fluids, Preservatives, and Specialty Products for Use in Ground Equipment Systems

**MIL-HDBK-114**  
Mobility Fuels User Handbook

**MIL-HDBK-245**  
Preparation of Statement of Work

**MIL-HDBK-759**  
Human Factors Engineering Design for Army Materiel

**MIL-M-28001**  
Markup Requirements and Generic Style Specification for Electronic Printed Output and Exchange of Text

**MIL-M-7298**  
Manual, Technical, Commercial Equipment

**MIL-M-38784**  
Manual, Technical. General Style and Format Requirements

**MIL-M-38793**  
Manuals, Technical: Calibration Procedures, Preparation of

**MIL-M-60530**  
Technical Data Package for AMC Materiel

**MIL-M-63004**  
Manual, Technical, Preparation Instructions for Lubrication Orders

**MIL-M-63023**  
Manual, Technical, Transportability Guidance for Military Materiel, Preparation of

**MIL-M-63034**  
Bulletins, Technical: Warranty, Preparation of

**MIL-M-63036**  
Manual, Technical, Operator, Preparation of

**MIL-M-63038**  
Manual, Technical, Organization of Aviation Unit, Direct Support or Aviation Intermediate, and General Support Maintenance

**MIL-M-63041C**  
Manual, Technical, Content Requirements for Depot Maintenance Work Requirements

**MIL-P-116**  
Preservation, Methods of

**MIL-P-11268**  
Parts, Materiel, and Processes used in Electronic Equipment

**MIL-R-28002**  
Requirements for Raster Graphics Representation in Binary Format

**MIL-STD-129**  
Marking for Shipment and Storage

**MIL-STD-147**  
Palletized Unit Loads

**MIL-STD-209**  
Slings and Tiedown Provisions for Lifting and Tying Down Military Equipment

**MIL-STD-290**  
Packaging of Petroleum and Related Products

**MIL-STD-334**  
Display Message for Automatic Test Equipment

**MIL-STD-335**  
Manuals, Technical: Repair Parts and Special Tools List

**MIL-STD-470**  
Maintainability Program Requirements (for Systems and Equipment)

**MIL-STD-471**  
Maintainability Verification/Demonstration/Evaluation

**MIL-STD-490**  
Specification Practices

**MIL-STD-633**  
Mobile Electric Power Engine Generator Standard Family Characteristics Data Sheet

**MIL-STD-669**  
Loading Environment and Related Requirements for Platform Rigged Airdrop Materiel

**MIL-STD-680**  
Contractor Standardization Program Requirements

**MIL-STD-781**  
Reliability Test: Exponential Distribution

**MIL-STD-785**  
Reliability Program for Systems and Equipment Development and Production

**MIL-STD-810**  
Environmental Test Methods and Engineering Guidelines

**MIL-STD-814**  
Requirement for Tiedown, Suspension, and Extraction Provisions on Military Materiel for Airdrop

**MIL-STD-838**  
Lubrication of Military Equipment

**MIL-STD-882B**  
System Safety Program for Systems and Associated Subsystems and Equipment, Requirement for

**MIL-STD-965**  
Defense Parts Control Program

**MIL-STD-1190**  
Minimum Guidelines for Level C Preservation, Packing, and Marking

**MIL-STD-1332**  
Definitions of Tactical, Prime, Precise, and Utility Terminologies for Classification of the DOD Mobile Electric Power Engine Generator Set Family.

**MIL-STD-1366C**  
Materiel Transportation System Dimensional and Weight Constraints, Definition of

**MIL-STD-1388-1A**  
Logistic Support Analysis

**MIL-STD-1388-2B**  
Logistic Support Analysis Record (LSAR)

**MIL-STD-1407**  
Heater, Vehicular Compartment; Heaters, Coolant, Engine; Heaters, Space; Heaters, Duct-Type

**MIL-STD-1408**  
Air Conditioner, Family of Environmental Control Units, General Application Characteristics

**MIL-STD-1456**  
Contractor Configuration Management Plans

**MIL-STD-1472**  
Human Engineering Design Criteria for Military Systems, Equipment, and Facilities

**MIL-STD-1474B**  
Noise Limits for Army Materiel

**MIL-STD-1510**  
Procedures for Use of Container Design Retrieval System

**MIL-STD-1517**  
Phased Provisioning

**MIL-STD-1521**  
Technical Reviews and Audits for Systems, Equipment, and Computer Programs

**MIL-STD-1561**  
Uniform DOD Provisioning Procedures

**MIL-STD-1679**  
Weapon System Software Development

**MIL-STD-1750**  
Airborne Computer Instruction Set Architecture

**MIL-STD-1791**  
Designing for Internal Aerial Delivery in Fixed Wing Aircraft

**MIL-STD-1840**  
Automated Interchange of Technical Information Standard

**MIL-STD-2073**  
DOD Materiel Procedures for Development and Application of Packaging Requirements

**MIL-STD-2165**  
Testability Program for Electronic Systems and Equipments

**MTMC-P 70-1**  
Transportability for Better Strategic Mobility

**SB 38-26(C)**

Non-Nuclear Ammunition Supply Rates (U)

**SB 700-20**

Army Adopted/Other Items Selected for Authorization/List of Reportable Items

**SB 710-1-1**

Standard Study Number System and Replacement Factors

**SB 710-2**

Supply Control: Combat Consumption Rates for Ground and Aviation-Type Petroleum Products

**SB 742-1**

Ammunition Surveillance Procedures

**TB 43-180**

Calibration and Repair Requirements for the Maintenance of Army Materiel

**TB 700-2**

Department of Defense Explosives Hazard Classification Procedures

**TB 703-1**

Specification List of Standard Liquid Fuels, Lubricants, Preservatives, and Related Products Authorized for Use by the U.S. Army

**TM 43-10**

Adequacy Assessment of Maintenance Facilities Below Depot Level

**Section III**

**Prescribed Forms**

This section contains no entries.

**Section IV**

**Referenced Forms**

**DA Form 260**

Request for Printing of Publications

**DD Form 1390**

FY, Military Construction Program (LRA)

**DD Form 1391**

FY, Military Construction Project Data (LRA)

**DD Form 1423**

Contract Data Requirements List

**DD Form 2169**

Special Packaging Instructions

## Glossary

### Section I Abbreviations

#### AAE

Army Acquisition Executive

#### AAO

Army acquisition objective

#### AAR

Association of American Railroads

#### ACAT

acquisition category

#### ACL

area calibration laboratory

#### ACP

Army cost position

#### ACRC

area TMDE calibration and repair center

#### ADAP

Army designated acquisition program

#### ADM

Acquisition Decision Memorandum

#### ADPE

automatic data processing equipment

#### AFARS

Army Federal Acquisition Regulation Supplement

#### AMC

U.S. Army Materiel Command

#### AMDF

Army Master Data File

#### AMIM

Army Modernization Information Memorandum

#### AMSAA

Army Materiel Systems Analysis Activity

#### ANSI

American National Standards Institute

#### ARDEC

U.S. Army Armament Research, Development, and Engineering Center

#### ARNG

Army National Guard

#### ARSTAF

Army Staff

#### ARTEP

Army Training and Evaluation Program

#### AS

acquisition strategy

#### ASARC

Army Systems Acquisition Review Council

#### ASA(RDA)

Assistant Secretary of the Army (Research, Development, and Acquisition)

#### ASI

additional skill identifier

#### ASIOE

associated support items of equipment

#### ASL

authorized stockage list

#### ASP

ammunition supply point

#### ATCOM

Aviation and Troop Command

#### ATE

automatic test equipment

#### ATTD

advanced technology transition demonstrations

#### AURS

Automated Unit Reference Sheet

#### AVIM

aviation intermediate maintenance

#### AVUM

aviation unit maintenance

#### BCE

baseline cost estimate

#### BDAR

Battlefield Damage Assessment and Repair

#### BIT

built-in test

#### BITE

built-in test equipment

#### BMC

baseline maintenance concept

#### BOIP

basis of issue plan

#### BRDEC

U.S. Army Belvoir Research, Development, and Engineering Center

#### BTA

best technical approach

#### C/ATLAS

Common Abbreviated Test Language for all Systems

#### CALS

Computer Aided Acquisition and Logistics Support

#### CASCOM

Combined Arms Support Command

#### CBTDEV

Combat developer

#### CCC

command, control, communications

#### CDA

Catalog Data Activity (U.S. Army Materiel Command)

#### CDRL

Contract Data Requirements List

#### CECOM

Communications and Electronics Command

#### CFE

contractor-furnished equipment

#### CFP

concept formulation package

#### CFR

Code of Federal Regulations

#### CGM

Computer Graphics Metafile

#### COA

Comptroller of the Army

#### COE

Chief of Engineers

#### COEA

cost and operational effectiveness analysis

#### COMSEC

communications security

#### CONUS

continental United States

#### CPCI

computer program configured items

#### CRMP

Computer Resources Management Plan

#### CRWG

computer resources working group

#### CSA

Chief of Staff, U.S. Army

#### CTA

common table of allowances

#### CTDR

commercial training devices requirement

#### CTEA

cost and training effectiveness analysis

#### CX

Categorical Exclusion

#### DAE

Decision Acquisition Executive

|   |   |   |
|---|---|---|
| <b>DAP</b><br>designated acquisition program                      | <b>FAA</b><br>Federal Aviation Administration                 | <b>ILS</b><br>integrated logistic support                   |
| <b>DCP</b><br>decision coordinating paper                         | <b>FAR</b><br>Federal Acquisition Regulation                  | <b>ILSMT</b><br>integrated logistic support management team |
| <b>DCSLOG</b><br>Deputy Chief of Staff for Logistics              | <b>FD</b><br>failure definitions                              | <b>ILSP</b><br>integrated logistic support plan             |
| <b>DCSOPS</b><br>Deputy Chief of Staff for Operations and Plans   | <b>FDTE</b><br>force development test and experimentation     | <b>IMA</b><br>information management area                   |
| <b>DCSPER</b><br>Deputy Chief of Staff for Personnel              | <b>FEA</b><br>front end analysis                              | <b>IMPL</b><br>initial mandatory parts list                 |
| <b>DESCOM</b><br>U.S. Army Depot System Command                   | <b>FED-STD</b><br>Federal Standard                            | <b>IOC</b><br>initial operational capability                |
| <b>DFARS</b><br>Defense Federal Acquisition Regulation Supplement | <b>FOT&amp;E</b><br>follow-on operational test and evaluation | <b>IOT&amp;E</b><br>initial operational test and evaluation |
| <b>DLA</b><br>Defense Logistics Agency                            | <b>FT</b><br>firing table                                     | <b>IPR</b><br>in-process review                             |
| <b>DLIN</b><br>developmental line item number                     | <b>FUE</b><br>first unit equipped                             | <b>IPS</b><br>Integrated Program Summary                    |
| <b>DLSC</b><br>Defense Logistics Services Center                  | <b>FUED</b><br>first unit equipped date                       | <b>IPT</b><br>initial production test                       |
| <b>DMWR</b><br>depot maintenance work requirements                | <b>FYDP</b><br>Future Years Defense Program                   | <b>ISO</b><br>International Standardization Organization    |
| <b>DOD</b><br>Department of Defense                               | <b>GFE</b><br>Government-furnished equipment                  | <b>ISSA</b><br>interservice support agreement               |
| <b>DOT</b><br>Department of Transportation                        | <b>GS</b><br>general support                                  | <b>JILSP</b><br>joint integrated logistics support plan     |
| <b>DS</b><br>direct support                                       | <b>HET</b><br>heavy equipment transporter                     | <b>JSOR</b><br>joint service operational requirement        |
| <b>DSU</b><br>direct support unit                                 | <b>HNS</b><br>host nation support                             | <b>LAO</b><br>Logistic Assistance Office                    |
| <b>DT</b><br>developmental test                                   | <b>HQDA</b><br>Headquarters, Department of the Army           | <b>LAPES</b><br>low altitude parachute extraction system    |
| <b>D&amp;V</b><br>demonstration and validation                    | <b>HSC</b><br>Health Services Command                         | <b>LAR</b><br>Logistics Assistance Representative           |
| <b>EA</b><br>environmental assessment                             | <b>I&amp;KP</b><br>instructor and key personnel               | <b>LCC</b><br>life-cycle cost                               |
| <b>EIS</b><br>Environmental Impact Statement                      | <b>ICE</b><br>independent cost estimate                       | <b>LCCS</b><br>life-cycle contractor support                |
| <b>EMD</b><br>engineering and manufacturing development           | <b>ICS</b><br>Interim Contractor Support                      | <b>LCSMM</b><br>life cycle system management model          |
| <b>EOD</b><br>explosive ordnance disposal                         | <b>IEP</b><br>independent evaluation plan                     | <b>LCSEC</b><br>life cycle software engineering center      |
| <b>ETM</b><br>extension training materials                        | <b>IER</b><br>independent evaluation report                   | <b>LCSS</b><br>life cycle software support                  |
| <b>EUT&amp;E</b><br>early user test and experimentation           | <b>IFF</b><br>identification, friend or foe                   | <b>LD</b><br>logistics demonstration                        |
|   | <b>IGES</b><br>initial graphics exchange specification        | <b>LIN</b><br>line item number                              |

|  |   |  |
|--|---|--|
| <b>LO</b><br>lubrication order                           | <b>MOS</b><br>military occupational specialty                                   | <b>NSN</b><br>national stock number  |
| <b>LOTS</b><br>logistics over the shore operations       | <b>MP</b><br>mission profile  | <b>O&amp;S</b><br>operating and support  |
| <b>LRU</b><br>line replaceable unit                      | <b>MPL</b><br>mandatory parts lists   | <b>OCE</b><br>Office of the Chief of Engineers                                 |
| <b>LSA</b><br>logistic support analysis                  | <b>MRL</b><br>materiel requirements list  | <b>OCONUS</b><br>outside continental United States                             |
| <b>LSAR</b><br>logistic support analysis record          | <b>MRSA</b><br>Materiel Readiness Support Activity (U.S. Army Materiel Command) | <b>ODCSLOG</b><br>Office of the Deputy Chief of Staff for Logistics            |
| <b>MAC</b><br>maintenance allocation chart               | <b>MS</b><br>milestone  | <b>ODCSOPS</b><br>Office of the Deputy Chief of Staff for Operations and Plans |
| <b>MACOM</b><br>major Army command                       | <b>MSC</b><br>major subordinate command   | <b>OMS</b><br>operational mode summary   |
| <b>MANPRINT</b><br>manpower and personnel integration    | <b>MSL</b><br>master support list   | <b>ORD</b><br>operational requirements document                                |
| <b>MARC</b><br>manpower requirement criteria             | <b>MSP</b><br>mission support plan  | <b>ORF</b><br>operational readiness float                                      |
| <b>MATDEV</b><br>materiel developer                      | <b>MSRS</b><br>materiel system requirement specification                        | <b>ORLA</b><br>optimum repair level analysis                                   |
| <b>MCA</b><br>Military Construction, Army                | <b>MTMC</b><br>Military Traffic Management Command                              | <b>OSCR</b><br>operation and support cost reduction                            |
| <b>MCM</b><br>Materiel Change Management                 | <b>MTMCTEA</b><br>MTMC Transportation Engineering Agency                        | <b>OST</b><br>order ship time  |
| <b>MD</b><br>maintainability demonstration               | <b>MTOE</b><br>modification table of organization and equipment                 | <b>OT</b><br>Operational Test  |
| <b>MDAP</b><br>major defense acquisition program         | <b>MTP</b><br>materiel transfer plan  | <b>OTP</b><br>outline test plan  |
| <b>MDR</b><br>milestone decision review                  | <b>MTTR</b><br>mean-time-to-repair  | <b>PDMF</b><br>packaging data microfilm file                                   |
| <b>MEP</b><br>mobile electric power                      | <b>MWO</b><br>modification work order   | <b>PDSS</b><br>post-deployment software support                                |
| <b>MEPGS</b><br>mobile electric power generating sources | <b>MWR</b><br>morale, welfare, and recreation                                   | <b>PEO/PM</b><br>program executive officers/program manager                    |
| <b>MER</b><br>manpower estimate report                   | <b>NATO</b><br>North Atlantic Treaty Organization                               | <b>P,H&amp;S</b><br>Packaging, handling, and storage                           |
| <b>MFP</b><br>materiel fielding plan                     | <b>NBC</b><br>nuclear, biological, and chemical                                 | <b>PIL</b><br>preferred items list   |
| <b>MHE</b><br>materials handling equipment               | <b>NDI</b><br>nondevelopmental item   | <b>PLL</b><br>prescribed load list   |
| <b>MIL-M</b><br>Military Manual                          | <b>NET</b><br>new equipment training  | <b>PM</b><br>program/project/product/manager                                   |
| <b>MIL-STD</b><br>Military Standard                      | <b>NETP</b><br>new equipment training plan                                      | <b>PMAC</b><br>preliminary maintenance allocation chart                        |
| <b>MNS</b><br>Mission Need Statement                     | <b>NRC</b><br>Nuclear Regulatory Commission                                     | <b>POD</b><br>point of debarkation   |

|   |   |   |
|---|---|---|
| <b>POE</b><br>point of embarkation  | <b>SESAME</b><br>selected essential item stockage for availability method | <b>TDA</b><br>table of distribution and allowances                        |
| <b>POI</b><br>program of instruction  | <b>SIP</b><br>standard initial provisioning                               | <b>TDP</b><br>test design plan  |
| <b>POL</b><br>petroleum, oils, and lubricants                                   | <b>SKO</b><br>sets, kits, and outfits                                     | <b>TDR</b><br>training device requirement                                 |
| <b>POMCUS</b><br>prepositioning of materiel configured to unit sets             | <b>SLAC</b><br>support list allowance card                                | <b>TEMP</b><br>test and evaluation master plan                            |
| <b>POP</b><br>performance oriented packaging                                    | <b>SMMP</b><br>System MANPRINT Management Plan                            | <b>TEP</b><br>Test and Evaluation Plan                                    |
| <b>PP</b><br>provisioning plan  | <b>SMR</b><br>source, maintenance, and recoverability                     | <b>TI</b><br>technical information  |
| <b>PPS</b><br>post-production support   | <b>SOR</b><br>Source of Repair  | <b>TIWG</b><br>Test Integration Working Group                             |
| <b>PSCC</b><br>Packaging, Storage, and Containerization Center                  | <b>SOW</b><br>statement of work   | <b>TM</b><br>technical manual   |
| <b>PTD</b><br>provisioning technical documentation                              | <b>SQT</b><br>skill qualification test                                    | <b>TMDE</b><br>test, measurement, and diagnostic equipment                |
| <b>QQPRI</b><br>qualitative and quantitative personnel requirements information | <b>SRO</b><br>system readiness objective                                  | <b>TOA</b><br>trade-off analysis  |
| <b>QSTAG</b><br>Quadripartite Standardization Agreement                         | <b>SRU</b><br>shop replaceable unit                                       | <b>TOD</b><br>Trade-off determination                                     |
| <b>R&amp;D</b><br>research and development                                      | <b>SSCG</b><br>System Security Classification Guide                       | <b>TOE</b><br>table of organization and equipment                         |
| <b>RAM</b><br>reliability, availability, and maintainability                    | <b>SSI</b><br>specialty skill identifier                                  | <b>TPS</b><br>test program sets   |
| <b>RC</b><br>reserve component  | <b>SSN</b><br>standard study number                                       | <b>TPSMP</b><br>test program sets management plan                         |
| <b>RCF</b><br>repair cycle float  | <b>SSP</b><br>system support package                                      | <b>TR</b><br>test report  |
| <b>RCM</b><br>reliability centered maintenance                                  | <b>SSPCL</b><br>system support package components list                    | <b>TRADOC</b><br>U.S. Army Training and Doctrine Command                  |
| <b>RCRA</b><br>Resource Conservation and Recovery Act                           | <b>SSRA</b><br>system safety risk assessment                              | <b>TSG</b><br>The Surgeon General   |
| <b>RDTE</b><br>research, development, test, and evaluation                      | <b>SSS</b><br>special support service                                     | <b>USACAA</b><br>U.S. Army Concepts Analysis Agency                       |
| <b>RFP</b><br>request for proposal  | <b>STANAG</b><br>Standardization Agreement                                | <b>USAETDL</b><br>U.S. Army Electronics Technology and Devices Laboratory |
| <b>RPSTL</b><br>repair parts and special tools list                             | <b>STRAP</b><br>system training plan                                      | <b>USAF</b><br>U.S. Air Force   |
| <b>RSP</b><br>render safe procedures  | <b>TAEDP</b><br>Total Army Equipment Distribution Program                 | <b>USAFISA</b><br>U.S. Army Force Integration Support Agency              |
| <b>SC</b><br>scoring criteria   | <b>TB</b><br>technical bulletin   | <b>USAGMPA</b><br>U.S. Army General Materiel and Petroleum Activity       |
| <b>SDC</b><br>sample data collection  | <b>TC</b><br>trajectory chart   | <b>USALEA</b><br>U.S. Army Logistics Evaluation Agency                    |

**USARL**

U.S. Army Research Laboratories

**USATA**

U.S. Army TMDE Activity

**USATSC**

U.S. Army Training Support Center

**Section II****Terms**

This section contains no entries.

**Section III****Special Abbreviations and Terms**

This section contains no entries.

## Index

This index is organized alphabetically by topic and subtopic. Topics and subtopics are identified by paragraph number.

### Abbreviations, (see glossary)

Accessibility, 2-50b(3), 3-51b(3), 4-49a(3), 5-43a(3), 6-55b(3), 7-53a(3).  
Acquisition strategy, 2-51a(3), 3-52a(4), 4-50a(4), 6-56a(4), 7-54a(4).

### Airdrop, 2-35, 3-36, 4-34f, 5-28, 5-29, 6-40d, 7-38f.

### Ammunition

Consumption rates, 3-27a, 4-26a, 5-23a, 6-31b(1)(a), 2-7-29a(1)(c), 2.  
Standardization, see standardization of ammunition.  
Stockage, 3-14b, c, d, e, 3-15a(2), 4-13b, c, d, e, 4-14a(2), 5-12b, c, d, e, 5-13a(2), 6-16b, c, e, 6-17a(2), 7-15b, c, d, e(2), 7-16a(2).  
Surveillance procedures, 4-26a(1)(b), 5-23a(1)(b), 7-29a(1)(b).  
Army cost position, 2-54c, 3-56c, 4-55c, 6-60c, 7-59c.  
Army master data file, 3-18, 3-19, 4-17, 4-18, 5-14b, 6-20, 6-21, 7-19, 7-20a.  
Army modernization information memorandum, 3-57a, 4-56a, 6-61a, 7-60a.  
Army training and evaluation program, 2-23b(2), 3-24b(2), 4-23b(1), 5-20b(1), 6-28b(2), 7-26b(2).  
Authorization documents, 2-27, 3-28, 4-27, 5-24, 6-32, 7-30.

### Authorized stockage list items

Determination of, 3-14c, d, 4-13c, d.  
Facilities for, 2-38b, 3-39b, 4-37b, 5-31b, 6-43c, 7-41b(2)(b).

### Automated unit reference sheets, 2-27a, 3-28, 6-32a, 7-30.

### Availability system, see system readiness objective.

Baseline cost estimate, 2-6, 2-7c, d, 2-8b, c, d, 2-9b, 2-11d, 2-13c, 2-54a, 2-54b, 2-54c, 3-8c, k, 3-9b, c, 3-10b, c, 3-11b, c, 3-56a, b, c, 4-7, 4-8a, b, 4-9b, c, 4-9d, 4-10a, b, 4-55, 6-10c, j, 6-11b, c, 6-12, 6-13, 6-15f, 6-60, 7-9b, 7-10, 7-11b, c, d, 7-12, 7-59a, b, c.

Basis of issue plan, 2-7d, 2-27, 2-51, 3-8d, k, 3-9b, 3-20, 3-21c, d, e, f, 3-22e, 3-28a, c, 3-52, 4-7, 4-8, 4-50, 6-10c, j, 6-11, 6-23b, c, d, e, 6-24c, d, e, f, 6-25e, 6-32a, c, 6-56c, 7-8c, 7-9b, 7-10a, 7-30, 7-54c.

Built in test (equipment), 2-50c, 3-51c, 4-49b, 5-43b, 6-55c, 7-53b.

Bulletins, supply, 3-27a, 4-6a, 5-23a, 6-31b, 7-29a.

### Calibration

Equipment, see equipment, calibration.  
Procedures, 3-27c, 4-26b(5), 5-23b(7), 6-31a, c, 7-29c(5).  
Computer aided acquisition and logistics support, 2-51g, 3-52g, 4-50g, 5-44b, 6-56g, 7-54g.  
Computer resources management plan, 2-33a, 3-34a, 4-32, 6-38a, 7-36a.  
Computer resources support, 2-29, 3-30, 4-29, 5-25, 6-34, 7-32.

Computer resources working group, 2-33b, 3-34b, 6-38b, 7-36b.

Concept formulation process documentation, 2-52a, 6-57a.

Configuration management plan, 3-52a, 4-50a, 6-56a, 7-54a.

### Consumption rates

Ammunition, see ammunition consumption rates.

Fuel, 3-27a, 4-26a, 5-23a, 6-31b, 7-29a.

Containerization, 2-35, 3-36c, 4-34e, 5-28, 5-29b, 6-40c, 7-38e.

Contract data requirements lists, 2-51e, 3-52e, 4-50e, 6-56e, 7-54e.

Cost analysis and funding, 2-53, 3-54, 4-52, 5-46, 6-58, 7-56.

Logistics related investment, 4-53, 6-59, 7-57.

Logistics related operations and support, 4-54, 5-46, 5-47, 7-58.

Logistics related research and development, 2-53, 3-54, 6-58, 7-56.

Cost and operational effectiveness analysis, 2-54e, 3-56e, 4-55e, 6-60e, 7-59e.

Cost and training effectiveness analysis, 2-54e, 3-56e, 4-55e, 6-60e, 7-59e.

Decision coordinating paper, 3-8, 3-9, 3-49, 3-50, 3-51c, 3-52, 4-7, 4-8, 4-9b, c, d, 4-10, 4-50, 6-10a, 6-11, 6-12, 6-13, 6-15f, 6-53a, 6-54, 6-55c, 6-56a, 7-9, 7-10, 7-11, 7-12, 7-54.

Demilitarization procedures, 3-27b, 4-26b, 5-23b, 6-31, 7-29c.

Depot maintenance work requirements, 4-26b, 5-23b(6), 7-29c(6).

Drawings, engineering, 2-28, 3-29, 4-28, 6-33, 7-31.

Durability, 2-48d, 3-49d, 4-47c, 5-41c, 6-53d, 7-51c.

### Energy efficiency, 2-2, 3-2, 4-2, 6-3, 7-3.

### Equipment

Ancillary operational, 2-20, 3-22, 4-21, 5-18, 6-25, 7-23.

Calibration, 2-19, 3-21, 4-20, 5-17, 6-24, 7-22.

Evacuation, 3-21e, 4-20e, 5-17d, 6-24e, 7-22e(2).

Materials handling, 2-18a, 2-19a, 3-20e, 3-21e, 4-19e, 4-20e, 5-16d, 5-17d, 6-23e, 6-24e, 7-21e, 7-22e.

Recovery, 3-21e(1), 4-20e, 5-17d, 6-24e, 7-22e.

### Explosive ordnance disposal procedures, 2-26b, 3-27b, 4-26b, 5-23b, 6-31a, c, 7-29c.

Extension training materiel, 2-23a, 3-24a, 4-23a, 5-20a, 6-28, 7-26.

### Facilities, 2-37, 3-38, 4-36, 5-30, 6-42, 7-40.

Administrative, 2-37, 3-38d, 4-36c, 5-30c, 6-42d, 7-40c.

Aviation, 2-37, 3-38, 4-36, 5-30, 6-42c, 7-40b.

Base operations and services support, 2-37, 3-38, 4-36, 5-30, 6-42, 7-40.

Funding for, 4-53b, 4-54g, 5-46g, 7-57b, 7-58g.

Maintenance, 2-38a, 3-39a, 4-37a, 5-31a, 6-43b, 7-41a.

Military family housing, 2-37, 3-38f, 4-36e, 5-30e, 6-42f, 7-40e.

Morale, welfare, and recreation, 2-37, 3-38g, 4-36f, 5-30f, 6-42g, 7-40f.

Supply and storage, 2-38b, 3-39b, 4-37b, 5-31b, 6-43c, 7-41b.

System operations center, 2-37, 3-38b, 4-36a, 5-30a, 6-42b, 7-40a.

Training, 2-39, 3-40, 4-38, 5-32, 6-44, 7-42.

Troop barracks and dining, 2-37, 3-38e, 4-36d, 5-30d, 6-42e, 7-40d.

### Firing tables, 3-27b(6), 4-26b(7), 5-23b(9), 6-31a(1)(i), 6-31c(6), 7-29c(7).

### First unit equipped issues/criteria

For computer resources support, 5-25, 5-26, 5-27.

For cost analysis and funding, 5-46, 5-47.

For design influence, 5-1, 5-2.

For facilities, 5-30, 5-31, 5-32.

For maintenance planning, 5-3, 5-4, 5-5, 5-6.

For manpower and personnel, 5-7, 5-8, 5-9, 5-10.

For materiel fielding planning, 5-48, 5-49.

For packaging, handling, and storage, 5-14.

For reliability, availability, and maintainability, 5-40, 5-41, 5-42, 5-43.

For standardization and interoperability, 5-33, 5-34, 5-35, 5-36, 5-37, 5-38, 5-39.

For supply support, 5-11, 5-12, 5-13.

For support equipment and TMDE, 5-15, 5-16, 5-17, 5-18.

For support management and analysis, 5-44, 5-45.

For technical data, 5-23, 5-24.

For training and training devices, 5-19, 5-20, 5-21, 5-22.

For transportation and transportability, 5-28.

### Float

Facilities for, 3-39b, 4-37b, 5-31b, 6-43c(2)(c), 6-43c(4)(b), 7-41b.

Factors, 3-27a(1)(c), 4-26a(1)(d), 5-23a(1)(d), 6-31b(1)(b), 7-29a(1)(d).

Operational readiness, 3-14c(3), 4-13c(3), 5-12c(3), 6-16c(3), 7-15c(3).

Repair cycle, 3-15b, 4-14b, 5-13b, 6-17b, 7-16b.

### Funding, logistic related, see cost analysis and funding

Handling, special, 3-18a, 4-17a, 5-14b, 6-20a, 7-19a.

Independent cost estimate, 2-6a, 2-7c, d, 2-8b, c, d, 2-9b, c, 2-54b, c, d, 3-8c, k, 3-9b, c, 3-10b, c, 3-11b, c, 3-56b, c, d, 4-7b, 4-8a, b, 4-9 b, c, d, 4-10a, b, 4-55b, c, 6-10c, j, 6-11b, c, 6-12b, c, 6-13a, b, 6-60b, c, 7-9b, 7-10a, b, 7-11b, c, d, 7-12a, b, 7-59b, c.

Independent evaluation plan, 2-51d, f, 3-14a(3), 3-20e(1), 3-21b, c, d, e, f, 3-52d, f, 4-50d, f, 6-16a, 6-24c, d, e, f, 6-56d, f, 7-54d, f.

### Independent evaluation reports

Technical test, 2-52b, 3-53a, 4-51a, 5-45a, 6-57b(2), 7-55a(2).

- User test, 2-52b(4),3-53a(4), 4-51a(4), 5-45a(4), 6-57b(4),7-55a(2).
- Integrated logistic support management team, 2-51a(1)(a),6-56a(1)(a), 7-54a(1)(f).
- Integrated logistic support plan, 2-5a, 2-51a,2-52c(2), 3-5d,3-5e, 3-5g, i, 3-6a, b, 3-7c, e, f,3-13m, 3-20e(1), 3-21c, d, e, f,3-41a, 3-52a,3-53b, 4-5b, 4-12e, 4-39,4-50a(1), 5-45b(1), 5-45b(2), 6-6b, c, d,6-7a, b, 6-8a, b, c, 6-15o, 6-23e(1),6-24c, d, e, f, 6-45a, 6-56a(1),7-5b, 7-6a,7-14b, j, 7-43, 7-54a(1).
- Interoperability, see standardization**
- Load modules**  
For system operation, 2-30,3-31, 4-29, 5-25, 6-35, 7-33.  
For system maintenance, 3-32b,4-30b, 5-26b, 6-36b,7-34b.
- Loading procedures, 3-27a(3)(a), 4-26a(3)(a),5-23a(3)(a), 6-31a, b,7-29b(1).**
- Logistics demonstration, 3-9b(8), 3-20a(2)(b),3-22a(1)(b),3-27b(4)(a), 3-52d, e, 3-54b,4-26b(1)(e), 4-26b, 6-23a(2)(b), 6-24a(3)(b),6-25a(1)(b), 6-56d(3), 6-56e(1),6-58b, 7-22b, c, 7-54e(1)(b), 7-56b.**  
Plan, 3-5c,3-6a(2), 3-20e(1),3-21a, b, c, d, e,3-27b, 3-52d(1),6-6a, 6-7a(1), 6-11b(7), 6-23e(1),6-24b, c, d, e, 6-31c, 6-56d(2), 7-6a,7-54d(2).  
Report, 3-53a(5),4-5a, 4-7a, b,4-8a, b, 4-20b, c,4-49a, 4-51a(5),6-57b(5), 7-55a(4).
- Logistic support analysis, 2-7d,2-22a, b, 2-26b,2-51a(1), 2-52c,2-53a, 3-8k,3-9b, c, 3-10a(2),3-12a(1), 3-14b, c, d, 3-21a(3), 3-27 a, b,3-39a, 3-49 b, c, d, 3-51c, 3-53b, 3-54a, 4-7a, b,, 4-8a, b, 4-9a, b, c, d, 4-10a, b,4-12e, 4-51b, 4-52a, 4-53b,4-54a, 5-45b,6-10j, 6-11b(6),6-16b, c, d, 6-24a(3), 6-27a, b, 6-31b(3)(c),6-43b, 6-53b, c, d,6-55c, 6-56a(1)(c),6-57c, 6-58a,7-8c, 7-14h, 7-15b(3)(a), 7-22a, b,7-24c, 7-29b(3), 7-55b, 7-56a.**  
Lubrication orders, 3-27b(8),4-26b(9), 5-23b(11),6-31a(1), 6-31c(8),7-29c(9).
- Maintainability, 2-50, 3-51,4-49, 5-43, 6-55, 7-53.  
Qualitative, 2-50b,3-51b, 4-49a,5-43a, 6-55b,7-53a.  
Quantitative, 2-50c,3-51c, 4-49b,5-43b, 6-55c,7-53b.
- Maintenance allocation chart, 2-26b(4), 3-27b(4),4-26b(4), 5-23b(6),6-31a(1)(g), 6-31c(4),7-29c(4).**
- Maintenance planning, 2-4, 2-5, 3-4,4-4, 5-3, 6-5, 7-5.**  
Direct support, 2-4, 2-5,3-6a, 4-5, 5-5, 6-7a, 7-6.  
Depot level, 2-4, 2-5,3-7, 4-6, 5-6, 6-8, 7-7.  
General support, 2-4, 2-5,3-6b, 4-5,5-5, 6-7b, 7-6.  
Unit, 2-4, 2-5, 3-5,4-5, 5-4, 6-6, 7-6.
- Manpower estimate report, 2-10b,3-8c, 3-9b, c,3-10b, c,3-11b(1), 3-11c,3-12b, 4-7b, 4-8a, b, 4-9b, c, d,4-10a, b, 4-11b,6-10c,6-11b, c,6-12b, c,6-13b, c, 6-14b,7-9b,7-10a, b,7-11b, c, d,7-12a, b, 7-13b.
- Master support list, 4-56e,5-48c,7-60d.
- Materiel fielding plan, 3-57c,4-56c,5-48a, 6-61c,7-60c.**  
Materiel fielding planning, 2-55,3-57, 4-56, 5-48, 6-61, 7-60.  
Materiel release, 4-56g,5-48e,7-60f.  
Materiel transfer plan, 3-57d,4-56d,5-48b, 6-61d.  
Materiel system requirements specification, 2-54d,3-56d,4-55d,6-60d,7-59d.  
Memorandum of notification, 3-57b,4-56b, 6-61b,7-60b.
- Milestone I Decision Review issues/criteria**  
For computer resources support, 2-29, 2-30, 2-31, 2-32, 2-33.  
For cost analysis and funding, 2-53,2-54.  
For design influence, 2-1, 2-2,2-3.  
For facilities, 2-37, 2-38,2-39, 2-40.  
For maintenance planning, 2-4,2-5.  
For manpower and personnel, 2-6,2-7, 2-8, 2-9, 2-10.  
For materiel fielding planning, 2-55.  
For packaging, handling, and storage, 2-13, 2-14, 2-15, 2-16.  
For reliability, availability, and maintainability, 2-48, 2-49, 2-50.  
For standardization and interoperability, 2-41, 2-42, 2-43, 2-44, 2-45,2-46, 2-47.  
For supply support, 2-11, 2-12.  
For support equipment and test, measurement, and diagnostic equipment, 2-17, 2-18, 2-19,2-20.  
For support management and analysis, 2-51, 2-52.  
For technical data, 2-26, 2-27,2-28.  
For training and training devices, 2-21, 2-22, 2-23, 2-24, 2-25.  
For transportation and transportability, 2-34, 2-35, 2-36.
- Milestone I/II Decision Review issues/criteria for NDI adaptation or integration**  
For computer resources support, 6-34, 6-35, 6-36, 6-37, 6-38.  
For cost analysis and funding, 6-58,6-59, 6-60.  
For design influence, 6-1, 6-2,6-3, 6-4.  
For facilities, 6-42, 6-43,6-44, 6-45.  
For maintenance planning, 6-5,6-6, 6-7, 6-8.  
For manpower and personnel, 6-9,6-10, 6-11, 6-12, 6-13, 6-14.  
For materiel fielding planning, 6-61,6-62.  
For packaging, handling, and storage, 6-19, 6-20, 6-21.  
For reliability, availability, and maintainability, 6-53, 6-54, 6-55.  
For standardization and interoperability, 6-46, 6-47, 6-48, 6-49, 6-50,6-51, 6-52.  
For supply support, 6-15, 6-16,6-17, 6-18.
- For support equipment and test, measurement, and diagnostic equipment, 6-22, 6-23, 6-24,6-25.  
For support management and analysis, 6-56, 6-57.  
For technical data, 6-31, 6-32,6-33.  
For training and training devices, 6-26, 6-27, 6-28, 6-29, 6-30.  
For transportation and transportability, 6-39, 6-40, 6-41.
- Milestone II Decision Review issues/criteria**  
For computer resources support, 3-30, 3-31, 3-32, 3-33, 3-34.  
For cost analysis and funding, 3-54,3-55, 3-56.  
For design influence, 3-1, 3-2,3-3.  
For facilities, 3-38, 3-39,3-40, 3-41.  
For maintenance planning, 3-4,3-5, 3-6, 3-7.  
For manpower and personnel, 3-8,3-9, 3-10, 3-11, 3-12.  
For materiel fielding planning, 3-57,3-58.  
For packaging, handling, and storage, 3-17, 3-18, 3-19.  
For reliability, availability, and maintainability, 3-49, 3-50, 3-51.  
For standardization and interoperability, 3-42, 3-43, 3-44, 3-45, 3-46,3-47, 3-48.  
For supply support, 3-13, 3-14,3-15, 3-16.  
For support equipment and TMDE, 3-20, 3-21, 3-22.  
For support management and analysis, 3-52, 3-53.  
For technical data, 3-27, 3-28,3-29.  
For training and training devices, 3-23, 3-24, 3-25, 3-26.  
For transportation and transportability, 3-35, 3-36, 3-37.
- Milestone I/III Decision Review issues/criteria for basic non-developmental items**  
For computer resources support, 7-32, 7-33, 7-34, 7-35, 7-36.  
For cost analysis and funding, 7-56,7-57, 7-58, 7-59.  
For design influence, 7-1, 7-2,7-3, 7-4.  
For facilities, 7-40, 7-41,7-42, 7-43.  
For maintenance planning, 7-5,7-6, 7-7.  
For manpower and personnel, 7-8,7-9, 7-10, 7-11, 7-12, 7-13.  
For materiel fielding planning, 7-60,7-61.  
For packaging, handling, and storage, 7-18, 7-19, 7-20.  
For reliability, availability, and maintainability, 7-50, 7-51, 7-52, 7-53.  
For standardization and interoperability, 7-44, 7-45, 7-46, 7-47, 7-48,7-49.  
For supply support, 7-14, 7-15,7-16, 7-17.  
For support equipment and TMDE, 7-21, 7-22, 7-23.  
For support management and analysis, 7-54, 7-55.  
For technical data, 7-29, 7-30,7-31.  
For training and training devices, 7-24, 7-25, 7-26, 7-27, 7-28.  
For transportation and transportability, 7-37, 7-38, 7-39.

### **Milestone III Decision Review issues/criteria**

For computer resources support, 4-29, 4-30, 4-31, 4-32.  
For cost analysis and funding, 4-52,4-53, 4-54, 4-55.  
For design influence, 4-1, 4-2,4-3.  
For facilities, 4-36, 4-37,4-38, 4-39.  
For maintenance planning, 4-4,4-5, 4-6.  
For manpower and personnel, 4-7,4-8, 4-9, 4-10, 4-11.  
For materiel fielding planning, 4-56,4-57.  
For packaging, handling, and storage, 4-16, 4-17, 4-18.  
For reliability, availability, and maintainability, 4-46, 4-47, 4-48, 4-49.  
For standardization and interoperability, 4-40, 4-41, 4-42, 4-43, 4-44,4-45.  
For supply support, 4-12, 4-13,4-14, 4-15.  
For support equipment and TMDE, 4-19, 4-20, 4-21.  
For support management and analysis, 4-50, 4-51.  
For technical data, 4-26, 4-27,4-28.  
For training and training devices, 4-22, 4-23, 4-24, 4-25.  
For transportation and transportability, 4-33, 4-34, 4-35.  
Mission support plan, 3-58,4-57, 5-49, 6-62, 7-61.

### **Mobility, unit**

Strategic and tactical, 2-34,3-35, 4-33, 6-39, 7-37.  
Modularity, 2-50b(2),3-51b(2),4-49a(2), 5-43a(2),6-55b(2),7-53a(2).  
New equipment training, see training, new equipment.  
New equipment training plan, 2-25a, 3-26a,4-25a,5-22, 6-30a,7-28a.

**Operational and organizational plan, 2-2a, 2-6c,2-7b, 2-8a(2), 2-9a(2), 2-11a,2-13a, 2-26b(5), 2-48a, b, c, d,2-49a, d, 2-50c(1)(a)2,2-51b(2), 3-2b,3-5h, 3-6a, b,3-35a, 3-49a(2),3-50a, d, 3-52b(1)(b), 3-56e, 4-55e,6-3b, 6-39a,6-53a(3), 6-54a, d,6-56b(1)(b), 7-54b(1)(b),7-59e.**

**Operational readiness float, see float, operational readiness.**

OSCR, 2-3, 2-4, 2-7,2-8, 2-9, 2-11, 2-13, 2-17,2-21, 2-29, 2-34, 2-38, 2-39,2-54, 3-3, 3-4, 3-9, 3-10, 3-11, 3-13, 3-17, 3-20, 3-21, 3-30,3-35, 3-39, 3-40, 3-56, 4-3,4-4, 4-8, 4-9, 4-10, 4-12, 4-19,4-20, 4-37, 4-38, 4-55, 6-4,6-5, 6-11, 6-12, 6-13, 6-15, 6-24, 6-34, 6-40, 6-43, 6-44,6-60, 7-4, 7-5, 7-21, 7-22,7-38, 7-41, 7-42, 7-59.

### **Outline test plan**

Technical test, 2-51d(2),3-52d(2), 4-50d(2),6-56d(3)(a),7-54d(3).  
User test, 2-51d(3),3-8h, 3-9b(6), 3-52d(2)(b),4-50d(2)(b), 6-10g, 6-11b(5), 6-56d(3)(b),7-54d(3)(b).

**Packaging, handling, and storage, 2-13, 3-17, 4-16, 5-14, 6-19,7-18.**

### **Personnel**

Ammunition, 2-8c,2-8d, 3-10c(3),4-9c(3), 5-9b(3),6-12c(3), 7-11c(3).

Maintenance, 2-7, 3-9,4-8, 5-8, 6-11, 7-10.

Materiel storage/handling, 2-8c, 2-8d, 3-10c(2), 4-9c(2),5-9b(2), 6-12c(2), 17-11c(2).

Operator/crew, 2-6, 3-8,4-7, 5-7, 6-10, 7-9.

POL supply, 2-8c, d,3-10c(1), 4-9c(1), 5-9b(1), 6-12c(1),7-11c(1).

Transportation, 2-9, 3-11,4-10, 5-10, 6-13, 7-12.

Unit supply, 2-8b,3-10b, 4-9b,5-9a, 6-12b,7-11b.

Post deployment software support, 2-32, 3-33, 4-31, 5-27, 6-37,7-35.

Prepositioned materiel configured to unit sets, 3-14e(2),4-13e(2),5-12e(2), 6-16e(2),7-15e(2).

Prescribed load list, 3-14b(3),4-13b(3), 5-12b(3),6-16b(3),7-15b(3).

Preservation and packing, 3-17b,4-16a, 6-19a,7-18a.

Provisioning plan, 2-12, 3-16,4-15, 6-18, 7-17.

**Quantitative and qualitative personnel requirements information, 2-7d,2-10a, 3-8d, k, 3-9b, 3-9b(7), 3-12a, 3-53b(4)(c)1,4-7b, 4-8a, b,4-11a, 4-51b(4)(a),6-10j, 6-11b(6),6-14a, 6-57c(5)(c),7-8c, 7-9b, c,7-9c, 7-10a, b, 7-11a(3), 7-13a,7-55b(5).**

**Reliability, 2-48a,3-49, 4-47, 5-41, 6-53, 7-51.**

Logistic related, 2-48c,3-49c,4-47b,5-41b, 6-53c,7-51b.

Mission related, 2-48b,3-49b,4-47a, 5-41a,6-53b,7-51a.

Reliability, availability, and maintainability, 2-48, 3-49, 4-46, 5-40, 6-53,7-50.

Repair parts and special tools list, 2-26b(3),3-27b(3),4-26b(3),5-23b(5), 6-31a, c,7-29c(3).

Requirement documents, 2-51b,3-52b, 4-50b,6-56b,7-54b.

Safety, 2-1, 3-1, 4-1,5-1, 6-2, 7-2.

Sample data collection plan, 4-5b,4-46b, 4-50d(1),5-44a, 7-6a,7-50e,7-54d(1).

Security, 2-16, 2-26a,3-19, 3-27a(3)(c), 4-18, 4-26a(3)(c),5-14c,5-23a(3)(c), 6-21,6-31b(3)(c), 7-20,7-29b(3).

Physical, 2-16, 3-19b,4-18, 6-21b,7-20b.

Procedures, 2-26a,3-27a(3)(c), 4-26a(3)(c),5-23a(3),6-31b(3),7-29b(3).

Shelf life, 3-18b,4-17b,6-20b,7-19b.

Skill qualification tests, 2-23a(4),3-24a(4), 4-23a(4),5-20a(4),6-28a(4),7-26a(4).

Software documentation, 3-33c,4-31c, 5-27c,6-37c,7-35c.

Soldiers manual, 2-23a(2),3-24a(2), 4-23a(2),5-20a(2),6-28a(2),7-26a(2).

Specifications, 2-51e(3),3-52e(3), 4-50e(3),6-56e(3),7-54e(3).

### **Standardization**

For aircraft servicing, 3-47,3-48, 4-45, 5-39, 6-52, 7-49.

Of ammunition, 2-44, 3-45,4-42, 5-36, 6-49, 7-46.

Of battlefield surveillance and target designation and acquisition systems, 2-43, 3-44,4-41, 5-35, 6-48, 7-45.

Of command, control, and communications systems, 2-42, 3-43, 4-40, 5-34, 6-47, 7-44.

Of components and repair parts, 2-46, 3-47, 4-44, 5-38, 6-51, 7-48.

Of petroleum, oil, and lubricants, 2-45, 3-46, 4-43, 5-37, 6-50,7-47.

Of support equipment and TMDE, 3-21a(1),3-21a(2),3-21c(1),6-23a(1), 7-21a(3),7-22a(2).

Standardization and interoperability, 2-41, 3-42, 4-40, 5-33, 6-46,7-44.

Statement of work, 2-51e(1),3-52e(1), 4-50e(1),6-56e(1),7-54e(1).

Storage serviceability standards, 4-26a(1), 5-23a(1),7-29a(1).

Supply catalogs—for sets, kits, and outfits, 3-27a(2),4-26a(2),5-23a(2),6-31a(1)(a), 6-31b(2),7-29a(2).

Supply support, 2-11, 3-13,4-12, 5-11, 6-15, 7-14.

Retail, 2-11, 3-14, 4-13,5-12, 6-16, 7-15.

Wholesale, 2-11, 3-15,4-14, 5-13, 6-17, 7-16.

**Support equipment, ancillary operational, see equipment, ancillary operational.**

Support equipment and test, measurement, and diagnostic equipment, 2-17, 3-20, 4-19,5-15, 6-22, 7-21.

Support facility annex, 2-40,3-41, 4-39, 6-45, 7-43.

Support list allowance cards, 4-56f,5-48d, 7-60e.

Support management and analysis, 2-51, 3-52, 4-50, 5-44, 6-56, 7-54.

System concept paper, 2-2d,2-6a,2-7c, 2-8b, d,2-9b(1),2-11b,2-11d,2-13c, 2-48a(4),2-49b,2-51a(2),2-51a(3),3-8c, 3-9b(1),3-9c(1), 3-10b, c,3-11b(1), 3-11c(1).

**System readiness objective, 2-49,3-50, 4-48, 5-42, 6-54, 7-52.**

System training plan, 2-23b(1),2-25b, 3-24b(3)(b),3-26b,4-25b,5-19a, b, 5-20b(2), 6-28b,6-30b,7-26b(1), 7-26b(3)(b),7-28b.

Technical data, 2-26, 3-27,4-26, 5-23, 6-31, 7-29.

### **Technical manuals**

For DS and GS or AVIM maintenance, 3-27b(2),4-26b(2),5-23b(4),6-31a(1)(e).

For operator, 2-26b(1),3-27b(1),4-26b(1), 5-23b(2),6-31a, c, 7-29c(1).

For unit maintenance, 2-26b(2),3-27b(2), 4-26b(2),5-23b(3),6-31a, c, 7-29c(2).

Test design plan, 2-51d(4),3-9b(8), 3-10a(5),3-11b, c(4),3-14a(3),3-20e(1), 3-21b, c, d, e, f,3-27b,3-31g, 3-52d(2)(c),4-5b,4-50d(2)(c),6-11b(7), 6-12a(5),6-13b, c, 6-16a(3),6-23e(1), 6-24b, c, d, e, f,6-31c, 6-35g, 6-56d(3)(b),7-54d(3)(c).

Test, measurement, and diagnostic equipment, 2-19a(2)(b),3-21c,4-20c,5-17b, 6-24c,7-22c.

Test and evaluation master plan, 2-5a, 2-17a(4), 2-26b, 2-51d, f, 3-5c, 3-6a(2), 3-8h, 3-9b, 3-10a(5), 3-11b, c, 3-14a(3), 3-20e, 3-21b, c, d, e, f, 3-27b(6), 3-31g, 3-52d, f, 4-50d(2), 6-6a, 6-7a(1), 6-10g, 6-11b(5), 6-11b(7), 6-12a(5), 6-13b, c(4), 6-16a(3), 6-23e(1), 6-24b, c, d, e, f, 6-31c(6), 6-35g, 6-56d, f, 7-54d(3).

Test Integration Working Group, 2-51d, 6-56d(1).

Test points, 2-50b(1), 3-51b(1), 4-49a(1), 5-43a(1), 6-55b(1), 7-53a(1).

Test program sets, 2-31, 3-32, 4-30, 5-26, 6-36, 7-34.

Test program set management plan, 2-33c, 3-34c, 6-38c, 7-36c.

**Test reports**

Technical test, 2-52b(1), 3-53a(1), 4-51a(1), 5-45a(1), 6-57b(1), 7-55a(1).

User test, 2-52b(3), 3-53a(3), 4-51a(3), 5-45a(3), 6-57b(3), 7-55a(3).

Tools, 2-19a(2)(a), 3-21b, 4-20b, 5-17a, 6-24b, 7-22b.

Trainer guides, 2-23a(3), 3-24a(3), 4-23a(3), 5-20a(3), 6-28a(3), 7-26a(3).

**Training**

Ammunition, 2-22a(4)(b), 2-23b(3), 3-23a(3)(b), 3-24b(3), 4-22a(3)(b), 4-23b(2), 5-19a(3)(b), 5-20b(2), 6-27a(4)(b), 6-28b(3), 7-25a(4)(b), 7-26b(3).

Concept, 2-22a, b, 2-23b(1), 6-27a, b, 6-28b(1), 7-25a(1), 7-26b(1).

Devices, 2-22a, b, 2-23a(5), 3-23a, b, 3-24a(5), 4-22a, b, 4-23a(5), 5-19a(4), 5-19b(4), 5-20(5), 6-26a(3), 6-27a, b, 6-28a(5), 7-24a(3), 7-25a, b, 7-26a(5).

Equipment, 2-22a, b, 3-23a, b, 4-22a, b, 5-19a, b, 6-26a(2), 6-27a, b, 7-24a(2), 7-25a, b.

Institutional, 2-22, 3-23, 4-22, 5-19, 6-27, 7-25.

Instructors, 2-22a, b, 2-23b(4), 3-23a, b, 3-24b(4), 4-22a, b, 4-23b(3), 5-19a, b, 5-20b(3), 6-27a, b, 6-28b(4), 7-25a, b, 7-26b(4).

Material, 2-22a, b, 2-23a(1), 3-23a, b, 3-24a(1), 4-22a, b, 4-23a(1), 5-19a, b, 5-20a(1), 6-26a(1), 6-27a, b, 6-28a(1), 7-24a(1), 7-25a, b, 7-26a(1).

New equipment, 2-24, 3-25, 4-24, 5-21, 6-29, 7-27.

Plans, 2-25, 3-26, 4-25, 5-22, 6-30, 7-28.

Ranges, 2-39, 3-40a, 4-38a, 5-32a, 6-44b, 7-42a.

**Unit, 2-23, 3-24, 4-23, 5-20, 6-28, 7-26.**

Collective, 2-23b, 3-24b, 4-23b, 5-20b, 6-28b, 7-26b.

Individual, 2-23a, 3-24a, 4-23a, 5-20a, 6-28a, 7-26a.

Training and training devices, 2-21, 3-23, 4-22, 5-19, 6-26, 7-24.

**Transportability, 2-35, 3-36, 4-34, 5-28, 6-40, 7-38.**

Aircraft, 2-35a, g, 3-36e, 4-34g, 5-28a(4), 5-29d, 6-40e, 7-38g.

Fixed wing, 2-35g(1), 3-36e(1), 4-34g(1), 5-28a(4), 5-29d, 6-40e(1), 7-38g(1).

**Rotary wing, 3-36e(2), 4-34g(2), 5-28a(4), 5-29d, 6-40e(2), 7-38g(2).**

External, 2-35g(3), 3-36e(2), 4-34g(2), 5-28a(4), 5-29d, 6-40e(2), 7-38g(2).

Internal, 2-35g(2), 3-36e(2)(a), 4-34g(2)(a), 5-28a(4), 5-29d, 6-40e(2)(a), 7-38g(2)(a).

Highway, 2-35a, b, 3-36b, 4-34b, 5-28a(1), 5-29a, 6-40b, 7-38b.

Marine, 2-35a, 2-35d, 3-36b, 4-34d, 5-28a(1), 5-29a, 6-40b, 7-38d.

Rail, 2-35a, c, 3-36b, 4-34c, 5-28a(1), 5-29a, 6-40b, 7-38c.

Report, 2-36, 3-37, 4-35, 6-41, 7-39.

Transportability guidance technical manual, see loading procedures.

**Unitization, 2-14b, 3-17c, 4-16b, 6-19b, 7-18b.**

**Vans**

Maintenance, 2-19a(2)(e), 3-21f, 4-20f, 5-17e, 6-24f, 7-22f.

Parts storage, 2-18a(2)(c), 3-20d, 4-19d, 5-16c, 6-23d, 7-21d.

**Vehicles**

Ammunition resupply, 2-18a(2), 3-20c, 4-19c, 5-16b, 6-23c, 7-21c.

Fuel resupply, 2-18a(2), 3-20b, 4-19b, 5-16a, 6-23b, 7-21b.

Operators for, see personnel, transportation.

**War reserves**

Facilities for, 3-39b, 4-37b(3)(a), 4-37b(4), 5-31b, 6-43c, 7-41b.

Theater, 3-14e(1), 4-13e(1), 5-12e(1), 6-16e(1), 7-15e(1).

Wholesale, 3-15a, 4-14a, 5-13a, 6-17a, 7-16a .

**Unclassified**

PIN 062425-000

# USAPA

ELECTRONIC PUBLISHING SYSTEM  
TEXT FORMATTER ... Version 2.45

PIN: 062425-000

DATE: 07-28-99

TIME: 10:53:32

PAGES SET: 143

---

DATA FILE: p700.fil

DOCUMENT: DA PAM 700-28

DOC STATUS: NEW PUBLICATION