RAND ARROYO CENTER

CHILDREN AND FAMILIES
EDUCATION AND THE ARTS
ENERGY AND ENVIRONMENT
HEALTH AND HEALTH CARE
INFRASTRUCTURE AND TRANSPORTATION
INTERNATIONAL AFFAIRS
LAW AND BUSINESS
NATIONAL SECURITY
POPULATION AND AGING
PUBLIC SAFETY
SCIENCE AND TECHNOLOGY
TERRORISM AND HOMELAND SECURITY

The RAND Corporation is a nonprofit institution that helps improve policy and decisionmaking through research and analysis.

This electronic document was made available from www.rand.org as a public service of the RAND Corporation.

Skip all front matter: Jump to Page 1

Support RAND

Purchase this document

Browse Reports & Bookstore

Make a charitable contribution

For More Information

Visit RAND at www.rand.org

Explore the RAND Arroyo Center

View document details

Limited Electronic Distribution Rights

This document and trademark(s) contained herein are protected by law as indicated in a notice appearing later in this work. This electronic representation of RAND intellectual property is provided for non-commercial use only. Unauthorized posting of RAND electronic documents to a non-RAND website is prohibited. RAND electronic documents are protected under copyright law. Permission is required from RAND to reproduce, or reuse in another form, any of our research documents for commercial use. For information on reprint and linking permissions, please see RAND Permissions.

Report Documentation Page

Form Approved
OMB No. 0704-0188

Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

1. REPORT DATE	2. REPORT TYPE	3. DATES COVERED
2013		**00-00-2013 to 00-00-2013**

4. TITLE AND SUBTITLE	5a. CONTRACT NUMBER
Readiness Reporting for an Adaptive Army	5b. GRANT NUMBER
	5c. PROGRAM ELEMENT NUMBER
6. AUTHOR(S)	5d. PROJECT NUMBER
	5e. TASK NUMBER
	5f. WORK UNIT NUMBER
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) **RAND Corporation,Arroyo Center,1776 Main Street, PO Box 2138,Santa Monica,CA,90407-2138**	8. PERFORMING ORGANIZATION REPORT NUMBER
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)	10. SPONSOR/MONITOR'S ACRONYM(S)
	11. SPONSOR/MONITOR'S REPORT NUMBER(S)

12. DISTRIBUTION/AVAILABILITY STATEMENT
Approved for public release; distribution unlimited

13. SUPPLEMENTARY NOTES

14. ABSTRACT

15. SUBJECT TERMS

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT	b. ABSTRACT	c. THIS PAGE			
unclassified	**unclassified**	**unclassified**	**Same as Report (SAR)**	**167**	

This report is part of the RAND Corporation research report series. RAND reports present research findings and objective analysis that address the challenges facing the public and private sectors. All RAND reports undergo rigorous peer review to ensure high standards for research quality and objectivity.

Readiness Reporting for an Adaptive Army

Christopher G. Pernin, Dwayne M. Butler, Louay Constant, Lily Geyer, Duncan Long, Dan Madden, John E. Peters, James D. Powers, Michael Shurkin

ARROYO CENTER

Readiness Reporting for an Adaptive Army

Christopher G. Pernin, Dwayne M. Butler, Louay Constant, Lily Geyer, Duncan Long, Dan Madden, John E. Peters, James D. Powers, Michael Shurkin

Prepared for the United States Army

Approved for public release; distribution unlimited

The research described in this report was sponsored by the United States Army under Contract No. W74V8H-06-C-0001.

Library of Congress Cataloging-in-Publication Data

Pernin, Christopher G., 1973-
Readiness reporting for an adaptive Army / Christopher G. Pernin, Dwayne M. Butler, Louay Constant, Lily Geyer, Duncan Long, Dan Madden, John E. Peters, Jim Powers, Michael Shurkin.
pages cm
Includes bibliographical references.
ISBN 978-0-8330-8032-5 (pbk. : alk. paper)
1. United States. Army—Operational readiness—Evaluation. 2. United States. Army—Reorganization—Evaluation. I. Title.

UA25.P36 2013
355'.033273—dc23

2013038829

The RAND Corporation is a nonprofit institution that helps improve policy and decisionmaking through research and analysis. RAND's publications do not necessarily reflect the opinions of its research clients and sponsors.

Support RAND—make a tax-deductible charitable contribution at www.rand.org/giving/contribute.html

RAND® is a registered trademark.

© Copyright 2013 RAND Corporation

This document and trademark(s) contained herein are protected by law. This representation of RAND intellectual property is provided for noncommercial use only. Unauthorized posting of RAND documents to a non-RAND website is prohibited. RAND documents are protected under copyright law. Permission is given to duplicate this document for personal use only, as long as it is unaltered and complete. Permission is required from RAND to reproduce, or reuse in another form, any of our research documents for commercial use. For information on reprint and linking permissions, please see the RAND permissions page (www.rand.org/pubs/permissions.html).

RAND OFFICES
SANTA MONICA, CA • WASHINGTON, DC
PITTSBURGH, PA • NEW ORLEANS, LA • JACKSON, MS • BOSTON, MA
DOHA, QA • CAMBRIDGE, UK • BRUSSELS, BE
www.rand.org

Preface

Readiness is a primary concern of the U.S. Army, which has developed a readiness reporting process to gauge and communicate the readiness of its units. The readiness reporting includes assessments of equipment, personnel, and training, with a particular emphasis on equipment and personnel. Much of the system is built around the Modified Table of Organization and Equipment (MTOE), which provides the denominator against which measures of personnel and equipment are made. During the conflicts in Iraq and Afghanistan, Army units have evolved in a variety of ways, resulting from the introduction of new equipment, much of which is not captured by the MTOE, and from the need to task organize and train for missions that are different from those for which MTOEs were built. The readiness reporting system captures some but not all of the changes experienced by units and what they signify for unit capabilities and readiness.

This report examines the Army's readiness reporting system and provides broad recommendations to adapt policies and procedures so that they better quantify and communicate true Army readiness across the range of military operations.[1] We also review the Army's processes for developing, approving, and documenting the resources needed for a modular, full-spectrum and ARFORGEN-based force. Based on that review we recommend adjustments that better incorporate the flexibility required in operations and that account for the quick capability insertion needed to manage a dynamic operational environment and rapidly advancing technologies.

[1] This study was finished in September 2012 and is now being released per client approval.

This report transmits a broad, unclassified collection of analysis on this topic to help convey new ideas, dispel outdated notions, and hopefully answer important questions about a controversial subject. This document is best considered in combination with three other documents underpinning the narrative and conclusions herein:

- *Review of Army Processes for Accounting for, Documenting, and Reporting Readiness of Army Capabilities*, Christopher G. Pernin, Dwayne Butler, Louay Constant, Lily Geyer, Joshua Klimas, Thomas F. Lippiatt, Duncan Long, Dan Madden, John E. Peters, James Powers, and Michael Shurkin, RAND Corporation, PM(L)-4008-A, January 2012.
- *Documenting Equipment in an ARFORGEN Army*, Christopher G. Pernin, Duncan Long, Patrick Mills, Todd Nichols, Erin York, and John F. Fei, RAND Corporation, PM-3884-A, January 2012.
- *British, French, and German Armies' Commitment to Full Spectrum Operations in an Age of Fiscal Austerity*, Michael Shurkin, RAND Corporation, RR-222-A, 2013.

This study was sponsored by MG Anthony Ierardi, Director of Force Management, Deputy Chief of Staff, G-3. The research was conducted within RAND Arroyo Center's Force Development and Technology Program. RAND Arroyo Center, part of the RAND Corporation, is a federally funded research and development center sponsored by the United States Army.

The Project Unique Identification Code (PUIC) for the project that produced this document is HQD116188.

For questions about this study, please contact the primary investigator, Christopher G. Pernin, at 703-413-1100 ext. 5197 or at Christopher_Pernin@rand.org.

For more information on RAND Arroyo Center, contact the Director of Operations (telephone 310-393-0411, extension 6419; FAX 310-451-6952; email Marcy_Agmon@rand.org), or visit Arroyo's website at http://www.rand.org/ard.html.

Contents

Preface iii
Figures ix
Tables xi
Summary xiii
Acknowledgments xvii
Abbreviations xix

CHAPTER ONE
Introduction 1
Background 1
Purpose 2
Approach 3
Limitations of This Study 4
Navigating This Report 4

CHAPTER TWO
Building New Capabilities and Readiness Reporting 7
About the MTOE 8
How Units Acquire Equipment That Is Not on Their MTOE 9
Rapid Capability Delivery 10
  Rapid Acquisition Organizations 13
How Effective Has Accelerated Capability Development Been? 13
New Capabilities and Readiness Reporting 15
Findings 18
Conclusions 19

CHAPTER THREE
Exploring the Value of the MTOE for Readiness Reporting 21
The MTOE and Readiness Reporting 22
A Flexible MTOE-Based Reporting System 24
An Alternative Readiness Standard: Mission Equipping and Assigned Mission Readiness Reporting 26
Mission Equipping 27
Mission Readiness Reporting 31
The MTOE and ARFORGEN 33
Measuring Against "Fully Prepared" 34
Not Addressing Sequence 36
Aim Points, ARFORGEN, and Conditional Readiness Reporting 38
Findings 42
Recommendations 44

CHAPTER FOUR
From Readiness to Capabilities: Ready for What? 47
Readiness Reporting and the New Capabilities Brought by Rapidly Delivered Equipment 49
Interpreting Rapid Changes for the Future: The "MTOE Scrubs" 53
Task-Reorganizing for the Assigned Mission 55
Training for the Assigned Mission and Spectrum Drift 57
FSO as a Cipher 61
Conclusion 63
A Conceptual Model for Reporting and Capturing Risk 64
Recommendations 66

CHAPTER FIVE
Transitioning to the Future and Recommendations 69
Reporting Deviations from the Plan 72
Two Options Looking Forward 73
Recommendations 76
Conclusion 80

APPENDIX

A. Literature 81
B. Selected Rapid Capability Organizations 103
C. MTOE Scrubs 109
D. Framework for Considering Root Causes of Assigned Missions 123

Bibliography 131

Figures

3.1. LIN-Level Comparison of the MTOE and E-TDA for an IBCT 29
4.1. CDRT Candidates Evaluated Per Year 52
5.1. A Framework for Considering Deviations from Design 73
B.1. Steps of the Army's Capabilities Development for Rapid Transition (CDRT) Process 104
B.2. CDRT Candidates Evaluated Per Year 105
D.1. A Framework for Considering the Role of ACD Processes in Army Operations 124

Tables

2.1. Categories of Sourcing Solutions and Their Effects on Readiness and Readiness Reporting 11
2.2. Types and Examples of Rapid-Response Organizations in the Army 14
2.3. ACD's Influence on Readiness Reporting 17
4.1. CDRT Candidates in Iteration 3 Mapped to ARCIC Capability Gap Areas 50
A.1. Areas of Noted Concern and Specific Issues 83
C.1. MTOE Scrub Conference Locations, Subjects, and Dates 111
C.2. Issue Papers from the MTOE Scrubs 120

Summary

Background

Unit readiness is a central concern of the U.S. Army. To ensure that units are indeed ready, the Army has developed a readiness reporting system that assesses units' personnel, training, and equipment. Although Army readiness relates to more than just equipment and staffing, the system is largely built around the Modified Table of Organization and Equipment (MTOE), which details the equipment, personnel, and capabilities units should have. The MTOE provides the basic denominator against which readiness is assessed. Over the decade that the Army has been fighting in Iraq and Afghanistan, Army units have taken on missions that differ from those for which they and their MTOEs were designed, requiring them to take on new equipment and task organizations. Many units have also altered their training regimens to prepare for their assigned missions. MTOEs do not deal directly with training, but they reflect a vision of what units should be capable of doing. New equipment and different training mean that units may have different capabilities and may, in fact, be ready for different missions than originally intended.

Purpose

This study examines the Army's readiness reporting system in light of the changes experienced by Army units in the past decade.[1] The Army has developed an impressive capacity to provide units with new capabilities to meet emerging requirements; these changes are matched by parallel changes in task organization, training, and skills as units move through the ARFORGEN process in preparation for deployment.

The current readiness reporting system generally captures the changes, but it has some important limitations. These are related to the fundamental challenge of reporting readiness for a different Army than the one for which the readiness reporting system was originally intended, which boils down to a tension between preparing Army units for assigned missions that are sometimes different from their designed missions.

Findings

Our analysis of MTOEs, the readiness reporting system, and current demands on units leads to the following three findings.

- The reporting system does not communicate the extent of units' "drift" from their design and appears to exacerbate a lack of appreciation within the Army for just how much units may have changed with respect to readiness and capabilities.
- The audience for readiness reporting may have an inaccurate understanding of what Army units are ready to do and capable of doing, in part because of overuse of the term "full-spectrum operations (FSO)," in part because the readiness system does not require greater precision, and in part because there may be a lack of appreciation within the Army for the distance separating particular bands of the capabilities spectrum.
- The reporting system is not adapted optimally for ARFORGEN.

[1] This study was finished in September 2012 and is now being released per client approval.

Our assessment leads us to conclude that the Army has two options with respect to how it responds to the difference between designed and assigned missions. One, it could choose to revert to the pre-2003 force design and approach and, in effect, treat the past decade as a "'one-off"' that does not challenge the Army's basic design. Two, it could accept the fact that its units can only cope with a portion of the conflict spectrum and that shifting to another portion is a significant undertaking.

The Army's present interest in regional alignment and hybrid warfare suggests that it is leaning toward this second option, which would require the Army to identify both where the force is today and where it needs to be so that it is optimally positioned to minimize risk. To that end, the Army requires a more precise understanding of where the force is, which in turn requires addressing the limitations of the readiness reporting system.

Recommendations

Our overarching recommendation is that the Army take stock of where it is today with respect to its capabilities and its likely demands and determine where it needs to be and what it would take to get there. To achieve this end, the Army would have to do the following:

- Modify the readiness reporting system and AR 220-1 so as to bring clarity and fixity to the "'denominator,"' i.e., the standards against which readiness is compared, particularly with regard to the meaning of FSO and the precise skills, capabilities, and training curricula required for such operations.
- Bring greater precision to the "'numerator,"' i.e., the actual state of a unit with respect to inventory, manning, organization, and skills, which in this case requires capturing the various adaptations experienced by a unit as it goes through ARFORGEN, whether to its equipment inventory as it substitutes rapidly acquired items for MTOE-authorized equipment, to its task organization—which has ramifications for manning and military occupational skill qualification—or to its training curricula.

More specific recommendations include the following:

- Translate FSO into a clear and specific set of mission essential task lists (METLs).
- Break FSO down further for reporting purposes, such that units—instead of training for a vague "FSO" capability—certify their ability to execute specific components of FSO.
- Grow the A-Level—the rating that refers to preparedness for the assigned mission—so that it tells a more complete story of what a given unit is training for, its progress toward becoming prepared, and any difficulties it might be having.
- Look beyond the MTOE for the sake of both readiness reporting and readiness in general.
- Preserve and enhance mechanisms to evaluate the MTOE.
- Be more systematic and uniform in provided guidance on preparing for possible future missions (aligned or assigned).
- Develop a robust, systematic set of processes and organizations for ACD, and maintain those capabilities during times of relative peace.
- Pay attention to ARFORGEN sequencing: readiness reporting should track units' progress as measured against an understanding of how units should be doing rather than against the expected end state.

The changes recommended here are not urgent in the sense that the system is broken and needs immediate repair. Rather, they speak to hidden risk and the fundamental need to take stock of the force after more than a decade of conflict, as the Army transitions from responding to immediate operational requirements to a force geared to meet broader strategic objectives.

Acknowledgments

This study had significant support from the Army and Joint Staff, which allowed the RAND team access to data and people necessary to complete the research. We acknowledge the support and guidance from our sponsor, MG Anthony Ierardi, and important feedback and help from key members of his staff: COL Mike Linick, Dan Egbert, and LTC Ken Pinkela. In addition, we thank James Forbes, Mike Lopergolo, and Dale Goble from DAMO-OD for access to readiness data, the supporting systems, and various discussions about readiness reporting in general; Col. Simon Goerger, Director of the Defense Readiness Reporting System Implementation Office (OSD Readiness Directorate) and Senior Readiness Analyst, for insight into how the readiness reporting system works; and Lt Col Ron Henry, COL Donnie Walker, Chief of Readiness Assessment Branch, and Jerry Macken, from the Joint Staff Readiness Division, who provided insight into readiness issues from a joint perspective. For detailed discussions on readiness reporting for combat support hospitals, we would like to thank Mr. Charlie Strite, LTC Derek Cooper, and MAJ Lorenza Peterson. Mr. Bill Koziar helped with various issues having to do with the MTOE Scrubs. We would also like to thank the battalion commander and key staff we spoke with for the readiness case study (names withheld for sake of anonymity).

We also thank our reviewers, Matt Lewis (of RAND) and Tom McNaugher (of Georgetown University), for their thoughtful reviews. We also would like to thank Lauren Varga, who helped immensely preparing the final document.

Abbreviations

AAWO	Army Asymmetric Warfare Office
ACD	Accelerated Capability Development
AEERC	Army Enterprise Equipping and Reuse Conference
ALO	Authorized Level of Organization
AMC	Army Materiel Command
AME	Assigned Mission Equipment
AMES	Army Medicine Equipping Strategy
AMM	Assigned Mission Manning
APC	Acquisition Program Candidate
APEX	Adaptive Planning and Execution
APS	Army Prepositioned Stock
ARCCR	Annual Report on Combatant Command Requirements
ARCENT	Army Central Command
ARCIC	Army Capabilities Integration Center
ARFORGEN	Army Force Generation
ASCC	Army Service Component Command
ASO	AFORGEN Synchronization Order
ASV	Armored Security Vehicle
ATA	Army Tasking Authority
AWG	Asymmetric Warfare Group

AWPS	Army Workload and Performance System
BCT	Brigade Combat Team
BIMA	Biometrics Identity Management Agency
BTF	Biometrics Task Force
CBO	Congressional Budget Office
CDR	Commander
CDRT	Capabilities Development for Rapid Transition
CEF	Contingency Expeditionary Force
CJCS	Chairman of the Joint Chiefs of Staff
COCOM	Combatant Command
CoE	Center of Excellence
COIN	Counterinsurgency
CONOPS	Concepts of Operation
COTS	Commercial Off-The-Shelf
CRA	Chairman's Risk Assessment
CSA	Chief of Staff of the Army
CSH	Combat Support Hospital
CTA	Common Table of Allowance
DA	Department of the Army
DEF	Deployment Expeditionary Force
DoD	Department of Defense
DOTMLPF	Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, and Facilities
DRRS	Defense Readiness Reporting System
DSB	Defense Science Board
DTMS	Digital Training Management System
ECOP	Equipment Common Operating Picture
EDR2B	Equipment Deployment and Redeployment Resource Board

EOH	Equipment on Hand
ERC	Equipment Readiness Code
E-TDA	Equipment-Only Table of Distribution and Allowances
FCS	Future Combat Systems
FDU	Force Design Update
FOA	Forward Operational Assessment
FORSCOM	U.S. Army Forces Command
FSO	Full-Spectrum Operations
GAO	Government Accountability Office
GFM-DI	Global Force Management–Data Initiative
GOTS	Government Off-The-Shelf
GSORTS	Global Status of Resources and Training System
HBCT	Heavy Brigade Combat Team
HQDA	Headquarters, Department of the Army
IBCT	Infantry Brigade Combat Team
IED	Improvised Explosive Device
ILO	In-Lieu-Of
IMPAC	International Merchant Purchase Agreement Card
ISR	Intelligence, Surveillance, and Reconnaissance
JCCA	Joint Combat Capabilities Assessment
JCIDS	Joint Capabilities Integration and Development System
JFRR	Joint Forces Readiness Review
JIEDDO	Joint IED Defeat Organization
JUONS	Joint Urgent Operational Needs Statement
LAD	Latest Arrival Date
LIN	Line Item Number
LIW	Logistics Information Warehouse
LMP	Logistics Modernization Program

LOE	Letter of Exemption
MACOM	Major Command
MEDCOM	Army Medical Command
MEEL	Mission-Essential Equipment List
MET	Mission-Essential Task
METL	Mission-Essential Task List
METT-TC	Mission, Enemy, Troops, Terrain, Time, Civilian
MMEWR	Minimum Mission Essential Wartime Requirements
MOS	Military Occupational Specialty
MOSQ	Military Occupational Specialty–Qualified
MRAP	Mine-Resistant Ambush Protected
MSCoE	Maneuver Support Center of Excellence
MTOE	Modified Table of Organization and Equipment
NSE	Nonstandard Equipment
NTC	National Training Center
O&M	Operations and Maintenance
OCIE	Organizational Clothing and Individual Equipment
OCO	Overseas Contingency Operations
OEF	Operation Enduring Freedom
OIF	Operation Iraqi Freedom
ONS	Operational Needs Statement
OPLAN	Operational Plan
OPTEMPO	Operational Tempo
PDSS	Pre-Deployment Site Survey
PEO	Program Executive Officer
PME	Professional Military Education
PMEQ	Professional Military Education Qualified
QRRC	Quarterly Readiness Report to Congress

RAB	Regionally Aligned Brigade
RDECOM	Research, Development, and Engineering Command
REF	Rapid Equipping Force
RFI	Rapid Fielding Initiative
SBCT	Stryker Brigade Combat Team
SECDEF	Secretary of Defense
SIGINT	Signals Intelligence
SRC	Standard Requirements Code
SROC	Senior Readiness Oversight Council
SRU	Strategic Readiness Update
TAV	Total Asset Visibility
TDA	Tables of Distribution and Allowances
TF	Task Force
TOE	Table of Organization and Equipment
TPE	Theater-Provided Equipment
TPFDD	Time-Phased Force and Deployment Data
TRADOC	U.S. Army Training and Doctrine Command
TTPs	Tactics, Techniques, and Procedures
UMR	Unit Manning Report
UON	Urgent Operational Need
USFOR-A	United States Forces–Afghanistan
USR	Unit Status Report
VSO	Village Stability Operations

CHAPTER ONE

Introduction

Background

"Army readiness" is the ability of the Army to serve the nation. It includes the capabilities of the Operating Force and the Generating Force as well as intangible factors that significantly contribute to overall preparedness, such as Army values, doctrine, strategy, programs, policy, and processes. Both the law and military operational requirements require the Army to track its readiness, gauge shortfalls, and assess the associated risk. The Army must have effective processes for evaluating readiness to make and implement critical resourcing decisions, and to articulate significant shortcomings to Congress and to the military community. Determining the state of Army readiness requires the continuous, complete, and systematic analysis of its many elements—some that can be objectively measured and some that must be subjectively assessed.

The Army's readiness reporting system must answer the needs of many different stakeholders and consumers, who often are interested in different aspects of readiness, from the tactical to the strategic, from readiness for the mission at hand to readiness for operational plans or national strategy. Perhaps because of the many demands made on the reporting system, in the best of times it has fallen under criticism for a variety of weaknesses or problems.

Purpose

The turbulence of the last ten years, including two wars, the transition to modularity, and the adoption of the Army Force Generation (ARFORGEN) model, with its dynamic approach to readiness, have added to both the strain and the scrutiny. The readiness reporting system is asked to do more and to do so in a reality that no longer matches the one in which the system had been designed. It is in this context that the Army asked RAND Arroyo Center to assess the reporting system.[1]

Our initial review of the relevant literature (summarized in Appendix A) revealed that many of the issues and problems associated with the reporting system are well known. These include the following:

- The accuracy and comprehensiveness of metrics
- Conformance with formal doctrine
- The efficacy of data entry, management, and reporting tools
- The sufficiency of reporting on prepositioning programs and installations
- Adaptation to modernization initiatives
- Relevance across components (i.e., active versus reserve)

The Army is actively dealing with these issues. Moreover, after scrutinizing the current state of the Army as described by Army officials and the literature related to readiness, we conclude that, notwithstanding some very real problems, the readiness reporting system works. What the literature has not adequately addressed, however, is the extent to which the Army has changed in the past ten years as it has adapted to emerging operational requirements. What do the changes mean for readiness? What do they mean for the readiness reporting system? To what extent does the reporting system capture the changes or an appreciation of them? These questions are the focus of the present study.

[1] This study was finished in September 2012 and is now being released per client approval.

We can also affirm that the relevant Army systems work. The Army has developed an impressive capacity to provide units with new capabilities to meet emerging requirements rapidly and flexibly, despite the comparative slowness of the documentation process. In addition, the Army has the means to capture the new equipment and its import for readiness, although not without some important limitations. These are related to the fundamental challenge of reporting readiness for a *different* Army than the one for which the readiness reporting system was originally intended. These challenges often boil down to a basic tension between preparing an Army for assigned missions that are sometimes different from their designed mission. At the same time, the Army is required to report readiness for either mission or both missions to different consumers who, in turn, are interested in either or both. The nature of current operations has forced unit inventories, staffing, task organization, training, and capabilities to deviate in myriad ways from the baseline of the designed force. The ability of readiness reporting to capture that drift is uneven, although the significance of either the deficiencies in the reporting or the deficiencies that it captures is admittedly unclear.

Approach

This study was based on numerous data sources: detailed discussions with Army, Joint, and other service officials on readiness reporting and rapid capability development; scrutiny of unit-level Army readiness data, strategic readiness updates, Joint and Office of the Secretary of Defense reporting databases, and similar readiness documents and online resources; deep literature review from readiness reporting auditors such as the Government Accountability Office (GAO); a case study of a single deploying infantry battalion on its readiness reporting concerns and challenges; case studies of various equipment pieces; scrutiny of the HQDA-sponsored "MTOE Scrubs" inputs, outputs, and strategic findings; various data sources from official Army requirements and force management systems; and detailed collections of rapidly acquired capabilities. We were unable to conduct case studies of

other infantry battalions, obliging the one battalion we studied to carry a heavy burden, analytically speaking. During the study, RAND Arroyo Center produced interim draft reports that contained our key analytic and quantitative findings. This report does not repeat those earlier products but instead provides overviews of them and synthesizes main insights drawn from them.

Limitations of This Study

This study focuses on capabilities that have been built to meet ongoing needs and have thus prompted many readiness reporting concerns. There is a bias in this study toward discussing equipment largely because of the bias that exists within readiness reporting, which focuses primarily on equipment, although, like the reporting itself, skills and training are also of concern. In addition, this document focuses primarily on lower-level readiness reporting, chiefly unit-based reporting.

Lastly, the bottom-up reporting that is the basis of readiness reporting is contingent upon plans for the use of equipment, people, and training. It should be noted that only limited empirical data exist to identify which specific capabilities units lack—if any—when they deploy or that evaluate how well a unit performed in relation to missing capabilities.[2] This information, though potentially of great value, falls outside the current study.

Navigating This Report

Following this introduction, Chapter Two examines in detail the Army's ability to provide units with new capabilities and equipment

[2] Post-combat surveys administered by TRADOC centers of excellence, along with various unit after action reports, contain some information, but we do not know of a coherent, empirical study to determine what was missing in a given unit's deployment, *a posteriori*. The summation of all capabilities being given to a unit (MTOE or otherwise) or requested by a unit (ONS or otherwise) may not be the sum total of all capabilities that the unit needed to be truly ready.

rapidly in response to emerging requirements, notwithstanding the typical pace of the documentation process. The chapter establishes that the Army has changed considerably and details how the Army has done this.

Chapter Three expands on the previous chapter and examines how the Army captures the changes in readiness reporting. At the heart of both chapters is the relationship between readiness reporting and authorization document—like the Modified Table of Organization and Equipment (MTOE), the document that authorizes specific items and personnel for a unit. Readiness reporting relies to a tremendous extent on the MTOE,[3] which in most cases provides the denominator against which units are assessed. New equipment often is not (yet) incorporated into the MTOE, which causes problems for readiness reporting, particularly when one considers that the new materials tend to bring new or significantly improved capabilities. Sometimes those are accounted for, and sometimes they are not. Related to this are two other issues, which Chapter Three explores at length: the tension between the assigned mission and the designed mission (the MTOE being tied to the designed mission), and the ramifications of ARFORGEN.

Chapter Four builds on the previous discussions of readiness and equipment to consider capabilities more broadly. The adaptations made for assigned missions have amounted to deviations from force design in a variety of ways, with the result that Army units today are more capable in some ways and less in others. More to the point, they have drifted with respect to "full-spectrum operations" in the sense that they are likely to be less capable of the entire spectrum than the readiness reporting might appear to indicate. The reporting tends not to report the drift with any precision, nor does it communicate any appreciation for what it might mean with respect to the unit's readiness.

[3] Throughout this report we use MTOEs and Tables of Distribution and Allowances as examples of authorization documents to help clarify the discussion. Other documents exist that would fall into similar discussion.

Finally, Chapter Five pulls together previous insights and offers a number of recommendations for ways in which the Army can improve the readiness reporting system.

CHAPTER TWO

Building New Capabilities and Readiness Reporting

One of the challenges of the past ten years that has caused concern both for Army readiness and the Army's readiness reporting system has been the need to furnish units with new capabilities to meet emerging operational requirements. On the one hand, there is the organizational challenge of responding to new requirements in a timely manner, notwithstanding the fact that the new equipment is not part of the standard Modified Table of Organization and Equipment (MTOE), the new capabilities are not necessarily in adherence with units' design or intended purpose, and the conventional procedures for authorizing new gear and capabilities are too slow. On the other hand, there is the question of whether or not the readiness reporting system can keep up with changes and communicate an appreciation for what they mean for the Army in terms of unit capabilities and unit readiness. As we shall see, part of the reason for concern has to do with the intimate nature of the relationship between readiness reporting and the MTOE. The MTOE provides the basis of readiness reporting, meaning that anything that alters the MTOE or exists outside it affects readiness reporting. This chapter first describes the nature and intent of the MTOE, which does not currently include the ability to integrate rapidly acquired capabilities in real time. Second, we describe some of the Army's efforts to accelerate the provision of capabilities to units that are not in their MTOEs, notwithstanding the MTOE process. Third, we describe how the Army system includes those new capabilities in readiness reporting. Lastly, we provide ideas on how better to institutionalize rapid capabil-

ity development, and how better to incorporate those capabilities into readiness reporting.

About the MTOE

A unit's MTOE is the cornerstone of unit-level readiness reporting. It contains equipment, personnel, organizational information, and language about the capabilities that a given unit brings to the fight. The MTOE document, when combined with doctrine and other material, defines the unit and thus provides a baseline for reporting its readiness. As such, it is an expression of the unit design, which means that it is aligned with the unit's designed mission, i.e., the mission or set of missions the unit is designed to be able to conduct. It follows that the Army can control broad design changes through the process of rewriting MTOEs. During the 2000s, for instance, the Army changed to a modular, Brigade Combat Team (BCT) based force, which entailed wide-reaching changes to unit equipment and personnel.[1] The Army pulled apart and rebuilt units so that they would have more and different capabilities.

MTOEs are slow to change, and with good reason. Besides expressing a consensus regarding what units should be able to do, having a stable MTOE facilitates the many processes that are based on it. Historically, a unit might receive an update to its MTOE annually. More recently, the Army has been timing MTOE updates according to the Army's Force Generation cycle (ARFORGEN). Units should now receive new MTOEs in the Reset phase, though out-of-cycle updates are still possible. Updates to the MTOE are not done in isolation. A given unit's MTOE is derived from higher-level documents (the TOE), which are applied to multiple "like" units in nuanced ways to account for modernization and other factors. Changing a unit's MTOE sepa-

[1] Note that the "modularity" changes were accompanied by "grow the army" and rebalancing among Active and Reserve units—all of which entailed changing the baseline or denominator against which the Army reports readiness. See Stuart E. Johnson et al., *A Review of the Army's Modular Force Structure*, Santa Monica Calif.: RAND Corporation, TR-927-2-OSD, 2012.

rately from that of other units can disrupt the standardization that is necessary for managing and developing the force.

MTOEs constitute a baseline from which to deviate and adapt to ongoing, near-term, and far-term operations. Reporting readiness against the MTOE therefore conveys only part of the picture, both because the MTOE is only aligned with the designed mission, and because it contains only a portion of the total equipment and resources necessary for an assigned mission. During times of relative peace or minimal deployment, the MTOE might very closely reflect what a unit has and match its plan for the near term. In that context, MTOE-based ratings would fairly accurately reflect a unit's readiness vis-à-vis its design. During the past ten years of war, however, units have acquired new capabilities prior to and during their deployment, and their plans change regularly as operational information flows back to the training base. The MTOE is therefore less relevant as a near-term gauge of unit readiness, and it needs to be supplemented by an indication of the extent to which a unit has deviated from that design (e.g., by counting additional equipment and personnel, and noting additional training and the capabilities that result from it).

Given the deliberate nature of equipment and personnel development in the Army, one might expect that any efforts to stand up new capabilities for an evolving operational environment would be slow and ineffective. However, this turns out not to be the case: the Army has managed to identify, source, and distribute new capabilities with impressive speed. This has been accomplished outside the MTOE update process through a variety of mechanisms, several of which are outlined below.

How Units Acquire Equipment That Is Not on Their MTOE

Units have several local, institutional, or enterprise-level options by which they can receive items necessary for garrison and deployed operations. Normal business practices exist that provide the necessary resources to bring capabilities to units that need them, capabilities that may or may not be captured in their authorization documents.

The flexibility and rate of procurement are increased just prior to and during deployment, when a priority is placed on getting the warfighters what they need when they need it. Table 2.1 categorizes some major sources of equipment beyond the basic process of resupplying MTOE items. For the purposes of this report, we will focus on larger items that units rapidly acquire.

Rapid Capability Delivery

From 2001 to 2010, the Army received over $120 billion in supplemental war funding for procurement. Over the same time period, base procurement levels increased approximately 40 percent.[2] This additional funding was used in part to purchase equipment over and above originally planned acquisitions—those items typically included in MTOEs. These "extra" purchases can be split loosely into two categories:

1. **Accelerated modernization and expanded fielding of standard equipment.** The Army modernized its vehicle fleets more rapidly and completely than originally planned. For example, in 2000, the Army planned to upgrade 1,100 Bradley fighting vehicles to the most advanced A3 variant. By 2009, over 2,400 had been so upgraded. A similar story holds for the Stryker, the Abrams, and a number of support vehicles. Additionally, the Army expanded and accelerated fielding of its small arms, including the M4 carbine, the M249 and M240 machine guns, and the .50 caliber sniper rifle. In all cases, the Army originally planned to field these weapons over decades, whereas they have now been fielded throughout the Army within a single decade.[3]
2. **Rapid development and fielding of nonstandard equipment and capabilities.** In 2011, the GAO found that 47 percent of the equipment in Iraq, accounting for over 500,000 items worth over

[2] Russell Rumbaugh, *What We Bought: Defense Procurement from FY01 to FY10*, Washington, D.C.: The Henry L. Stimson Center, 2011.

[3] Rumbaugh, 2011.

Table 2.1
Categories of Sourcing Solutions and Their Effects on Readiness and Readiness Reporting

Sourcing Solutions	Descriptions and Examples	Effects on Readiness and Readiness Reporting
RESET Programs (may also include retrograde here or as stand-alone)	Increased activity in general at all levels up through depot (or resupply) level.	OCO have increased the maintenance requirements and items returned to the central fleet managers.
Growth in MTOE/ TDA capabilities (with requirement)	General modernization of units. Modularity, and other design decisions, creating additional demand. Buildup of TPE and theater installation property books.	Trends expected over time, with some changes in curve. Supply/demand driven. Changes in MTOEs are tracked; although the reporting captures the changes, it does not communicate the scale of the change, and much information is lost as information is aggregated.
Centrally procured and managed items above MTOE required items (METT-TC driven)	Rapid acquisition, given directly to units, or otherwise added to the Army without formal requirement.	More capable units, under-represented in readiness reporting: many technologies bought and not included as reportable requirements.
Unit-level procured and managed items above MTOE requirements (METT-TC driven)	Money spent through various means such as contracting and IMPAC cards.	More capable units (possible), under-represented in readiness reporting.
Modernization programs	R&D upgrades and places technology in the fight sooner.	Under-represented reporting of increases in quantity and capability.
Over-resourcing because of poor distribution, asset visibility, documentation, and reporting system shortfalls	Procuring items that would not be needed if stocks were better distributed or tracked. Cost of distribution higher than simply buying more.	If distribution is a problem and some units are over-resourced and others under, equipment gaps among under-resourced units will be visible, but the large problem may remain invisible.

> $4 billion, was nonstandard. While this nonstandard equipment (NSE) runs the gamut from fairly mundane items (construction equipment, flat-screen televisions) to truly new military capabilities (unmanned aircraft for ISR, SIGINT equipment), much was developed and acquired in response to urgent operational needs (UONs). The GAO figure does not include equipment obtained outside of standard deliberate Army acquisition processes but later converted into standard equipment and incorporated into MTOEs or Tables of Distribution and Allowances (TDAs). The most notable type of equipment in this latter category is the Mine-Resistant Ambush Protected Vehicle (MRAP), of which the Army has only in the last year authorized nearly 4,000 (of 16,000+ vehicles on hand), primarily in TDAs.[4]

Each of these procurement types can present problems for evaluating unit readiness through the Army's current reporting systems. The increased capability of units due to upgraded and modernized equipment—in many cases capability significantly over and above the standard called out by the MTOE—is not communicated in a way that makes the added benefit clear. Meanwhile, units are rapidly acquiring nonstandard equipment because they perceive capability or readiness gaps with respect to their assigned missions, gaps that may not appear in an MTOE. As with the modernization program, the increased capability provided by the rapidly acquired nonstandard equipment will not be captured until that capability migrates into standard equipment and is incorporated into MTOEs.

This chapter focuses on the second type of procurement, rapidly developed and fielded nonstandard capabilities in response to urgent operation needs. It is here where Army units departed most significantly from their original MTOEs.

---

[4] FMSWeb, May 22, 2012. (FMSWeb is an online website with force management data for the Army.)

Rapid Acquisition Organizations

At the outset of operations in Iraq and Afghanistan, the Department of Defense (DoD) and the Army had a limited ability to respond to urgent operational needs. Over time, the Army established organizations and processes to facilitate rapid acquisition and response.[5] For the most part, the Army did not create the rapid-response organizations in a systematic manner; on the contrary, the Army improvised in response to urgent needs. Further, the Army organizations are not yet fully institutionalized, and in most cases, their future role as operations wind down is not yet defined. These organizations represent something of a laboratory for rapid capability development. They have different mandates and are largely independent of each other. The focus of the organizations can be loosely classed into a few areas, as indicated in Table 2.2.

Other organizations that have developed equipment for the Army include the Joint IED Defeat Organization (JIEDDO), and the MRAP Task Force. A large quantity of the items developed or fielded, including the work of these organizations, has focused on counter-IED and related protection needs in counterinsurgency operations. A few of these key organizations are discussed further in Appendix B.

How Effective Has Accelerated Capability Development Been?

There have been several reviews and studies that focus or touch on DoD and Army accelerated capability development (ACD) processes and organizations over the last several years. These include studies by the Defense Science Board, the Government Accountability Office, and RAND Arroyo Center.[6] Among their findings is the observation that current approaches to ACD are largely ad hoc and are not well codified in Army doctrine.[7] The Defense Science Board found that

---

[5] Defense Science Board (DSB), "Report of the Defense Science Board on the Fulfillment of Urgent Operational Needs," Defense Science Board, July 2009.

[6] DSB, 2009; GAO, 2010c; GAO, 2011e; GAO 2011f; Porche et al., 2011; Drezner, 2010..

[7] DSB, 2009; GAO, 2010d.

Table 2.2
Types and Examples of Rapid-Response Organizations in the Army

Focus	Example	Details
Rapid reaction to urgent need	Rapid Equipping Force (REF)	Created in 2002 Responds directly to urgent needs, delivering COTS/GOTS solution within 90 days 800+ solutions delivered to date Coordinates with PEO/PMs and CDRT to transition capabilities
Rapid development of a new capability	Biometrics Task Force (now BIMA)	Created in 2006 Develops and integrates biometric capabilities Transitioning to official FOA within G-3/5/7
Rapid and efficient fielding	Rapid Fielding Initiative (RFI)	Launched in 2002 by PEO Soldier Aims to supply every soldier/unit with most advanced equipment Continually revising equipment list and updating components Mostly equipment not typically associated with an MTOE PEO Soldier is institutionalizing RFI

NOTE: BIMA = Biometrics Identity Management Agency; COTS/GOTS = Commercial and Government Off-the-Shelf; PM = Program Manager; PEO = Program Executive Officer; CDRT = Capabilities Development for Rapid Transition; FOA = field operating agency.

"DOD has done little to really adopt urgent needs and rapid acquisition as a critical, ongoing DOD institutional capability essential to addressing future threats."

The studies have also found that the current ACD process lacks sufficient oversight, visibility, and cost and performance data availability. The GAO found that "DOD lacks visibility over the full range of its urgent needs efforts . . . including tracking the solutions developed in response to those needs." This lack of oversight affects decision making during processes such as the Capabilities Development for Rapid Transition (CDRT) process, where nominated systems cannot easily be compared to other similar systems in order to identify the best option. The GAO also found that there was no senior-level DoD focal

point to lead the ACD process.[8] Moreover, the GAO has voiced particular concerns regarding the Army's CDRT process, even though it is the most well-defined of these transition processes among the services and is generally well-reviewed. The GAO questioned whether CDRT is aggressive enough about making disposition decisions. In fact, well over half of the capabilities evaluated in the process have been rated "Sustain," deferring final disposition decisions. The GAO also questions whether the best solutions are being identified during CDRT evaluation, noting the lack of visibility into the universe of nonstandard equipment.

Another concern brought up by the ACD studies is the potential for the Army to lose this capability once wartime operations wind down, and as the demand signal and funding for rapid response decline (recall that the historical peacetime pace of ONS is approximately 3 percent of current levels). It is at best unclear whether a robust, effective ACD process can be maintained given pressures to economize. The problem with losing a rapid response capability or letting it atrophy in peacetime is that it is most needed at the beginning of a conflict, meaning that if that capability is not already in place, there will invariably be a delay until Army organizations get back up to speed or the Army organizationally reinvents the wheel.

New Capabilities and Readiness Reporting

Given the significant investments made to integrate new capabilities, the questions from a readiness reporting standpoint are: Are the new capabilities reported, and if so, where? Our analysis of the CDRT process[9] found that only five systems transitioned through the CDRT process have been authorized on MTOEs and/or TDAs.[10] The total autho-

[8] GAO, 2011b.

[9] The CDRT process is further described in Appendix B.

[10] Note that one of these systems, the ASV, actually existed on MTOEs as far back as 2001, but only for Military Police units—through rapid response, the ASV was far more widely dispersed throughout forces looking for armored vehicles.

rization for transitioned equipment in MTOEs/TDAs amounts to $3.1B, but $2.4B of that is the armored security vehicle (ASV). Three other systems are on the Common Table of Allowances (CTA), and nine more CDRT-evaluated items can be found on the Army's In-Lieu-Of (ILO) lists. Once again, it is important to recall that the MRAP has also been partially transitioned to standard equipment and now appears on TDAs, although this occurred outside the CDRT process.

Overall, with the notable (and extremely recent) exception of the MRAP, rapidly delivered capabilities have made a minimal impact (at the time of this writing) on Army MTOEs and thus many of the capabilities are not reported in MTOE-based readiness reporting metrics. In many ways, not including rapidly acquired capabilities on MTOEs is not only expected, but is also preferred. Rapidly developed capabilities are generally not optimal—they are 80 percent solutions. It is likely undesirable to modify equipment lists and requirements to accommodate less-than-ideal solutions that have not been fully vetted or optimized, and for which suppliers, costs, and other considerations have not been fully explored.

Table 2.3 summarizes some of the categories of ACD, how they are captured by readiness reporting, and how they affect the actual readiness of units. In the left-most column, the table indicates the type of ACD organization or component of the ACD process. The second column gives examples of specific ACD initiatives (e.g., RFI) where they exist today. The third column lists typical products for this ACD component. The fourth column indicates whether or not the ACD's effects would be visible in standard MTOE-based unit readiness reporting. The fifth column notes whether the ACD's effects would be reflected in property accountability documents: property books, hand receipts, Army Total Asset Visibility software, or other systems. The final column offers a characterization of the ACD's impact on true unit readiness (as opposed to readiness reporting).

The table indicates that not all of the ACD products will be visible through unit readiness reports, though all are visible in the property accountability system. The far-right column summarizes each ACD's contribution to unit readiness—the problems it addresses—but the fact that the unit confronts these problems will not always be appar-

Table 2.3
ACD's Influence on Readiness Reporting

ACD Component	Example of ACD Component	Typical Products	Visible in Unit Readiness Reporting?	Visible in Property Books, Army TAV	Expected Impact on Readiness
Accelerated modernization of standard equipment	PEOs	Combat and tactical vehicles, small arms, crew-served weapons	Yes, after MTOEs updated to reflect modernization.	Yes	Delivers most advanced materiel to units, upgrades unit capability.
Rapid development and fielding of non-standard equipment	BIMA AWG MRAP TF	MRAP Biometric tools	No	Yes	Addresses tactical and strategic capability gaps.
Statements of urgent operational needs	ONS JUONS	Validated requirement	Commander's comments may identify readiness gap.	N/A ONS status visible and traceable in ECOP online.	Identifies and validates urgent tactical requirements, readiness gaps.
Rapid-response organizations	REF	COTS solutions PackBot WellCam	No	Yes Development and response cycle time traceable.	Addresses tactical capability gaps.
Planned rapid fielding	RFI	Organizational clothing and individual equipment	No	Yes Standard equipment lists maintained by RFI, fielding efficiency traceable.	Equips individual soldier & unit for terrain- or mission-specific conditions.
Specialized units	N/A	N/A	Yes, in the unit-specific MTOE.	Yes	Addresses potential capability gaps.
Transition of NSE to standard acquisition processes	CDRT	New acquisition programs Updated MTOEs	No. Systems transition to JCIDS—still long cycle time to reach MTOEs.	N/A Visible in CDRT decision documentation. Progress traceable in JCIDS.	Accelerates development and availability of new capabilities.

ent from the unit readiness report. Critical contextual information is sometimes missing. For example, a unit might have been given a new mission, e.g., route security, and thus what matters is that new equipment may have made it more survivable against IEDs or in urban combat than the unit would have been had it adhered more strictly to its MTOE, which was tailored for a different mission.

Findings

The above discussion establishes that the Army has responded to urgent operational needs. That said, a few insights have emerged that merit attention:

Accelerated Capabilities Development has significantly increased the Army's capability and readiness for its current mission, but these improvements are not captured in MTOE-based readiness reporting. Since ACD is inherently focused on addressing capability gaps associated with assigned missions, and these gaps are largely addressed with NSE (or nonstandard TTPs), MTOE-based reporting will not account for the gaps or the increased unit effectiveness. Processes to transition NSE to standard equipment and make it available for inclusion in MTOEs are deliberate. If the Army wishes to capture these capabilities in readiness reporting, it will need to look beyond the MTOE and include additional data and metrics.

The Army has yet to develop a robust, systematic, and enduring set of processes and organizations for ACD. At the outset of operations in Iraq and Afghanistan, the Army was ill-prepared to respond to UONs, the vast majority of which arose from the shift away from the designed mission to an assigned mission, counterinsurgency operations. In time, the Army and DoD have implemented processes and organizations to facilitate ACD. However, the doctrine defining and supporting these processes lacks detail regarding authority, oversight, and structure. There are no systematic plans in place for the continuation of these capabilities in peacetime, and the Army does not collect data on the effectiveness of rapid acquisition processes in a systematic way for use in identifying best practices.

Maintaining rapid-response capability in peacetime will be challenging, but it is critical that this capability is in place at the beginning of major operations. The rate of UONs increased by over an order of magnitude upon entering into major operations in Iraq and Afghanistan. Wartime demand for rapid response, combined with availability of supplemental funding, enabled the creation and maintenance of a substantial rapid-response capability. During peacetime, when the demand signal dwindles and supplemental funding disappears, the Army is unlikely to be able to maintain these rapid-response organizations on a full-time basis.

Conclusions

Authorization documentation such as MTOEs fulfills many needs but evolves slowly over time, too slowly to capture many enhancements the Army might need in ongoing operations. The myriad ACD processes developed in the past decade brought new capabilities to units in response to the very dynamic operational environment. As one might say, no plan survives first contact with the enemy, and the MTOE, as a plan for equipment and personnel to fight, is no different.

In a conflict similar to the present ones, involving a significant shift away from previously designed missions and an influx of rapidly delivered capabilities, standard MTOE-type readiness reporting necessarily will diverge from actual requirements and capabilities in the field. From that standpoint, readiness reporting will necessarily misreport the readiness of units that are being updated and built for assigned missions faster than the deliberate force management process documents their changes. The further incorporation of ACD somewhere into readiness reporting is still necessary should the Army still be concerned about getting "credit" for the boost to readiness brought about through the acquisition of new equipment or new training regimens. Therefore, we must look to other information sources to incorporate better ACD into readiness reports. The inherent flexibility in the reporting system to incorporate new capabilities, and some of the new

means of capturing large perturbations in MTOEs, are the subject of the next chapter.

CHAPTER THREE

Exploring the Value of the MTOE for Readiness Reporting

Chapter Two showed how the Army builds new capabilities outside the MTOE process. While there were many areas for improvement, the general ability to acquire capabilities as needed is available and undergoing consolidation and enhancement. The question that logically follows is: Given all those changes outside the MTOE, is the MTOE still a valid basis for defining and measuring Army readiness? The question applies both to whether units manned and equipped to MTOE are ready to do what the Army requires of them, and more narrowly to what that means for readiness reporting. To address this question, we expand on our previous discussion of the MTOE by examining its purpose and its use in defining unit readiness. We then focus on ways the Army has demonstrated flexibility to provide for units both within and outside the MTOE. Given the realities of ARFORGEN, which presents particular challenges to readiness reporting, does it make sense to base so many of the readiness metrics on the MTOE? To respond to these questions, we explored the nature of the MTOE's equipment and personnel in describing what an Army unit is readying to do. The answer, in brief, is that the MTOE is not "wrong," but the Army has taken necessary steps to move beyond it for both readiness and readiness reporting, and it perhaps should consider further such steps.

The MTOE and Readiness Reporting

The MTOE is the basis for the unit status report (USR). Per Army Regulation (AR) 220-1, "[The C-Level] is derived from four measured areas that indicate the availability status of resources (personnel and equipment) and unit training proficiency measured against the designed capabilities derived from the unit's MTOE or TDA."[1] The MTOE, however, is not just a convenient standard for readiness reporting, but an outcome of the Army's efforts to design and resource a ready force. An MTOE prescribes the organization, personnel, and equipment for a specific unit to perform a full-spectrum mission at a point in time. MTOEs are doctrinal models for unit types that specify the Minimum Mission Essential Wartime Requirements (MMEWR) capability to perform a defined full-spectrum mission. MTOEs are TRADOC-developed and HQDA-approved, the product of a force design process that marshals the Army's best information on the capabilities a unit type needs if it is to perform full-spectrum operations, and the personnel, equipment, and structure that will generate those capabilities. The MTOE thus represents the Army's position on what a given unit needs to perform its designated mission; that design and that mission exist in the context of unit designs for an entire, ready force. Further, these requirements and authorizations documents have application well beyond readiness. They are used to drive execution of HQDA decisions and synchronize the appropriate delivery of resources, and they affect everything from programming and budgeting to line item number (LIN) management to manning.

While MTOEs have long underpinned the Army's assessment of its readiness, the service has taken steps in recent years to make MTOEs more *precise* standards for what it means to be ready. Until recently, each item on a unit's MTOE was assigned one of four Equipment Readiness Codes (ERCs): A, B, C, and P, which in effect categorized it according to its perceived importance for readiness. Readiness

[1] AR 220-1, "Army Unit Status Reporting and Force Registration—Consolidated Policies," Headquarters, Department of the Army, April 15, 2010, p. 13. For the sake of simplicity, and also because operational units are far more likely to be MTOE units, TDAs are not discussed directly in the following text.

was and is reported against ERC A and P equipment. Each is defined below, based on definitions in AR 220-1:

- **ERC A, P**: "Principal weapon/mission systems and equipment . . . which are critical to the accomplishment of primary doctrinal, mission tasks, and critical mission support items."
- **ERC B**: "Auxiliary equipment (AE) and/or associated support items of equipment (ASIOE) that are required to support ERC A or P equipment."
- **ERC C**: "Auxiliary support equipment (ASE) and/or associated support items of equipment (ASIOE) that are required for unit sustainment and to perform administrative or other support tasks that have little or no immediacy to sustainment of OPTEMPO."

In 2006, the Army established a task force to ensure that only the minimum mission essential wartime required items were included in MTOEs. The result of this task force was to purge the MTOEs of outdated, obsolete, or no longer required items and reclassify items appropriately. By early 2007, the Army had made a deliberate change to reclassify items that were B or C as A or P.[2] This had the effect of limiting MTOEs to those items considered essential to accomplishing units' wartime missions, and leveled the field in terms of the funding priority for individual items. Some of the concerns at the time were that this change would create readiness reporting problems, in that a larger percentage of equipment on a unit's MTOE would be subject to reporting. In addition, as some of the equipment was not deemed MMEWR, a concern was that those would be underfunded and produce additional problems in equipping a unit. Broadly speaking, the MTOE was becoming a more "precise" list of items necessary for a unit to fulfill its wartime mission, and there has been some controversy regarding what this policy means for both readiness and readiness reporting.[3]

---

[2] ALARACT 027/2007, "Minimum Mission Essential Wartime Requirements (MMEWR)," February 7, 2007.

[3] HQDA G-3/7 FM, "Update on ERC TF Proposal to Change Equipment Readiness Code (ERC)," briefing, August 1, 2006.

Having a precise MTOE makes sense given the need to have a list of items and personnel from which to build a unit. The desire to simplify, centralize, track, and control those documents is part of managing a large force with many moving parts. Reporting against those documents can then become formulaic—it can consist of calculating the numbers of personnel and equipment underpinning unit-level readiness—and it makes simplifying assumptions about the validity of those items as they are combined with training to produce units of certain capabilities.

A Flexible MTOE-Based Reporting System

Although the MTOE increasingly represents a more precise definition of a unit's requirements, the unit-level reporting based on the MTOE has become more flexible. That is, as monolithic as the MTOE and reporting structure surrounding it seem to be, the Army has developed flexible processes to reflect senior leaders' and unit leaders' intent, and to adapt to ongoing changes in operational environments and trends in technology.

The flexibility provided by these mechanisms allows the Army to define a very specific idea of what is essential for a unit to do its assigned mission. Readiness reporting policy offers three main ways to "flex" equipment on-hand (EOH) reporting away from the LINs listed on a specific MTOE:

- letters of exemption (LOEs)
- authorized substitutes
- in-lieu-ofs (ILOs).

LOEs are waivers for equipment reporting, allowing units to forgo reporting on specified LINs. They can apply to specific units or to the Army at large. A blanket exemption is given to some classes of LINs, like those new to the force (e.g., ZLINs) in some circumstances. LINs eligible for exemption have doubled from 2008 through 2011, though the overall number is still only about 3 percent (excluding ZLINs) of

all Army required LINs. Broadly speaking based on this number, a brigade might have 400 items to report readiness on, and about 10 of them would be exempt from reporting. About half of LOEs are for a specific unit, and are not Army-wide.[4] Our analysis of the LOEs found that as of December 2011, roughly two-thirds of them were issued because the item was obsolete, unavailable (e.g., the paperwork preceded the actual delivery of the item), or suitable only for training purposes.

Authorized substitutes are an official designation that one item can substitute for another item when reporting readiness. The volume of potential authorized substitutes has also grown in recent years, both in absolute numbers and relative to all Army LINs. HQDA, in consultation with other stakeholders, determines when one LIN can substitute for another for readiness reporting purposes, and it records the official list in Supply Bulletin 700-20, Appendix H. The standard is fairly stringent—a substitute must fill the same capability need and have the same support requirements as the authorized LIN.[5] The number of unique authorized LINs against which a substitute is applied has increased ~25 percent, from 401 to 505, 2008–2011.[6] A single authorized LIN can have multiple substitutes, and can itself be a substitute.

In addition to reporting authorized substitutes in place of MTOE-required LINs, units can also use ILOs to fulfill requirements. Unit commanders have the authority to count nonrequired on-hand equipment in place of required equipment if they judge that the on-hand equipment meets their practical needs.[7] The Army has moved to increase the application of ILOs. In October 2011 it changed the unit readiness reporting software—NetUSR—to autopopulate shortages in

---

[4] RAND analysis of FMSWeb and archive files provided by DAMO-FMF.

[5] Headquarters, Department of the Army, *Centralized Inventory Management of the Army Supply System*, Army Regulation (AR) 710-1, September 20, 2007, p. 154. About half of all requests to add an authorized substitute are rejected, based on LIW data on requests to add authorized substitutes, 2005–2011.

[6] FMSWeb archived version of SB 700-20, Appendix H, compared to November 2011 version of SB 700-20, Appendix H.

[7] Headquarters, Department of the Army, "Defense Readiness Reporting System—Army Procedures," DA PAM 220-1, November 16, 2011, p. 49.

required equipment with other equipment shown as on hand in unit property books, using a pre-established list of potential ILOs.[8] Leadership indicated that it believed EOH readiness reports to be artificially depressed in some cases, as units in fact had suitable equipment on hand with which to fill reported shortages, even if that equipment was not required or formally authorized as a substitute for other MTOE items.

While the Army has introduced increased reporting flexibility through these three options, the MTOE remains the standard for EOH reporting. Each mechanism allows only limited "edits" within the bounds of the capabilities required by the MTOE. They either substitute for or waive an MTOE-state capability, but they do not add to or fundamentally change the requirements on the document. Their use appears modest and appropriate; exploratory analysis on a small sample of unit readiness reports supports this contention. LOEs and authorized substitutes affect a comparatively small share of required LINs. Further, it should be noted that these two mechanisms are HQDA-controlled exceptions, the application of which is transparent, and do not diminish the fidelity of unit readiness reporting.

An Alternative Readiness Standard: Mission Equipping and Assigned Mission Readiness Reporting

The modest flexibility in MTOE-based readiness takes the Army only so far. The wars in Iraq and Afghanistan offer ample evidence of this. They demanded capabilities from Army units that those units were not designed to possess. As discussed in Chapter Three, the process by which MTOEs are updated or otherwise altered is deliberate. That is, it is both too slow to react regularly to changing demands, and any change beyond providing more modern or slightly altered capabilities requires careful thought: the doctrinal models on which MTOEs are based must remain suitable beyond just the fight at hand. The Army therefore needs to develop alternative, non-MTOE methods to define

[8] ALARACT 380/2011, "ILO-M Table in the Net-Centric Unit Status Report (NETUSR)."

and communicate what units need to be ready for specific missions, and alternative, non-MTOE-based approaches to reporting that readiness.

Mission Equipping

Over the course of operations in Iraq and Afghanistan, the Army found it necessary to develop lists of equipment that units needed to have in theater to meet the specific operational requirements in each region. These equipment lists included many nonstandard, or accelerated capability, items as described above, in addition to equipment the unit might already have, and additional equipment available elsewhere in the Army. These equipment lists changed over time as deployed units became familiar with their needs, as the operational environment changed, and as missions changed.

E-TDA. One version of these equipment lists is called an equipment-only table of distribution and allowances (E-TDA).[9] E-TDAs were initially developed by ARCENT in concert with HQDA in 2010, specifically for operations in Afghanistan. The E-TDA is essentially a shadow, equipment-only MTOE that includes a list of equipment a given type of unit will need to carry out a particular mission in a particular geographic region. Units already possess many of the items on the E-TDA from the MTOE, and they can deploy to theater with these. ARCENT also provides some of the items on the E-TDA via theater-provided equipment (TPE). The Rapid Equipping Force (REF), and other agencies, exists to fill the remaining needs. HQDA developed a process by which these E-TDAs would be kept up to date, with units deploying under an E-TDA required to submit recommended changes at two points during their deployment.[10]

---

[9] E-TDAs were used in Afghanistan, while "mission-essential equipment lists," or MEELs, were used in Iraq.

[10] ALARACT 043/2011, "Transition to Equipment Only Table of Distribution and Allowances (E-TDA) in the Combined Joint Operational Area—Afghanistan (CJOA-A)," February 11, 2011.

This process, along with continued oversight from ARCENT, HQDA, and Army Materiel Command (AMC), would make E-TDAs more rigorous and formal than other, earlier mission equipment lists. It is unclear, however, whether any units ever actually deployed with these E-TDAs. Prompted by a continuing need for mission equipping and a renewed emphasis on reducing the logistics burden of transporting equipment to and from theater, HQDA and ARCENT made another effort with E-TDAs in the spring of 2012. HQDA dispatched HQDA E-TDA Assistance Teams to Afghanistan to update the existing E-TDAs. The missions of given units and concomitant equipping requirements had shifted enough, however, that the Assistance Teams started equipping lists from scratch rather than using the old E-TDAs.[11] At the time of this writing (summer 2012), fourteen new, draft E-TDAs await HQDA approval.

While they are now out of date, the E-TDAs provide a helpful look at how far unit equipment lists, when tailored for specific deployments, are from the generic MTOEs, which are based on units' designed missions. Figure 3.1 shows how the individual numbered items (LINs, or line item numbers) fared for an Infantry Brigade Combat Team (IBCT).[12]

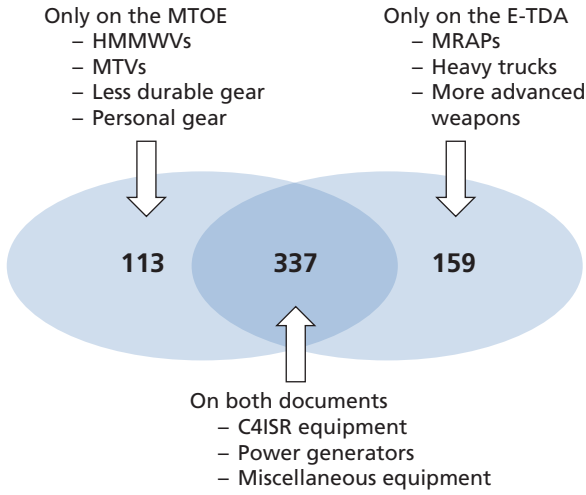
The differences between the MTOE-defined inventory and capabilities and the inventory and capabilities as amended by the E-TDA are significant. As shown in the figure, the well-known MRAPs were not part of units' MTOEs, but were part of the mission-specific equipment lists. Similarly, the HMMWVs—which lost utility as the IED threat grew—were part of the MTOEs but not part of the mission-specific equipment lists. In general, we found that MTOEs included about two-thirds of the LINs called for on its E-TDA.[13] In terms of cost, the E-TDAs are significantly more expensive than the corre-

[11] Headquarters, Department of the Army (HQDA), G-3 CIB, interview, July 12, 2012.

[12] A further breakdown of the data for all 11 units and their corresponding E-TDAs is available in Christopher G. Pernin et al., *Documenting Equipment in an ARFORGEN Army* (U), unpublished RAND research, January 2012. The data in Figure 3.1 are similar to, and thus representative of, the other units examined.

[13] Here, we are basing the comparison on the MTOE from which the E-TDA was built.

Figure 3.1
LIN-Level Comparison of the MTOE and E-TDA for an IBCT



sponding MTOEs. In part, this is because of the quantity of items on E-TDAs, but it is also a matter of capability. The E-TDAs brought considerably more capable technologies to units. For example, an MRAP could cost approximately ten times the typical HMMWV they would replace, while they enabled units to conduct missions that HMMWV-equipped units could not perform.

The E-TDAs were largely made up of theater-provided equipment that units fell in on when arriving in theater.[14] The equipment was sourced through many different mechanisms, and it was brought to units rapidly and outside "normal" channels. In other words, units could adopt at times radically different sets of equipment to meet operational needs.

EDR2B. At the time of this writing (summer 2013), the Army is currently using Equipment Deployment and Redeployment Resource Boards (EDR2Bs) to define equipment requirements for brigades and

[14] Our prior analysis showed about half the dollar value of the E-TDAs was provided as TPE, with wide variance among units. See Pernin et al., 2012.

battalions deploying to Afghanistan. These boards were created only in 2012, and in addition to defining mission equipment requirements, they are focused on minimizing the materiel moving in and out of theater. They do not necessarily replace E-TDAs, but do offer a mechanism for generating more up-to-date equipment requirements.

As part of the EDR2B process, deploying units start with an initial mission equipment list provided by ARCENT, which, where applicable, could be an E-TDA.[15] Units then refine the list based on their assessment of requirements and a Pre-Deployment Site Survey (PDSS). The EDR2B, which meets weekly, holds sessions focused on the unit both before and after the PDSS.[16] It assembles representatives from the major stakeholders concerned with equipping deploying units, including ARCENT, USFOR-A, HQDA G-3, FORSCOM, the deploying unit, the unit it is replacing (if any), and AMC (which owns TPE).[17] The forum provides a way to compare what the redeploying unit has and will leave in theater to what the deploying unit will need. The end result, after the unit's PDSS, is an equipment "crosswalk" that is disseminated by ARCENT in an equipping message. The crosswalk gives the types and quantity of equipment a unit needs to bring (with separate lists for what should be shipped and what should accompany the troops) and what it will receive in theater.

Though the nascent EDR2B process produces an equipment requirements list, it does not seem to be a fundamentally list-focused activity, but rather a means for direct and continuing interaction on equipment requirements and sourcing solutions among the key stakeholders. It should generate up-to-date, tailored equipment needs and promote deploying unit confidence in both requirements and sourcing solutions in a way that earlier equipping lists could not.

These crosswalks differ from earlier E-TDAs in two notable ways. First, they are not authorization documents. The expectation

---

[15] Interview with ARCENT G-38, July 9, 2012; interview with FORSCOM G-4, August 1, 2012; interview with HQDA G-3 CIB, July 12, 2012.

[16] Interview with ARCENT G-38, 2012.

[17] Interview with ARCENT G-38, 2012. At the time of this writing, no unit under their supervision had yet deployed.

is that named requirements will be sourced internally by theater or the deploying unit. Unlike an MTOE or E-TDA, they are not necessarily backed by the Army's ability to source a requirement. Second, they include nonstandard LINs. E-TDAs (and MTOEs) included only type-classified equipment.[18] While a crosswalk is thus a more comprehensive document, the requirements that it stipulates have not received the same review as standard LINs. Nonstandard LINs have not, for instance, received ERCs. Crosswalks may thus encompass equipment that is not truly minimum mission essential. Indeed, in sampled units, the count of LINs present on a crosswalk roughly doubled that found on applicable MTOEs. The two equipment lists had approximately the same count of standard LINs, but the crosswalk had hundreds of nonstandard LINs.

Mission Readiness Reporting

The volume of non-MTOE requirements captured in E-TDAs, MEELs, and equipment crosswalks makes it important that the Army expand readiness reporting beyond the MTOE. The Army has attempted to do this through the adoption of the Assigned Mission Level, or A-Level. The A-Level has been part of the USR since early 2009, and was first included in AR 220-1 in the April 2010 version.[19] Comprised of two components, Assigned Mission Equipping (AME) and Assigned Mission Manning), the A-Level provides a readiness reporting measure that captures unit readiness to perform the mission it has been tasked to do, not just the mission for which it was designed. The A-Level report thus gives consumers of readiness information outside the Army a more complete picture of readiness.

---

[18] The ALARACT establishing E-TDAs states that in fact "the E-TDA will include both standard and nonstandard equipment." The approved E-TDAs currently available on FMSWeb contain only standard LINs and developmental LINs (aka ZLINs). ALARACT 043/2011, 2011.

[19] The A-Level has antecedents. It is reported in lieu of the Joint Staff requirement for Percentage Effective (PCTEF) reporting. The Army also briefly used a Designated Mission Level (D-Level) report.

A-Level reporting does leave room for improvement. In particular, the basis for the AME and AMM is not consistent or transparent. AR 220-1 indicates that units are to report A-Level readiness no later than 270 days before deployment for the Active Component (730 for the Reserve Components) or upon receipt of orders, whichever is earlier.[20] The mission requirements on which that A-Level reporting is to be based are supposed to come from the Army Tasking Authority (ATA). If the ATA does not provide such requirements, commanders are directed to use their MTOE/TDA as the basis for the A-Level.

We have found that units should receive mission equipment requirements from the ATA not later than 180 days before their Latest Arrival Date (LAD), but that receipt in the general range of 60–120 days before LAD is more common.[21] This means that while all units within 270 days of deployment should be reporting AME, perhaps only half or fewer of units in that population are actually basing their rating on their upcoming mission requirements. In addition, analysis of a sample of AME reports indicated that a high percentage of them were based on equipment lists that were very close to the units' MTOEs. Unit commanders can make use of a text field in the USR to state the basis of the AME, but do not always do so. So while A-Level reporting in general is regarded as a representation of units' readiness to do an assigned mission, the underlying reporting for some units is not based on good information, and it is not clear when that is the case. In the interviews conducted as part of our case study of an infantry battalion preparing to deploy and in anecdotal reports from other sources, the expectation that units receive adequate guidance from ATA is not realistic: in many cases, units are left to build AME and AMM requirements through informal contacts and conversations with, for example, the units they are slated to replace.

FORSCOM does not specifically instruct units to use the equipment requirements that ARCENT provides to report AME, though it expects that unit commanders would make use of this information per

[20] AR 220-1, 2010, p. 71.

[21] Correspondence, FORSCOM G-3, July 27, 2012.

AR 220-1.[22] These equipment requirements, however, are the result of a concerted, albeit still fluid and evolving effort by the Army to capture and communicate unit needs for assigned missions. As such they represent the most current, complete standard against which mission readiness could be reported, but not necessarily the most appropriate standard. As mentioned above, sampled EDR2B crosswalks are made up of roughly half nonstandard LINs. Such equipment is not necessarily minimum mission essential; an ability to discriminate between essential equipment that should be considered reportable and equipment that is less important would be necessary when using crosswalks in high-fidelity mission readiness reporting. The wholesale import of the EDR2B crosswalk into NetUSR for use as the Assigned Mission Equipment requirement would certainly depart from current practice: nonstandard LINs currently appear in AME reporting, but only in about 1.5 percent of records in sampled units. Further, different pieces of equipment with different capabilities can share a nonstandard LIN, complicating potential use in NetUSR.

The MTOE and ARFORGEN

A complicating factor for the MTOE—one that also appears to reinforce doubts about its utility—is ARFORGEN. Adopted in 2006, ARFORGEN radically altered the way the Army manages readiness. ARFORGEN replaced a tiered-readiness system in which several top-tier expeditionary units were kept at a near-constant state of readiness—while other units were allowed to operate at lower levels of readiness—with a dynamic system. Army units now move from a post-deployment period of rest and reset back to full readiness according to a fixed schedule marked by readiness aim points. ARFORGEN's primary virtue is that it has enabled the Army to sustain a larger total combat force in the field in support of the wars in Afghanistan and Iraq. ARFORGEN, however, represents a significant challenge for the Army's readiness reporting system. The regulations governing ARFOR-

[22] Interview with FORSCOM G-3, July 27, 2010.

GEN and readiness reporting, including AR 525-29 and AR 220-1, go to great lengths to overcome the challenge and lay the groundwork for success. We have, however, identified areas of concern that the Army should take into consideration now as it and the Department of Defense review ARFORGEN's future and the emerging strategic and budgetary climate.

Measuring Against "Fully Prepared"

One of the more fundamental problems we found with readiness reporting is that it measures units against the absolute measure of "fully prepared," which translates to roughly 100 percent of its MTOE, and the Assigned Mission Equipment (AME) and Assigned Mission Manning (AMM) lists. This focus on measuring against the end state is of value for gauging units' overall readiness, and the readiness of the Army in aggregate, both of which are fundamental to many stakeholders. In the context of dynamic readiness, however, such a rating can be both unfair and unhelpful. Unfair, because units are not supposed to be ready during much of the ARFORGEN cycle. ARFORGEN units need not—and in many cases cannot and should not—have complete inventories and full rosters all the time. Unhelpful, because stakeholders also need to know how units are doing relative to their status within the ARFORGEN cycle. What matters for many reporting consumers is not "Is the unit ready?" but "Is the unit on track?" With dynamic readiness, the process is almost as important as the final result, primarily because it affects the final result in ways that are too readily overlooked.

One case—the Army Medical Command's equipping strategy for Combat Support Hospitals (CSHs)—illustrates dramatically the problem of using the total MTOE as a denominator for gauging readiness. The Army Medical Command (MEDCOM) published the Army Medicine Equipping Strategy (AMES) in May 2011.[23] AMES indicates

[23] U.S. Army Medical Command, Director of Logistics, *Army Medicine Equipping Strategy*, Version 15, May 2011. A 2010 RAND report contributed to the development of this strategy, and is cited therein. See Matthew W. Lewis et al., *New Equipping Strategies for Combat Support Hospitals*, Santa Monica, Calif.: RAND Corporation, MG-887-A, 2010.

that MEDCOM cannot afford to equip all current CSHs with sufficiently modern and capable medical equipment. In fact, equipment fill and maintenance are currently poor.[24] There are 26 CSH units—10 Active Component and 16 Reserve Component—and 7 Army Prepositioned Stock (APS) equipment sets. MEDCOM plans to invest in keeping only 17 medical equipment sets filled and modernized, seven of which will be the APS sets. Holding the great majority of the equipment at a central location, rather than in unit hands, will also improve maintenance. While 17 is far less than the MTOE requirement of 33, it will be sufficient to meet force generation demands, since the Army will have enough to provide for the rotational units in the Available and Train/Ready phases of ARFORGEN. Specifically, if APS sets are made available for reporting to rotational units, the 17 sets will cover the maximum number of CSH units that will be at or past Aim Point 2, which is one year after the start of the Reset phase for active units and two years after the start of Reset for reserve units.[25] There will be at most three units between the end of Reset and Aim Point 2 at any one time that will not have equipment sets, and MEDCOM judges that the Army is highly unlikely to need to field these units, since such a need would imply that over 70 percent of the CSH force was simultaneously deployed.

While MEDCOM is satisfied with its plan, it creates a discrepancy between CSH units' readiness as measured against the MTOE—the S-rating—and real-world readiness requirements. On one hand, the MTOE requirement for the force is that units have all their equipment at all times; readiness is reported accordingly. The CSH force will not meet this standard, and on aggregate, CSH S-Level reporting will suffer greatly. On the other hand, AMES will improve CSH force readiness by providing more modern, better-maintained equipment to all units that probably will have a need for it, i.e., every CSH in the

[24] Interviews, Office of the Surgeon General, Directorate of Logistics, January 19, 2011.

[25] Department of the Army, Office of the Vice Chief of Staff, *Army Equipping Strategy*, July 27, 2011.

Available pool and a sufficient number in the Train/Ready pool as a surge force.[26]

This discrepancy raises doubts about the utility of the MTOE as the readiness reporting standard. The difficulty is not that MTOE-based reporting on CSHs will necessarily lead to poor resource or operational decisions. Army leadership is entirely capable of understanding the situation, and MEDCOM plans to push ahead with its equipping strategy regardless of how the CSH units' readiness will be reflected in the USR. It is undesirable, however, that there be such a sharp and continuing distinction between apparent force unreadiness as shown in readiness reporting and the force's real readiness to meet Army missions. This is particularly true because the cause of this distinction is not limited to CSHs. Through the design of the ARFORGEN rotational readiness policy the Army intentionally does not keep all units fully equipped to MTOE at all times—it cannot afford to do otherwise. Yet it reports readiness against this standard at all times.[27]

Not Addressing Sequence

Readiness reporting's focus on the end result corresponds with a relative inattention to the process of becoming ready. More to the point, there is a sequence for building readiness that appears not to be fully articulated and implemented in doctrine and processes, and reported upon in readiness reports. Granted, AR 220-1 and AR 525-29 describe a reality in which Army tasking authorities, TRADOC, and HQDA lay down a clearly defined path to readiness that prescribes what personnel and equipment should be delivered and when. AR 525-29 in particular is noteworthy for the importance it places on sequence and coordination. "It is essential for the Army," the regulation states, "to fully coordinate all ARFORGEN actions to—(1) identify, define, validate, and priori-

[26] Interviews, Office of the Surgeon General, Directorate of Logistics, January 19, 2011.

[27] For further discussion of rotational equipping strategies, see Christopher G. Pernin et al., *Efficiencies from Applying a Rotational Equipping Strategy*, Santa Monica, Calif.: RAND Corporation, MG-1092-A, 2011.

tize requirements across the synchronization horizons."[28] Our findings, however, suggest that the experience of Army units is quite different. The path is not as clearly defined as it might be, and for a variety of reasons the coordination and synchronization that the regulations aim for are more aspirational than real. Scarce resources, for example, sometimes translate into delayed delivery of personnel and equipment; the fact that so many units are Deployment Expeditionary Force (DEF) units with assigned missions, which require deviation from standard MTOEs, no doubt complicate matters.

Of particular issue are the timing of collective training events in relation to readiness aim points, the percentage of personnel available during collective training events, and the percentage of personnel turnover throughout the ARFORGEN cycle. For example, we found in our case study of an infantry battalion that was preparing to deploy to Afghanistan that the personnel manning levels, training events, and training aim points mandated by ARFORGEN were not appropriately synchronized. The poor synchronization of personnel inflow, mission assignment, and collective training meant that the unit participated in its National Training Center (NTC) rotation at half strength, and for a different mission than they eventually deployed to perform. In at least one instance, the personnel of two platoons were combined into a single, whole platoon in order to complete the training event. Of those who had gone through the collective training, a significant portion either left the unit or were no longer expected to deploy with it, according to a number of interview participants. Units responded to this problem by ensuring that key leaders within any level of the organization remain in place through to the unit's LAD, but the cost in terms of time and resources resulting from the need to retrain and recertify crews and teams as a byproduct of the personnel turbulence and poor synchronization is an important factor.

The unit's readiness reporting tended to minimize the degree to which these problems were occurring, or the effect that they might be having on unit capabilities. To be clear, the reporting does include a

[28] AR 525-29, "Army Force Generation," Headquarters, Department of the Army, March 14, 2011, p. 20.

turnover metric. HQDA's PAM 220-1 provides for a "personnel turnover percentage" readiness metric that is supposed to provide an indicator of unit turmoil; however, it only accounts for turnover within the preceding three months. It also does not consider personnel turnover from important aim points or collective training event benchmarks throughout the ARFORGEN cycle. For example, the existing readiness metric is unable to show readiness stakeholders what percentage of the unit that completed an NTC rotation together, for example, is still part of the unit on its LAD date.

Similarly, it is probably true that most if not all the data that have a bearing on unit readiness are reported somewhere, such that with enough time and access to enough databases, one could reconstruct an accurate picture of what is going on in a given unit. No one's interests, however, are served by having to work so hard.

Aim Points, ARFORGEN, and Conditional Readiness Reporting

ARFORGEN aim points could play an important role both for getting units ready and for reporting units' progress toward readiness. The Army clearly intends for this to be the case, as it states in AR 525-29:

> Aim points provide the Army a means to track units at a prescribed state of readiness as they move through the ARFORGEN force pools and progressively increase readiness. Aim points allow Army leaders and force providers to make accurate, timely decisions, and to mitigate risk on manning, equipping, and sourcing in accordance with Army priorities. Aim points apply to all rotational units in the GF Pool and the GFM Implementation Guidance. Aim points are targets at specified points in time that enable effective collective training and ensure forces are ready for contingencies and deployments as units cycle through the ARFORGEN model and process. Aim points optimize the execution of ARFORGEN by synchronizing manning and equipping capabilities with training at specific points across the force pools. The HQDA establishes the number and purpose of ARFORGEN aim points in the AFORGEN Synchronization Order (ASO). Aim points may differ from assigned mission readiness objectives

> directed in deployment orders, theater specific readiness requirements, or other authoritative directives.[29]

We have already seen that the synchronization envisioned in this passage does not really happen. Even should this synchronization occur, one can argue further that ARFORGEN aim points represent a missed opportunity in readiness reporting. They are mileposts that units are expected to achieve. As such, they *could* complement reporting focused on the desired end state (C- and A-Level reporting based on MTOE and AME/AMM) by providing information that captures a unit's path toward readiness. The aim point construct could inform the Army how ready a unit should be at (for example) LAD – 270, in order for that unit to achieve optimal readiness by LAD. This would give leadership a picture of whether the unit was or was not on the proper trajectory toward "fully ready"; that the unit was not in fact "fully ready" at that time is to be expected. For this approach to work, aim points would have to be set so they were feasible milestones on the path to ratings of C-1 or A-1.

The potential for aim points, or some other ARFORGEN-based standard,[30] to inform readiness reporting can be seen in the aforementioned case of the Combat Support Hospitals. In that case, there are four basic options for dealing with the problems associated with the use of the MTOE as the basis for reporting readiness in the context of ARFORGEN.

One, of course, is to do nothing.[31] A sharp difference between, for instance, CSH force readiness in aggregate USR data and force readi-

---

[29] AR 525-29, 2011, p. 4.

[30] One means is to tie a much more nuanced view of equipment usage to readiness. Recent RAND work shows how EOH linked to training needs can change AAO calculations, and thus might be a more tailored and appropriate metric for equipment readiness. See Joshua E. Klimas, Matthew W. Lewis, Lisa Colabella, Rick Eden, Matthew E. Boyer, and Aimee Bower, *Assessing Army Acquisition Objectives and Equipment On-Hand Goals* (U), Santa Monica, Calif.: RAND Corporation, TR-1271-A, 2013.

[31] Note that in the CSH case, truly doing nothing would create significant reporting issues beyond the gap between documented force structure and available equipment. Units divested of equipment sets would be permanently without them, even as they move into the Available

ness for ARFORGEN is not necessarily an indictment of the value of knowing what share of the force is capable of doing its designed mission at any given time, even if the Army has no immediate intention of calling on all units to perform that mission. If Army leadership and other consumers of readiness information understand the situation and are comfortable with current reporting, no action may be required. It is undesirable, however, that there be a permanent discrepancy between MTOE-based readiness and the readiness of the force to meet ARFORGEN demands.

A second option, at the other end of the spectrum, is to change the requirement for equipment by changing the MTOE. Multiple requirements documents could be written for the CSH force, similar to the authorized levels of organization (ALO) used in the pre-ARFORGEN days. In this case, though, rotational units would adopt a new document as they entered a new phase of the ARFORGEN cycle. The "minimum mission essential" equipment levels would be different for each ARFORGEN phase. The aggregate equipment documented at any one time would not exceed the 17 available medical equipment sets. This would depart radically from current Army force documentation practice, and have wide-ranging ramifications.

The third option is to craft an exemption of some kind. Two alternatives are to align the APS sets with a CSH and have the APS sets report C-5 or not report at all, or count APS sets as EOH for both APS and CSHs simultaneously. These would both improve potential aggregate reported CSH readiness. However, exemptions, waivers, and other changes can degrade readiness reporting fidelity if a wide variety of them, each with unique stipulations, are extended to various types of units.

The fourth option is to supplement reporting, ensuring that poor S- and C-Levels were accompanied by supplemental information that conveyed CSH force readiness to meet the ARFORGEN requirement. By doing nothing to the USR regulations, the Army would ensure that 7 of the 17 rotational CSH units in need of equipment (i.e., past Aim

---

phase, unless some reporting adjustment is made to rotationally align units against equipment sets.

Point 2) did not have medical equipment to report against. With supplementary reporting, the 7 units without equipment would report S-4 in the USR against their MTOE, but they (and all other CSHs) would also indicate on an ARFORGEN-based scale whether they were capable of performing their current ARFORGEN "mission." In the case of those 7 units, which would be comparatively early in the Train/Ready phase, their equipment requirement is unlikely to extend beyond what is already kept by each unit at home station.

In concept this closely mirrors the Army's other readiness reporting supplement to the MTOE, the A-Level, and in fact could be folded into it. In this case, however, the understanding of "assigned mission" would be expanded to include ARFORGEN phases.

This option has possible relevance for the Army at large, not just CSHs. While the CSH case has unique features, the gap between the "100 percent of MTOE, 100 percent of the time" readiness standard and the actual readiness inherent in ARFORGEN applies broadly across the Army. This option is closely related to the concept of using aim points to provide information on unit trajectory toward readiness—it would give Army leadership clearer information on how prepared, per Army force generation policy, a unit *should* be at given time, to supplement information on its readiness relative to the absolute MTOE standard.

It is important to note that, for CSHs and for any other type of unit, clear guidance is needed on what the equipment (and other) requirements are for what ARFORGEN phase. Those requirements should not reflect resources that happen to be available, but rather actual unit needs, be they lesser or greater. Also, clear guidance would be needed on when a given unit moved from one ARFORGEN phase to another and one reporting metric to another.

As such, a promising approach is to add to readiness reporting in a way that reconciles MTOE-based readiness with ARFORGEN-based readiness.

Findings

Despite the prevalence of non-MTOE equipping and readiness reporting, the MTOE has great and continuing value as a planning and resourcing and reporting document. Authorization documents like the MTOE are the Army's chief instrument for capturing and communicating a standard for what it means to have a ready force. The model determined through the Army's deliberate institutional processes may not suit all current and future missions, or anticipate all the ways in which the Army might employ given units, but such a model is necessary—a fixed target on which to lay strategic and operational plans and to synchronize the delivery of resources—and MTOEs represent the Army's informed judgment on what that model should be.

The MTOE is not a sufficient standard with which to gauge unit readiness in all circumstances. While LOEs, Authorized Substitutes, and ILOs provide useful, appropriate flexibility in how EOH readiness is reported against the MTOE, recent operational experience has required units both to shift (to lesser or greater degrees) from their designed missions and to focus on combat in one part of the spectrum of warfare. This has demanded that units be manned and equipped in ways that diverge substantially from their MTOEs, to a degree that new documents are needed upon which readiness is measured. The flexibility in reporting and variety of documentation that have been exercised demonstrate that working within the current system is likely appropriate.

The Army has developed alternative means of determining mission equipment requirements in cases where the MTOE does not fully describe what units need to be ready for a specific mission, though those means are still in flux and apply principally to the current conflict. The Army has recognized that MTOE-based equipping has not adequately prepared units for Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF). The challenge is to provide units with the best possible information about equipment needs, and do so in a way that is timely, informed by the resources available, and sensitive to the theater logistics burden. From MEELs

to E-TDAs to EDR2B-generated "crosswalks," it has pursued various methods for capturing, communicating, and updating the totality of deploying units' requirements. These lists have been particular to a given theater, mission type, or even a given deployment or unit. The latest initiative, the EDR2B, seems well suited to the task at hand, but it is not a permanent, stand-alone solution for generating non-MTOE equipment requirements. It is currently suitable for a mature theater in which detailed information about mission needs is available, and as a source of final equipping information. However, as units are redeployed from theater and are aligned against other needs, units will need to begin to train and equip before the EDR2B's crosswalk is.

The Army has adapted the unit status reporting system to provide critical mission-focused readiness information for which the MTOE could not in all cases account, though that mission readiness assessment is not as transparent as it should be. A-Level reporting is a valuable and necessary mechanism for the Army to capture and communicate unit readiness (and aggregate Army readiness) to perform a designated mission. A-Level reporting could still be improved, however. In particular, the basis for AME reporting is not transparent. Some units do not have good information about their true mission requirements, but it is not always clear which those are. Moreover, the focus of the A-rating, along with most of the readiness reporting system, is on equipment and personnel. Issues relating to human capital such as MOSQ (Military Occupational Specialty–Qualified) and training are only included in the A-rating as part of a subjective commander's evaluation, whereas the C-rating deals with them with greater rigor.

MTOE-based readiness reporting is not consonant with ARFORGEN. The Army's force generation model by design only readies a portion of the force at a time, while MTOE-based readiness reporting is founded on all units being ready all the time. There is value in knowing the force's position relative to total readiness, and Army leadership no doubt has an intuitive understanding, bolstered by qualitative reporting, of how (for example) the reported C-3 of a unit in Train/Ready relates to that unit's probable ability to achieve C-1 by the time it enters the Available phase. But exclusive focus on this end

state neglects the opportunity for a more nuanced understanding of readiness both for the Army as a whole and for discrete units.

Recommendations

The Army's best information on mission equipment should inform readiness reporting in a transparent fashion. The Army has evolved necessary mechanisms to help it define what equipment is required to make units ready for missions in which their MTOE was insufficient. The Army has also evolved mission-specific readiness reporting. The two should be tightly linked (see below) as often as possible, and it should be transparent that this is the case in the USR. A unit's readiness report should indicate (for example), whether the AME was based on MTOE (in the absence of mission equipping guidance, which may not be available when units begin to report A-Level readiness), a pre-PDSS mission equipping list (i.e., early information on mission equipping needs), or an EDR2B equipment crosswalk. The USR currently provides a text field for units to describe the basis of their AME, but its use is irregular. Clear guidance may suffice, or units could be forced to select from a predefined menu.

The Army should provide clear guidance on how mission equipping lists are to be used in AME. AR 220-1 directs unit commanders to use guidance from the Army Tasking Authority to develop AME, but greater specificity is needed. Current mission equipping lists have evolved to include large quantities of nonstandard LINs. This equipment does not have an ERC, and indeed much of it may fall below the reportable-for-readiness standard of minimum mission essential. While some unit-level variance may be advisable, transparency and consistency in reporting requires that the Army not leave entirely to commanders' discretion which mission equipment to report on and which to omit.

The Army should preserve mechanisms to flex or move beyond the MTOE. The MTOE is a necessary instrument, a way for the Army to define what a force ready to accomplish the full range of priority missions at least risk looks like, and a way to then synchronize

resources to achieve that force. The wars in Iraq and Afghanistan have demanded unit capabilities beyond what MTOEs provided, and the Army has responded by defining new standards of readiness and new measurements of readiness against that standard. The substance of that readiness—preparedness for OIF and OEF for specific units at specific points in time—will change, but future operations will likely demand the same sort of flexibility.

The Army should supplement MTOE-based readiness reporting with ARFORGEN-based reporting. The Army measures units against their desired end state, whether that end state is based on an MTOE (for a designed mission) or some alternative standard (for an assigned mission). That information is very valuable. But, based on ARFORGEN and simple resource availability, it is unachievable for most units most of the time. ARFORGEN-based reporting would give a picture of overall Army readiness that aligns with the Army's actual intent to provide ready forces. For discrete units, it would also provide Army leaders with improved information on units' trajectory toward that end state. One way to achieve such supplementary reporting is to expand the application of the A-Level to include ARFORGEN phases as "assigned missions."

CHAPTER FOUR

From Readiness to Capabilities: Ready for What?

The previous chapters described concerns with the unit-level approach to readiness reporting given rapid capability development and fighting a protracted conflict with a changing operational environment. Can the Army change? Can readiness reporting keep up? Is the MTOE a useful construct? The bottom line answer to these questions is, yes. However, what emerged in our research were a number of unanticipated issues relating not so much to the quantitative aspects of readiness (i.e., equipment and manning fill) but to the qualitative implications of the kinds of change discussed in the previous chapters. These issues are all related to the basic tension generated by reporting on an Army that is substantially different from the Army for which the reporting system was built and from the Army's design.

As we have seen, new equipment brings new capabilities that might affect readiness in ways that are not incorporated into readiness reporting. New task organizations, moreover, can create staffing issues that may escape attention because they do not affect absolute manning numbers. New mission-essential task lists (METLs), moreover, test assumptions about what kinds of skills units can be assumed to possess. In any case, the efforts of units to adapt to their assigned mission translate into significant drift from their designed mission, drift that is not reliably captured by readiness reporting.

Although the readiness reporting regulations—most specifically AR 220-1—provide for assigned missions primarily through the A-Level rating process, the provisions of the regulations fall short of keeping readiness reporting on top of the changes taking place on the

ground and communicating their significance to higher echelons. Part of the problem is that the system treats assigned missions that require parting ways with the standard MTOE and METL as highly unusual. It presumes that assigned missions can therefore be dealt with without having to rebuild the system or question the presumed primacy of the designed mission, MTOE, and METL. In reality, however, the opposite has been true for the past several years: the exceptional cases are the ones in which units adhere to their designed mission, MTOE, and METL. "Normal," today, means deviating far from TRADOC-defined designed missions, MTOEs, and METLs—to the point where units routinely are bringing different and often better capabilities with them to the field. The system of putting together ready units works, but less efficiently than hoped, and the readiness reporting, because it is built around the assumption that most missions would be designed missions, arguably lacks the bandwidth, so to speak, and the flexibility to capture and communicate what is taking place.

Indeed, among other things, what appears to be taking place is that even though units might rate themselves as C-1, i.e., "ready" for full-spectrum operations (FSO) and thus the Operational Plans, missions, and contingencies that they are likely to face, they may have specialized to the point where their ability to engage in certain kinds of operations is diminished or at least questionable. They may in fact be inadequately prepared to fight their designed mission. Arguably, the danger lies less in the fact of specialization than in not knowing if specialization has taken place and to what extent. Readiness reporting rarely draws attention to drift. If anything, the reporting may encourage consumers to conclude that *all is well*.

This chapter will begin by examining the nature and importance of capabilities brought to units through the rapid acquisition of non-MTOE equipment (the existence of which was discussed in earlier chapters). Subsequent sections will examine two related areas of drift: first, departure from the MTOE in terms of unit task orientation and Military Occupational Specialties (MOSs) and, second, training and METLs. As we shall see, Army regulations describe a normative view of how readiness reporting should document any changes resulting from preparing for assigned missions. Real-world experience, however,

shows that the reporting system falls short. Lastly, we will discuss FSO and some of the related ramifications of our findings.

Readiness Reporting and the New Capabilities Brought by Rapidly Delivered Equipment

One of the more concrete and evident kinds of "drift" associated with the Army's focus on ongoing operations is units' departure from their MTOEs and their acceptance of mission-specific equipment obtained through a variety of formal and ad hoc mechanisms.[1] This equipment often has important ramifications for unit readiness, either by significantly enhancing existing capabilities or by representing an entirely new capability. In some cases that additional capability reflects an inadequacy in the original force design. That is, the force design—which reflects a certain understanding of what a unit should be capable of doing—needs to be massaged, changed, or otherwise bolstered when faced with a particular assigned mission. The potential ramifications of these changes may be profound, raising questions of whether or not the force design is correct, whether or not FSO is conceived of accurately, or whether it makes sense to aim for an 80 percent or so solution when designing a force. Such an approach would mean that variations from the MTOE required for this or that assigned mission are to be taken in stride and need not call into question either the force design or the MTOE.

An important subset of this supplemental equipment is the equipment considered within the Capabilities Development for Rapid Transition (CDRT) process. CDRT-nominated equipment is mostly materiel obtained and used by deployed forces and identified by those forces as potentially having continuing value in the field and as worthy of consideration for transition to standard equipment and fielding across the larger Army. We have analyzed CDRT data in order to evaluate key questions regarding accelerated capability development (ACD) as

[1] Other examples include the significant changes to unit training programs (for instance at the National Training Center) and individual education curricula, which also depart from historical agendas. As this study was purposefully equipment focused based on the study sponsor, we deal with those as exemplars.

it has been utilized to support the efforts in Iraq and Afghanistan. A detailed description of CDRT and other organizations associated with accelerated capability development is provided in Appendix B; here we summarize our findings and conclusions on one slice of that development through the lens of the CDRT process.

ACD in Iraq and Afghanistan was dominated by urgent needs in counterinsurgency operations and specifically force protection. In CDRT iteration 3 (2007), the largest single iteration of the process, the capabilities under consideration were explicitly tied to a list of capability gaps established by the Army Capabilities Integration Center (ARCIC, within TRADOC).[2] Table 4.1 shows how the nominated capabilities map to the various capability gaps. Over half (58 percent) of the candidates were associated with force and soldier protection in counterinsurgency (COIN) operations. Over 80 percent of the capabilities were asso-

Table 4.1
CDRT Candidates in Iteration 3 Mapped to ARCIC Capability Gap Areas

ARCIC Capability Gap Area	CDRT Candidates (Iteration 3)	
	Number	Percentage
Protect force in counterinsurgency operations	85	45%
Soldier protection in counterinsurgency environment	25	13%
Ability to conduct joint urban operations	25	13%
Enhanced ISR capabilities	20	11%
Train the force how and as it fights (nonmateriel)	14	7%
Network enabled battle command	9	5%
Logistics and medical in counterinsurgency operations	6	3%
Timeliness of analysis and information dissemination	3	2%
Detention/detainee operations	1	1%
Joint interoperability, coalition, and interagency operations	1	1%
Tactical communications	1	1%

SOURCE: CDRT results, 2011.

[2] Tim Drake, Asymmetric Warfare Division, ARCIC, "2007 Current Force Capability Gap Analysis VI," briefing slides dated August 27, 2007.

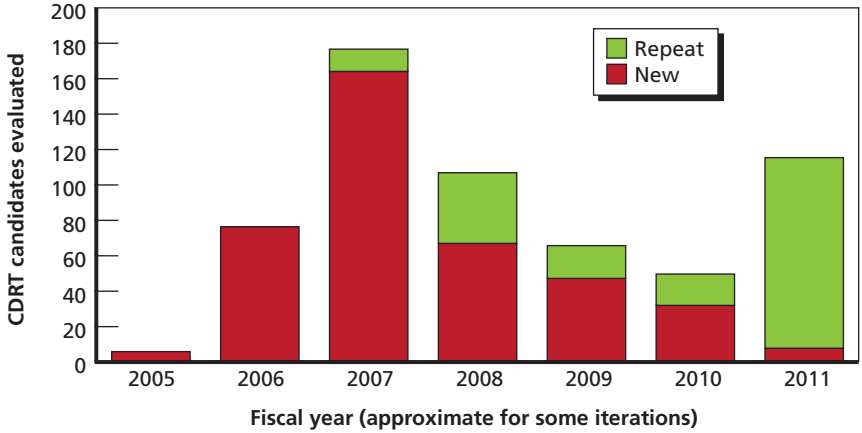
ciated with adapting to the transition to COIN operations in general. Analysis of CDRT candidates in later iterations is consistent with this result. Note that this does not include the largest of all COIN-related force protection procurements, MRAPs, which were not considered as part of the CDRT process. These results support the widely voiced contention that Army unit designs were not applicable to COIN operations.

CDRT candidates reflect a preponderance of "new" capabilities as opposed to modifications or upgrades of existing capabilities. An assessment of CDRT candidates through iteration 12 suggests that a majority of the candidates rated either APC (acquisition program candidate, which means it is approved for transition to standard Army processes), or Sustain (continued sustainment support provided for the current fight, typically on a one-year funding timeline) represented new capabilities for their units above and beyond those provided by their MTOE. In this analysis, we are making a distinction between enhancements to equipment and new equipment that brings a totally new capability to the unit.[3] Sixty-eight percent of the APC-rated capabilities were judged by our study team to represent new capabilities to a unit, while 58 percent of the Sustain-rated capabilities were judged to bring new capabilities. That so much of the new equipment brought new capabilities suggests that units' MTOEs were inadequate for their assigned missions; the unit designs lacked the necessary capabilities and thus had to be adapted in short order to the near-term mission.

The data also indicate (Figure 4.1) that the greatest need for and impact of rapid acquisition occurs early on in a major operation, when key unanticipated readiness gaps become apparent, and the Army marshals the resources to respond. Later in a conflict, as units fill gaps with new capabilities, operations approach a steady state, and the pace and impact of rapid acquisition become much smaller. It will therefore likely be difficult to maintain rapid acquisition capabilities over times of low deployment. The demand for rapid response in peacetime is far lower

[3] An example of the former might be the up-armored HMMWV given to units early in the Iraqi conflict, which allowed the units to do their job with additional force protection. An example of the latter might be MRAPs, which represent a new, significant capability and made it possible for units to perform new missions and tasks.

Figure 4.1
CDRT Candidates Evaluated Per Year



NOTE: "New" candidates are capabilities being evaluated for the first time in CDRT. "Repeat" candidates are those previously evaluated as Sustain and renominated in a later iteration.

RAND *RR230-4.1*

than the current steady state, and thus it seems unlikely that the current level of activity around rapid acquisition can and should be maintained.[4] It is further unclear how those organizations might adapt to meet emerging needs for demand signals not based on operational feedback. However, the greatest need is at the beginning of a conflict, which means that the Army must be able to stand up the needed organizational capability very quickly in the lead-up to major operations. Another implication of the decline in the pace and impact of rapid acquisition is that if it is being driven from the bottom up, the top is relatively uninvolved and might either be unaware of the extent of what is going on or not find itself obliged to consider possible ramifications for force design.

[4] Regionally aligned brigades and Public Law 112-81, Div. A, Title IX, requiring the general purpose force to provide enabling capabilities to support special operations forces, may be other sources of demand for new or additional capabilities. They may operate as part of the deliberate planning process rather than on the rapid-equipping time scale. Moreover, under conditions of budgetary austerity, these requests will have to compete against other priorities in order to secure funding.

Approximately half of CDRT-evaluated capabilities have received a "Sustain" rating, which means that their eventual status has not yet been determined. The data suggest (and according to the GAO, Army officials have stated) that "the majority of capabilities considered by the CDRT community of interest are placed in the sustain category because the Army has yet to make definitive and difficult decisions about whether it wants to keep them and cannot afford to sustain this equipment without overseas contingency operations appropriations."[5] It is difficult at this time to evaluate the truth of this claim, when the truth may simply be that a large number of systems are useful during current operations but are too theater-specific or are too likely to be superseded by capabilities under development to justify an APC rating. As operations wind down and contingency funds go away, final disposition decisions presumably will need to be made on most or all of these items: At that time, analysis should be performed to understand whether decisions were unnecessarily delayed or were simply prudent.

Interpreting Rapid Changes for the Future: The "MTOE Scrubs"

Overall, the MTOE provides by its nature a static view of a dynamic situation. Throughout the years, the Army developed processes that are capable of providing a more complete picture of readiness during actual operations. But the question is, how might the Army interpret the ACD from these contingencies as it designs the future force? The systems capturing ACD—ONS, JUONS, CDRT, etc.—provide a wealth of data to track how requirements evolved. A study by the Army last year—the then-termed "MTOE Scrubs"—provided a portion of the answer.

From December 2010 through October 2011, under the direction of the Chief of Staff, the Army undertook a broad review of requirement and authorization documents. Known as the "MTOE Scrubs," this effort focused on whether the equipment requirements documented in

[5] GAO, 2011g.

MTOEs were appropriate for FSO. The Scrubs, in other words, dealt only with equipment but not issues related to personnel or training. In general, the intent came from concerns of the Vice Chief of Staff, Army that the MTOEs contained old, obsolete LINs, were "too rich," and were not correct for the current fight. Appendix C contains a write-up of the Scrubs, along with additional details of the findings and method.

Twenty-seven strategic issues were identified from the Scrubs.[6] The G-3 gave RAND Arroyo Center access to the 21 issues assigned to TRADOC along with the responses. TRADOC addressed these in 18 separate papers, and they covered 7 general topics: unit design, electric power, personnel, soldier equipment, communications, vehicle issues, and mission command. Of the 18 papers, 12 concluded "no further study" was required. A further seven concluded that a study was already in progress. In only two of the cases does an information paper imply that the MTOE Scrub process raised a *new* issue that deserves further study, and in both cases the actual role of the Scrubs is unclear.

The significance of the MTOE Scrubs hinges in large part on whether these information papers were the *start* of or the *finish* to a conversation about Army design. The predominant extant reaction to the core lessons from a series of senior leader–driven, major conferences involving portions of the operational community and key force design and equipping stakeholders is: maintain the status quo. The nature of the responses analyzed raises questions about what exactly was being asked of the process.

In the 12 cases where TRADOC responded that "no further study" was required, it asked if the design was executed correctly and offered clarifications of what a unit was doctrinally expected to perform. A notional example helps: if a unit was found to need much more communication equipment to own battlespace, the response might have been that the unit was simply not designed to be a battlespace owner; thus, no further action was necessary. Thus, the Scrubs could, in these cases, be seen as the *end* of a conversation about whether the Army was executing its design correctly.

---

[6] Scrubs also had ancillary benefits, like those associated with the disposition of specific LINs.

In few examples did we find the *start* of a conversation. In those cases, the question answered was, "Is the design correct?" So in that same notional example above, the question of needing more communication equipment might have elicited the response to look more closely at the unit under discussion and whether the design should be updated to enable that unit to be a battlespace owner. This in essence would be the start of a conversation between operators and designers as to the validity of the design and how it might be updated in the future.

In many ways, the Scrubs told the Army what it already knew: units were not designed to be employed as they were being employed in Afghanistan (and, earlier, in Iraq). Such elaboration is a useful starting point, but it is not a useful ending point. The response does not weigh the findings of the MTOE Scrubs—strategic-level issues based on doctrinal models that represent thousands of Army units—against benefits of preserving the status quo. The implication is that unit design *is* right, and that recent operational experience should not give cause for revising it. This may in fact be the correct answer in each case, but it deserves further study.

The Scrubs brought to light many ongoing challenges in the Army and could be a useful mechanism for more detailed considerations of the future. This process would supplement, if done in a more rigorous fashion,[7] the other mechanisms used to generate insights into force design and requirements.

Task-Reorganizing for the Assigned Mission

In addition to adopting new equipment, some units have prepared for assigned missions by reorganizing themselves at variance with their MTOE. The changes, moreover, are not always reflected in readiness reporting, which also may not give any indication of deficiencies with respect to filling out the new task organizations, since the AMM metric

[7] A few areas needing attention are defining more clearly the questions at the heart of the Scrub, how units are chosen, and how the findings are interpreted and applied to future design decisions.

focuses on total numbers rather than MOSQ. Nor does the reporting capture any of the turbulence that may have resulted from the effort to reorganize units.

In our case study of the infantry battalion that was preparing for Afghanistan, the unit was assigned a new mission for which there was little if any official guidance. Specifically, it was assigned the mission of supporting Special Forces' Village Stability Operations (VSO). After consulting with Special Forces, the unit's Relief in Place unit, and others, the unit commander determined that the best way to prepare for the mission was to pull the battalion apart and in effect create modular squads. He dissolved companies and platoons, pushed support units down to the squads to make them more self-sufficient, and assigned other company- and platoon-level leaders to the battalion. One of the problems with the new task organization was that the battalion now needed different kinds of soldiers than what was provided for by the MTOE. As a result, it had to retrain soldiers to take on new and difference MOSs. One has to ask how well prepared these cross-trained soldiers were.

The officers interviewed for the study revealed that they found the USR and NetUSR inadequate for reporting what they were doing with the unit reorganization and their progress doing it. Basically, they found that the USR could not handle a significant variation from the MTOE. Moreover, due to the design of NetUSR, units must report against their MTOE or other authorized tasking document. It is not an option to report against a self-created unit manning report (UMR). If units are short of soldiers that they require based on their self-identified needs, they cannot communicate that through readiness reporting except in free-form message comments offered by the commander.

Although the battalion's experience preparing for the new VSO mission may have been exceptional, it appears likely that the assignment of missions and the provision of documents detailing the equipment, manning, and organizational requirements for the mission are not as formalized and effective as Army regulations suggest. It was clearly up to the unit to determine its equipment needs independently, and most of the personnel interviewed were unfamiliar with the existence and role of an Army-approved MEEL or E-TDA. Those who were familiar

with these documents were unaware of any that pertained for the unit's specific mission. It was unclear whether their lack of knowledge regarding possible E-TDAs for this assigned mission resulted from not knowing where to look, or whether one simply had not been developed for their area of operations or mission. It should also be noted that there appeared to be considerable uncertainty about the equipment the unit would be falling in on once it arrived in the theater of operations, and it was scrambling to train on equipment that it anticipated it might be using. These are undoubtedly problems other units have faced as well.

Training for the Assigned Mission and Spectrum Drift

Just as units are experiencing drift from their MTOE with respect to equipment and personnel, with important ramifications for capabilities, there is a parallel drift in terms of training that is not being adequately tracked by the readiness reporting system.

One of the more striking aspects of the way AR 220-1 handles assigned missions is the sharp distinction it draws between, on one hand, the designed mission and the standard MTOE and "FSO METL," and, on the other hand, "exceptional" or "out of design" missions. "Out of design [mission-essential tasks]," the regulation explains, "are those unique tasks essential to the accomplishment of an out of design mission that unit's [sic] must add to their standard FSO METL to meet unit readiness or unit capability requirements for an 'out of design' mission." AR 220-1 insists that "standard FSO METL" should not vary with different missions, presumably because they are, by definition, "FSO." Consequently, the METL should only be adjusted "when the unit is assigned a highly exceptional 'out-of-design' mission." But even then, "most out of design missions will not require that units add out of design METs to their METLs."

It should also be noted that, according to AR 220-1, units with assigned missions that call for a different METL are supposed to add METs to the list while retaining the original METL, as opposed to dropping or de-emphasizing some of the capabilities included in the standard METL to free up time and resources for the new capabilities

required for the mission.[8] Thus, units may "*augment* their FSO METL for an out of design mission if necessary."[9] They are also bid to begin training for new METs nine months prior to deployment.[10] Nonetheless, the regulations concede that unit commanders, in dialogue with their superiors, might decide to neglect certain METs. However, they are supposed to continue reporting against the standard FSO METL each month, even those METLs that have been dropped from the training schedule. "While this dialog may result in units training on some METs more intensively than others," the regulation notes, "all unit commanders must continuously assess and report the training and capability status of their units for each of the METs on their standard FSO METL, to include those METs (if any) on which the units are not currently training."[11]

When units do depart from their designed METL (and MTOE), they are expected to note duly the changes with their superiors and in their readiness reports. "The unit commander will identify any out of design METs and also will indicate the out of design mission that the out of design METs support."[12] Among other things, commanders are called upon to "provide detailed comments in the remarks filed for each assigned mission assessment to explain any capability gaps associated with the assigned mission." "When units are programmed to receive any resources or training required for their assigned mission after arrival in theater . . . commanders also must project when the units are expected to attain sufficient assets or training to report A-Level 1."[13]

In practice, however, the situation is rather different, such that what appears in AR 220-1's normative description of how units are supposed to supplement their FSO METL to prepare for the assigned

---

8 AR 220-1, 2010, p. 69.

9 AR 220-1, 2010, p. 70. Emphasis added.

10 AR 220-1, 2010, p. 70.

11 AR 220-1, 2010, p. 69.

12 AR 220-1, 2010, p. 70.

13 AR 220-1, 2010, p. 70.

mission and duly report specific variations seems to have little relevance. In the case of the infantry battalion discussed above, the unit received several assigned missions, often for missions on different ends of the operations spectrum, and each time it had to make choices about which METs it would focus on, which it would neglect, and what level of proficiency it would accept for each specific MET. Initially, the unit was designated a Contingency Expeditionary Force (CEF) and chose to focus on what unit officers described as an "FSO METL," although, when asked, they defined FSO as combined arms maneuver warfare. In other words, they used the term "full" when "partial" would have been more accurate. The unit was subsequently categorized as a DEF force and given several different assignments ranging from "battlespace ownership" to COIN and VSO, each requiring a different training focus. COIN and VSO, it should be noted, are situated on the opposite end of the operations spectrum from conventional combined arms maneuver warfare. Each new focus required making a different set of compromises, as the commander had to accept risk by selecting to focus on some METs while, in effect, deselecting others. It did not help that in one instance, the mission was given a new assignment just prior to its scheduled NTC rotation, meaning that the NTC was unable to prepare appropriately to train the new mission. As it happened, the unit ended up with a different assigned mission anyway.

According to the officers interviewed for this study, the battalion command team was clear about its training focus, and the brigade was well informed of what it was doing (and what it was not doing) in order to prepare for its missions. The battalion officers, however, communicated this information to the brigade via the unit's Quarterly Training Briefs and other reports, but not the USRs. These could not convey the information as completely, and the officers expressed concern that it may have been lost as USR data was aggregated and pushed to higher echelons. Essentially, the USR only reports information regarding which METLs are trained in broad terms, and it does not allow precision. A consumer of USR-based readiness reporting would be unlikely to grasp the extent to which the unit's training had shifted.

The battalion's experience shifting its training focus and reporting its progress underscores four interrelated issues that diminish con-

fidence in the accuracy and precision of USR-based C- and A-Level reporting:

1. Commanders, because of the pressure they are under to prepare their unit for their missions with limited time and resources, must undoubtedly be making compromises regarding how proficient they want their unit to be for each specific MET, particularly when the mission is clearly pulling them to a different end of the operations spectrum. What is assessed to be "good enough" will thus vary from unit to unit, commander to commander, and mission to mission.
2. Units clearly train against widely variable METLs, depending on their assigned mission and their commanders' understanding of how best to prepare for their mission.
3. Although the documentation presumes that units move on to mission-specific METLs only after they have attained a certain degree of proficiency in the designed or "core" METL, DEF units at least are so focused on preparing for their mission that they might not be investing as much in preparing for their designed mission as one might suppose. One cannot assume that a DEF unit is prepared to fight its designed mission, whatever its C-rating may be.
4. The reporting does not capture the price paid by units that deviate from their designed METL in terms of lost resources such as time and money. This is particularly true when the assigned mission is changed, as was the case of the battalion examined for this study. Units that experience this kind of turbulence are likely to report "ready" in time to deploy, but the "green light" does not communicate the reality that the units, though perhaps acceptably well prepared, are unlikely to be as well prepared for their mission as they would if they had been able to focus on preparing for that mission rather than switching in the middle of their ARFORGEN cycle.

All of this points to a basic problem: Readiness reporting does not adequately communicate fully the tension generated by the require-

ments to prepare for both the assigned mission and the designed mission.

The Strategic Readiness Updates (SRUs) tell a similar story. We reviewed roughly two years' worth of SRUs and found that in almost every case, units in the Available pool rate themselves as T1. A T1 rating indicates that a unit is proficient in "FSO METL." These same units also sometimes state that they focused their training on specialized METLs, which would presumably consist of a specific segment of the FSO METL. Thus, they are proficient at everything but extra proficient at a specific skill set. Though technically possible and perhaps the norm for first-tier units in the pre-ARFORGEN tiered readiness system, this seems implausible during prolonged periods of deployment, given the time and resource constraints experienced (hence poor S-ratings reported by SRUs) as they push through ARFORGEN. Indeed, one unit explicitly reported in its SRU that it was becoming increasingly incapable of performing its designed mission the more it focused on its assigned mission, since the unit simply was not investing adequate time working on designed mission skills. Elsewhere, another unit reported that it is "X number of days away from being proficient for security or stability operations; the unit will need another X number of days to reach proficiency to conduct FSO across all METL tasks." In other words, there is in some instances acknowledgment of (a) the difference between the two sets of METL and (b) the fact that units assume risk by electing to focus on some METs and not others. These two reports were, however, exceptions that proved the rule, that SRUs make no distinctions regarding METs or different spaces on the spectrum.

FSO as a Cipher

Part of the problem appears to be the concept of FSO,[14] which has a relatively precise meaning in the doctrinal literature but breaks down

[14] FSO was being removed from doctrine during the course of this study. Nonetheless, the concept and discussion are still pertinent since it is unclear how unit designs will be considered in the future.

quickly in practice and has proven to be slippery. Technically, FSO—defined by the 2008 FM 3-0 simply as "simultaneous offensive, defensive, and stability or civil support operations"—refers to everything, all missions and all capabilities. The 2008 field manual sought to overturn the Army's long-standing distinction between "war" and "missions other than war," which was present even in the 2001 FM 3-0, as well as the deeply ingrained bias that gave pride of place to "real war" and delegated the other "stuff" to Special Force. Hence the Pentagon's famous disdain for stability operations in the 1990s. The new field manual also sought to bring an end to the traditional understanding of the "spectrum of conflict" (a term first found in the 1962 FM 100-5), wherein the difference between full and "limited" conflict is simply the amount of firepower employed and the extent to which victory depends on armed force as opposed to a political solution. Otherwise the capabilities and skills required remain the same regardless of where on the scale one is operating, meaning that conventionally trained troops could confidently be sent into unconventional operations. In contrast, the new view recognizes that, in fact, the skills and capabilities required for fights on different parts of the spectrum are not the same. It also regards the war/missions other than war dichotomy as utterly false. Units must be able to engage in all forms of operation at any point of the spectrum, simultaneously. All, moreover, are to be viewed as important.

We have already noted two problems with FSO in practice. First, many say "FSO" but really mean conventional war-fighting skills, i.e., a specific portion of the spectrum. Second, in other instances, there appears to be a false assumption that "FSO METL" has a precise meaning, and thus units that qualify as C1 are indeed proficient in a specific body of METs. There is, however, a third problem, which is that often FSO does not have any particular meaning. The term is used automatically, and after a while, it no longer means anything really, although it encourages readers to assume it has a precise meaning and thus project that meaning upon it.

Conclusion

The importance of the capabilities drift described here is twofold. First, the difference between the Army that is and the Army that is supposed to be, at least in light of the designed mission and the documents that inform it, ranging from TRADOC literature to the National Military Strategy, helps explain perceived disconnects between financial investment and readiness. The better the Army can articulate what kind of readiness Congress's dollars are buying, the better it can explain apparent deficiencies while distinguishing the apparent from the real. Some SRUs in effect do this when commanders explain that a low S-rating does not impinge on their ability to perform the assigned mission, because the LINs in question are irrelevant for the anticipated fight. In other words, the Army needs to be able to communicate distinctions between readiness for the assigned mission versus the designed mission. To do that, of course, it requires readiness reporting consistently capable of making those distinctions.

Second, military planners need to know if there is significant risk associated with units drifting to parts of the conflict spectrum that are distant from those associated with Operational Plans. With the exception of some well-known papers discussing the field artillery, the Army appears to be sanguine about what it takes to move from one part of the spectrum to another. Recent studies of the 2006 Lebanon war, however, suggest that shifting from a focus on COIN to high-intensity combined arms maneuver warfare does not happen as painlessly and as quickly as might have been expected. At the same time, there is arguably an even greater risk of the opposite problem: The drawdown from Afghanistan and the shift to a predominantly CEF force may translate into a return by the Army to the old default of focusing on conventional war fighting skills and preparing for "war" rather than "missions other than war," just as the Army did soon after its withdrawal from Vietnam, when it chose to refocus almost exclusively on preparing for a major land war against the Soviet Union in Europe. In other words, it is plausible that within the next five to ten years, the Army will be at risk of unlearning the hard-won lessons of the past decade.

A Conceptual Model for Reporting and Capturing Risk

Throughout the study, it was clear to us in discussion with officials that there are various beliefs at work, at times only implicit, when discussing readiness reported across the spectrum of operations. We deduce four possible overlapping explanations for how unit commanders communicate risk in readiness reporting with respect to the spectrum of capabilities:

1. **There is no tailoring.** Commanders are not in fact straying from "FSO METL." That is, they are not substantially tailoring their unit for their specific assigned mission, and thus do not need to report any differences.
2. **Tailoring but not reporting.** Commanders understand the differences between what they are preparing their units for and "FSO METL"; they are assuming risk but simply are not reporting it.
3. **Tailoring the unit and the reporting.** Commanders are either subjectively redefining "FSO METL" so that it really refers only to a portion of the skill spectrum, or redefining proficiency, so they are giving an easy passing mark for METs they do not consider relevant for the assigned mission. In effect, the denominator has changed and the commanders have assumed risk, which might not be understood by reporting customers.
4. **It is easy to tailor.** Commanders do not think much of the distance between one end of the spectrum and another, suggesting that they do not believe they are assuming risk by focusing more in training for one end than on another; they have a low estimation of the time required to do remedial work to adapt to a new set of mission requirements. Thus reporting downplays what areas are left uncovered.

In all of these cases, what emerges is that Army readiness reporting seldom conveys the content of training and the extent to which units might have drifted from their designed capabilities, unless of course the first explanation is true, and there is no meaningful difference. The C-rating does a good job of reporting readiness in terms of

manning and equipment, as measured against the MTOE; SRUs, for example, provide precise updates of equipment and manning fill. What they do not do well is provide a reliably accurate indication of capabilities with respect to skill and training. It may be that just as units with poor S-ratings are sufficiently well-equipped to handle their assigned mission but ill-equipped for their designed mission, units rated at T1 may be sufficiently well trained for the assigned mission but ill prepared for the designed mission.

The argument could certainly be made that possible distinctions between different locations on the spectrum of conflict and unit capabilities are, ultimately, unimportant; the risk of having units drift from FSO is trivial. There may be some truth to that for many of the kinds of operations in which the Army is likely to find itself engaged, since they tend not to involve significant risk. Units involved in stability operations, for example, are unlikely to be decimated by an enemy, and short of that it is difficult if not impossible to gauge how well a unit is doing. Can we tell the difference between a unit that does a bad job versus an adequate job or a good job while on a COIN mission based on any of its readiness reporting? Nonetheless, it seems unlikely that the differences are insignificant given the literature demonstrating a degradation of conventional warfighting skills as a result of the force's concentration on COIN, particularly with respect to the Israeli experience in 2006.

Now that the Army expects to transition to a majority CEF force and attend to Operational Plans and exigencies other than current operations in Afghanistan, reflecting on capabilities drift should become part of what is ideally an iterative process of reassessing force design. Assuming that FSO, even if under a different name, is to remain the cornerstone of Army doctrine, it would require tradeoffs with respect to which capabilities to focus on. At issue is the balance of capabilities. Do general-purpose forces have the right mix such that the gaps between what they have in their MTOE and METL and what they might want for a given mission are unlikely to kill them before they are filled? Does the C-rating really tell us what we think it tells us, and is it telling us that a unit can handle FSO, i.e., anything, simultaneously?

Recommendations

As we saw with the Combat Support Hospitals, a number of options emerge, although the final disposition should depend on (a) one's understanding of FSO and (b) where one is vis-à-vis the four categories described above. If one assumes that there really is no significant risk worth reporting, than it follows that both the MTOE and the readiness reporting system based on it are adequate solutions, with the caveat being that one assumes the Army retains some capability for rapidly acquiring new nonstandard equipment and adapting METL.

If, however, one accepts that there has been enough drift from the designed mission and force design in terms of equipment, capabilities, training, and task organization to constitute significant risk, then a number of questions arise. Is the force design correct? Is it wise to maintain the current force design while putting faith in the Army's flexibility?

Prior to answering those questions, it behooves the Army to be able to locate with precision where its units are and precisely how much drift has occurred and is occurring. The challenge is then to modify the readiness reporting system such that it meets that requirement without adding to what is already an onerous evaluation and reporting burden. Possible approaches include:

1. Articulate a clear definition of FSO and, ideally, identify with it a specific METL as well as specific standards for gauging sufficiency across the spectrum; this might help make the C-rating more meaningful.
2. Create a T component to the A-rating as well as invite commanders to report with more consistency and precision the METs their units have been training—and not training. Rather than encourage people to assume that an "FSO-trained" unit is capable of a specific kind of warfare, it might be better to have a unit certify for each kind of warfare—or not certify if certification would be inaccurate—so as to make clear to all what a unit should or should not be expected to be able to do.

3. Break down the C and/or the T so that instead of representing FSO, it represents distinct categories such as "offense, defense, stabilization, and civil support," or "combined arms conventional warfare," COIN, and stability operations. An FSO unit should qualify in each category; it could be made known if that is in fact the case or if the unit's qualifications vary. A unit might be certified in COIN but fall short in combined arms maneuver warfare, for example, which should not be held against the commander if the unit in question is in fact preparing for a COIN mission. Either way, the distinction would be good for planners and commanders to know, so unit commanders should be encouraged to be frank.
4. The AME should include MOSQ and not just raw numbers; this presumes the existence of a formalized task-organization document.
5. MTOE Scrubs offer real potential but need to be integrated into a larger process that would clarify follow-on steps. In times when the Army has identified "drift" from MTOEs, it should have a mechanism to identify, consider, and (where indicated) take action on potential changes to the documents. That mechanism need not take on such a broad swath of the Army as did the Scrubs, but it should ensure that the input of those feeling the effects of the drift (or potential drift) most clearly—units with recent operational experience—is collected and understood. The MTOE Scrubs were a valuable forum for getting such operational feedback and identifying issues, but in important instances those issues seem to have led only to further descriptions of the problem, rather than a careful consideration of the costs and benefits of possible courses of action. A clear path for how issues are to be adjudicated should be associated with any future MTOE Scrub-like exercise.

CHAPTER FIVE

Transitioning to the Future and Recommendations

To revisit a theme alluded to early in this report: the Army's readiness reporting system has been challenged largely because it was built for a different kind of Army. The chief differences in this Army that we discussed throughout this report are:

- Dynamic readiness replaced static or tiered readiness;
- Instead of building units to reasonably defined and static plans, units were being built for a changing environment and actual deployments;
- Army missions following major combat operations in Iraq were outside expected designs, thus entailing new and different capabilities.

The basic tension, thus, is how the readiness reporting system deals with assigned mission versus how it builds to and reports on a given design. Many Army and DoD activities strove to fill this gap, from accelerated capability development and new and different training, to reporting more completely on assigned missions in addition to the designs.

Several additional factors will impact the near-term future of readiness reporting. First, the reduction of Army responsibilities in Afghanistan will reduce the operational feedback available for rapidly updating the standard to which units' readiness is based.

Second, in the absence of strong operational feedback, budget pressure is likely to play an increasingly important factor.[1] Historical post-conflict budget trends suggest the Army budget may decline to $90 billion by 2020 (FY11 dollars).[2] Regardless of whether the Army suffers such a radical cut over the coming years, the Army will need to carefully consider how to link readiness levels to national priorities, not only to manage its obligations within the National Military Strategy (NMS), but also to provide policy makers with credible measures of the impact of disinvestments on risk to national priorities.

Part of the challenge for the Army will be linking readiness to strategic priorities, which will require transparent and policy-relevant benchmarks and, ideally, a clear demand signal (Chairman of the Joint Chiefs of Staff, 2010). Over the last several years, ongoing operations and the demands of ARFORGEN have all but eclipsed strategic considerations while becoming a dominant theme in readiness reporting (e.g., JFRR, SRU). As deployments in support of OEF decline, the urgency associated with unit readiness in the Available pool may also decline, raising the question of to *which* real-world challenges the Army will tie its readiness requirements. What demand signal will replace Afghanistan and ARFORGEN?

These signs are currently visible as the ASCCs report their readiness as part of the SRUs. Our interviews with staff members at multiple ASCCs and COCOMs, while limited, indicate an increasing desire for additional input on just how they link specific units to their plans. However, how units are ultimately associated with plans, regions, or combatant commands is yet to be clarified.[3] Until that is done, it will remain unclear what information is provided to units such that any adjustment to their design could be identified and ultimately addressed.

---

[1] Anna Mulrine, "How Pentagon Budget Cuts Will Reshape The Army," *Christian Science Monitor*, January 27, 2012.

[2] Carter Price et al., *Where Might the U.S. Army Budget Go, and How Might It Get There?* Santa Monica, Calif.: RAND Corporation, OP-331-A, 2011.

[3] This term "aligning" is nondoctrinal, but has been used recently as to how the Army might link units to theaters, regions, or COCOMs. Other terms may supplant this one, and would also have to be defined.

Unfortunately, in place of a single demand signal there are multiple signals, and it is not yet clear which of any will or should dominate the others. Recently released strategic guidance suggests that the Asia-Pacific region and Iran will be particularly relevant.[4] That said, there are trends originating within DoD that are likely to confuse matters more. These are related to planning growth[5] and strategic and conceptual uncertainty.

What if units are required to significantly change their designs? Historically, simplifying assumptions about the nature of the threat, and types of warfare, might have mitigated the need for such deviations outside normal force design. The pre-2001 FM 100-5s, for example, presumed that general-purpose forces were well suited for most nonconventional missions while dismissing the exceptions as the province of Special Forces. As we saw in Chapters Two and Three, the Army has proved able to address urgent operational needs through accelerated capability development while individual units have proven remarkably agile in preparing themselves for deployment, even if that means qualifying soldiers for different MOSs or taking apart their internal organization. In other words, the Army has been able to convert itself into a made-to-measure force for a particular set of assigned missions associated with OEF and, until recently, OIF. Some of these adaptations make it into readiness reporting, although many do not.

One question that arises is what the Army should have been prepared to do, which is the same as asking whether or not the force was designed correctly, or if the alterations that do not make it into readiness reporting are significant. Is it a problem that the Army has addressed? The Army necessarily accepts risk against certain missions during its force development and planning processes, and further cannot be expected to cover all possible perturbations on design in its reporting.

---

[4] Department of Defense, *Sustaining U.S. Global Leadership: Priorities for 21st Century Defense*, January 2012.

[5] Regarding planning growth, the numbers and types of contingency plans requiring Time-Phased Force and Deployment Data (TPFDD), contingency sourcing events, and Plan Assessments are increasing. In the last couple of years the number of plans requiring assessments surged from half a dozen to more than 30, before capacity constraints for such analysis forced a reduction (Joint Staff interviews, January 12, 2012 and December 12, 2011).

The discussion throughout this report has highlighted the many ways those perturbations arose, not all of which arise solely because the force is engaged in large-scale deployments (see Figure 5.1.).

Capability gaps take many forms that are best addressed using a variety of processes and organizations. These include rapid-response capability, to quickly identify and field an effective (not perfect) solution for UONs; rapid technology development, to identify and obtain emerging commercially available technologies that can enhance unit effectiveness; and rapid fielding, to distribute theater- and mission-specific equipment to deploying and deployed units.

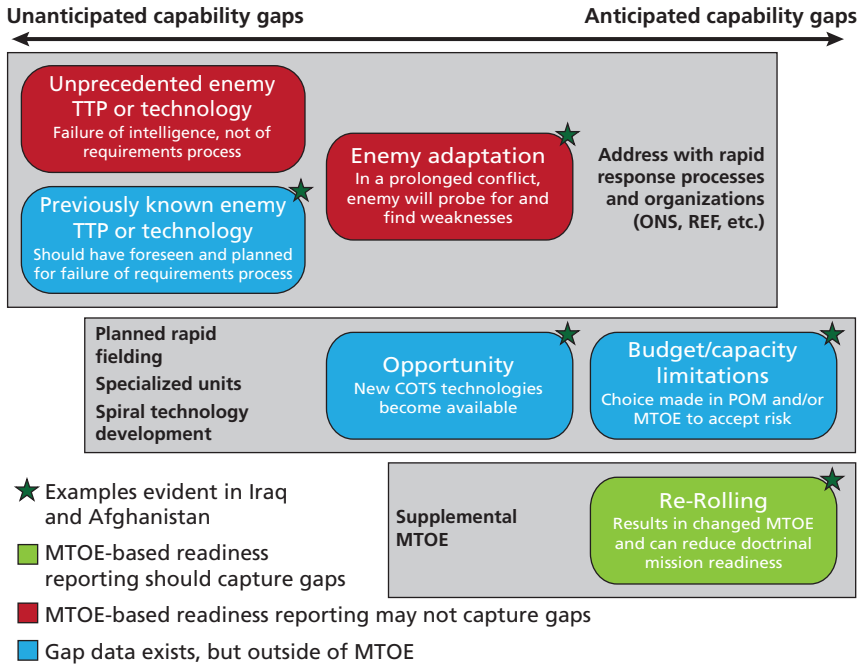
The boxes in Figure 5.1 represent different types of capability gaps that may arise during an operation, grouped roughly on a scale from unanticipated gaps to anticipated gaps. Several of these gaps have been observed during operations in Iraq and Afghanistan. The approach of choice to addressing capability gaps (e.g., DOTMLPF) will vary depending on the type of gap—some possible approaches are shown in the gray boxes in Figure 5.1. A further writeup of this framework is available in Appendix D.

Reporting Deviations from the Plan

Beyond these technical approaches to rapid adaptation is the larger issue of tracking drift as units prepare for assigned missions that deviate from their designed missions. In the effort to evaluate readiness for the assigned mission, the Army risks losing track of where its force really is in terms of the capabilities spectrum and the designed mission. This is the case because of the extent of drift, the loss of fidelity with regard to the C-rating (is a unit rated "ready" for FSO really ready for that part of the conflict spectrum that is at the opposite end of the assigned mission?), and arguably a tendency to dismiss the difference between any given portion of the spectrum and another.

The anticipated shift away from the Deployment Expeditionary Force (DEF) and toward the Contingency Expeditionary Force (CEF) will reduce the disparity between assigned and designed missions, but it will remain true that different consumers of Army forces (COCOMs,

Figure 5.1
A Framework for Considering Deviations from Design



RAND *RR230-5.1*

for example) and different Operational Plans might require different capabilities. Given that even without OEF and without ARFORGEN the Army will have to make difficult choices about the capabilities in which it will invest resources (including time), making informed choices will necessitate a precise understanding of the different bands of the spectrum, where the Army is, and where the Army should be.

Two Options Looking Forward

As discussed in the previous chapter, there are four basic explanations at work behind how units report risk vis-à-vis the spectrum of capabilities:

1. **There is no tailoring.** Commanders are not in fact straying from "FSO METL." That is, they are not substantially tailoring their unit for their specific assigned mission, and thus do not need to report any differences.
2. **Tailoring but not reporting.** Commanders understand the differences between what they are preparing their units for and "FSO METL"; they are assuming risk but simply are not reporting it.
3. **Tailoring the unit and the reporting.** Commanders are either subjectively redefining "FSO METL" so that it really refers only to a portion of the skill spectrum, or redefining proficiency, so they are giving an easy passing mark for METs they do not consider relevant for the assigned mission. In effect, the denominator has changed and the commanders have assumed risk, which might not be understood by reporting customers.
4. **It is easy to tailor.** Commanders do not think much of the distance between one end of the spectrum and another, suggesting that they do not believe they are assuming risk by focusing more in training for one end than on another; they have a low estimation of the time required to do remedial work to adapt to a new set of mission requirements. Thus reporting downplays what areas are left uncovered.

Given possible perspectives, much depends on whether or not one holds it to be true that the changes units have undergone as they prepare for repeated assigned missions are significant. The answer to that question should inform the Army's choice between two options for moving forward:

Return to pre-2003 Design and Doctrine. One option is to fall back on extant doctrine and force design, and in effect treat the past ten years as, collectively, a one-off event. One concludes that the extant force design and doctrine were correct and notes that any additional or unforeseen requirements can be dealt with when necessary on an as-needed basis, as they have over the course of the past decade. This approach bespeaks confidence that future conflicts will not so strain the capabilities of units based on the current MTOE as to bring about

catastrophic mission failure. One is in effect assuming that the next assigned mission will not be significantly more dangerous than recent operations in Afghanistan and Iraq. It helps if one assesses the distance between different points on the spectrum to be small, or is confident that FSO-rated troops are as well rounded as advertised—premises that the drift of the past decade surely challenges.

Assume Limited or Uneven Coverage and Act/Plan/Report Accordingly. The second option is to accept that the Army either as designed or as it is now only covers down on some portion of the spectrum of possible operations, and consider the effort required to jump to other points to be major. In response, one prepares accordingly and more deliberately in advance of those next assigned missions. This includes some combination of tinkering with MTOEs—such as possibly creating shadow, contingency documentation or more formal templates for specific kinds of missions—and tinkering with readiness reporting so as to create more specificity with regard not just to inventory and manning but to capabilities writ large. This would be done primarily by working to give both the C- and the A-ratings greater definition, institutionalization, and fixity, and linking those emerging needs from the next demand signal more formally to the documents underpinning force design.

Part of the labor involved in assuming only partial coverage should be a sober review of the current force design in light of the past 10 years of protracted operations and all the adaptations that units have had to make along the way. This means going beyond the MTOE Scrubs discussed in the previous chapter, which appear to have stopped short of accepting the proposition that Army units have undergone significant changes, or that new equipment has brought significantly different capabilities. One might stick with FSO but give it more substance by spelling out precisely what it means in terms of capabilities (equipment and skills), while rethinking where to place emphasis, since even true FSO forces are likely to be better at some things than at others. One might also abandon FSO in favor of specialization in some area of the spectrum. The focus would be on updating the design and identifying a new lowest-risk stance vis-à-vis the range of possible operations. In

any case, the Army would be required to take stock of where it is now as well as identify where it needs to be.[6]

The new U.S. Army Capstone Concept and the idea of a "regionally aligned brigade" suggest that the Army is at least considering the idea of specialization, which is tantamount to recognition that the pre-2003 approach to force design, doctrine, and FSO is less applicable as units are aligned to specific COCOMs. What remains to be seen is what kind of balance the Army hopes to strike, particularly since regionally aligned brigades themselves may have to be ready for a wide variety of conflicts.

Recommendations

As we have seen, this report validates portions of the current Army readiness reporting system and the MTOE. At the same time, it identifies a number of related issues that merit consideration, particularly as the Army moves forward toward a CEF force. These issues are largely tied to the tension between requirements for assigned and designed missions and the need to document readiness for either or both, depending on the audience. Below are recommendations drawn from the previous chapters, although they all boil down to the contention that the reduced need to supply forces for ongoing operations and the prospect of significant defense budget cuts should signal the beginning of the conversation about the Army's overall design. Indeed, if the Army were to take one and only one recommendation from this study, it is that *the Army needs to take stock of where it is today so that it can then assess where it needs to be and what must be done to get it there.* To act on this recommendation, the Army above all would have to do the following:

- Modify the readiness reporting system and AR 220-1 so as to bring clarity and fixity to the "denominator," i.e., the standards against which readiness is compared, particularly with regard to

[6] The British, French, and German militaries have taken this path already. See, Michael Shurkin, "British, French, and German Armies' Commitment to Full Spectrum Operations in an Age of Fiscal Austerity," Santa Monica, Calif.: RAND Corporation, RR-222-A, 2013.

the meaning of FSO and the precise skills, capabilities, and training curricula that go with that.
- Bring greater precision to the "numerator," i.e., the actual state of a unit with respect to inventory, manning, organization, and skills, which in this case refers to capturing the various adaptations experienced by a unit as it goes through ARFORGEN, whether to its equipment inventory as it substitutes rapidly acquired gear for MTOE-authorized equipment, its task organization—which has ramifications for manning and MOSQ—or to its training curricula.

If we expand on these recommendations, we find that the Army should:

- Translate FSO into a clear and specific set of METL;
- Break FSO down further for reporting purposes, such that units—instead of training for a broad "FSO" capability—certify for specific components of FSO, i.e., stability operations or combined arms maneuver warfare;
- Grow the A-Level so that it tells a fuller story of what a given unit is training for, its progress toward becoming prepared, and difficulties it might be having.

Some of the problems with readiness reporting that we found are related to ARFORGEN and the emphasis on measuring against "fully prepared" rather than ARFORGEN aim points and the ARFORGEN glide path. Expanded A-Level reporting that treated ARFORGEN phases as "assigned missions" would both present a more complete view of force readiness and promote better understanding at unit and Army leadership level of what is needed to make units ready at a given point in time. Similarly, the A-rating contains no T component,[7] nor does it include MOSQ along with the AMM metric.

In addition to the above recommendations, we recommend the following:

[7] During this study the Army began considering such a metric.

The Army must develop a robust, systematic set of processes and organizations for ACD.

At the outset of operations in Iraq and Afghanistan, the Army was ill-prepared to respond to a radical increase in UONs, the vast majority of which arose from the shift away from the designed mission to an assigned mission, COIN operations. In time, the Army and DoD implemented processes and organizations to facilitate ACD. However, the doctrine defining and supporting these processes lacks detail regarding authority, oversight, and structure. There are no systematic plans in place for the continuation of these capabilities in peacetime, and the Army does not collect data on the effectiveness of rapid acquisition processes in a systematic way for use in identifying best practices.

The Army must maintain ACD capabilities in peacetime.

Maintaining rapid-response capability in peacetime will be challenging, but it is critical that this capability is in place at the beginning of major operations. The rate of UONs increased by over an order of magnitude upon entering into major operations in Iraq and Afghanistan. Wartime demand for rapid response combined with availability of supplemental funding enabled the creation and maintenance of a substantial rapid-response capability. As the Army transitions out of war, the lessons from those efforts need to be captured, processes need to be solidified, and appropriate activities maintained such that ACD is able to respond.

The Army needs to find ways to look beyond the MTOE.

This is for the sake of both readiness and readiness reporting. Mission requirements change rapidly and in nuanced ways. They should be communicated to deploying units in a clear and timely fashion. These requirements should also inform mission-specific readiness reporting in order to better capture new capabilities and other improvements that are too often not captured by MTOE-based readiness reporting. As mission requirements often diverge from capabilities captured on MTOEs, particularly those requirements met with ACD, MTOE-based reporting will not account for the gaps or the increased unit effectiveness.

The Army should preserve and enhance mechanisms to evaluate the MTOE.

The Army has found ways to flex the MTOE as the standard for readiness and to move beyond it when driven to do so by operational requirements. The ongoing need for such measures, though, should (and has, in the MTOE Scrubs) stimulate reexamination of unit designs based on operational feedback. That reexamination needs to be linked to processes that ensure it extends beyond an explication of the problem to a careful weighing of the costs and benefits of design changes.

Guidance on preparing for possible future missions (aligned or assigned) should be more systematic and uniform.

In practice, units gather guidance through both ad hoc and more formal mechanisms. This may lead to inefficiencies and risk, which tend not to be reported and thus take place under the radar of the readiness reporting system. It also contributes to the underappreciation of aspects of unit drift from the designed mission.

To address this challenge, and the broader shift in focus from OEF to contingency plans, the Army might build on a USMC initiative to construct OPLAN-specific METs and supplemental equipment lists. Marine Corps Forces Command is responsible for developing METL templates for named operations, OPLANs, and CONOPs and integrating them into force sourcing actions. The supported Marine Corps Component Command is the approving authority for the OPLAN METs (creating a link to the supported COCOM). Marine Corps Combat Development Command reviews the Marine Corps Task List "to reflect installation METLs, Unit Core METLs, Named Operation METLs, and Concept Plan/Operation Plan (CONPLAN/OPLAN) METLs." Some of these OPLAN METs, also called "core plus" METs, have already been registered in DRRS-MC (the USMC's version of DRRS-A). In some cases these core-plus METs have supplemental equipment lists associated with them.[8]

---

[8] Interview with HQMC staff, August 8, 2012; MCO 3000.13, "Marine Corps Readiness Reporting Standard Operating Procedures"; MCO 3500.110, "Policy and Guidance for Mission Essential Task List Development, Review, Approval, Publication and Maintenance," 2011.

The Army needs to pay attention to ARFORGEN sequencing.
The Army should adapt more completely to the ARFORGEN paradigm of dynamic readiness (versus the historically static view of readiness) so as to ensure that personnel inflows and major training events take place at appropriate times. Readiness reporting would therefore track progress as units move through the system as measured against an understanding of what units should be doing to obtain optimal results and/or efficiencies.

Conclusion

Ultimately, if the Army is to move forward—and particularly if it is to pursue the still-nascent concept of regional alignment—which is at least a degree of specialization—it must have a better sense of where the force is today as well as where it needs to be. Otherwise it will be difficult for the Army to define units' baseline capabilities and, subsequently, tailor them to meet the particular requirements of a given regional alignment. It is in this context that readiness reporting, which otherwise does a fair job, reveals itself to have certain limitations. The Army's readiness reporting system is not broken, but it could be adapted to assist more with the task of positioning the force better to face future challenges.

APPENDIX A

Literature

In this appendix we review findings from the document review, interviews with stakeholders, and analysis of quantitative data to delineate the concerns and problems articulated about the system. Where we found specific actions or recommendations to address those concerns, we cite them. We also provide our own recommendations to address the readiness reporting concerns that we identified through the background literature review, interviews with stakeholders, and analysis of readiness data.

Key Issues and Concerns Around Readiness Reporting

The Army acknowledges a number of issues and concerns with the readiness reporting system in its current functional state. A substantial portion of these concerns are focused at the unit level, which uses the Unit Status Report (USR) as the vehicle to report readiness information. External stakeholders, represented mainly by the Government Accountability Office (GAO) and the Congressional Budget Office (CBO), articulate a set of concerns with readiness reporting that are generally consistent with internal Army concerns, but also tend to reflect congressional concerns that funding appropriations directly relate to improvements in readiness status. Fundamentally, underlying these issues is the adaptability of the Army's readiness reporting system over space and time as engagement changes (i.e., from war to peace and vice versa). Internally, Army decision makers grapple with basic

questions such as "How often should readiness reporting occur?" and "Readiness for what type of engagement and at what point in time?"[1]

Through our literature review, we identified a number of key issues that were recurrent. We grouped these issues into six main areas of concern:

- Accuracy and comprehensiveness of metrics;
- Conformance with formal doctrine;
- Efficacy of data entry, management, and reporting tools;
- Sufficiency of reporting on prepositioning programs and installations;
- Adaptation to modernization initiatives;
- Relevance across components (i.e., active versus reserve).

The areas of concern noted, and the specific issues associated with those concerns, are illustrated in Table A.1. These issues are discussed in greater detail below.

Accuracy and Comprehensiveness of Metrics

A number of concerns were identified with the metrics used in readiness reporting. There are both flaws with currently reported metrics, as well as gaps in areas that the metrics do not capture. Internally, the Army acknowledges that some resources are more difficult to capture objectively than others. For example, training ratings (T-ratings) have been cited as overly subjective.[2] A recent GAO report that tracked a small number of Army and Marine units concluded that unit commanders lacked critical training management skills to accurately assess the effectiveness of training received. Moreover, at least half of the units examined in the report (seven out of the thirteen) were not able to complete all the training required. According to the GAO, the metrics used to assess training were not conducive to a results-oriented approach to

[1] Annotated client notes, 2011.

[2] Capt. Gail A. Fisher and Col. Gary C. Howard, U.S. Army Reserve Retired, *Apples and Oranges: The Unit Status Report and Readiness in the Army Reserve*, January 1, 2006.

Table A.1
Areas of Noted Concern and Specific Issues

Finding	Finding specifics
Flaws with currently reported metrics, and gaps in areas that the metrics do not capture	• Subjective T-ratings, and poorly correlated with P-ratings • S-ratings do not reflect true equipping posture or accurately capture EOH • Assigned mission ratings have a negative impact on C-ratings • All ratings subjected to upgrade as reports move up the Chain of Command • S-ratings and P-ratings do no capture NG and AR readiness accurately • Secondary assigned missions not rated • Funding cannot be linked to changes in Readiness ratings
Suboptimal configuration of reporting processes, and staff lack key skills to use tools	• Frequency of reporting a burden • Staff require training in reporting tools
Shortfalls in readiness reporting documentation impeding the reporting process	• AR 220-1 requires updating • Insufficient guidance regarding nonstandard LINs • MTOEs not up to date • PME requirements should be reflected in documentation
Hardware and software infrastructure not sufficiently supporting the requirements of the readiness reporting system	• Duplicate T-rating reporting into NetUSR and DTMS • DRRS and JFRR not synchronized • DRRS poorly integrated with legacy systems • Interoperability across current systems
Logistics, pre-positioning, and depot programs reporting falling short	• Logistics Modernization Program (LMP) failure to meet objectives • Insufficient data provided on pre-positioning sets and associated risks • Eroding capabilities and maintenance requirements of depots need to be tracked
Modernization initiatives not met targets	• Projected funding for modularity underestimated • Readiness advantage with modular units have not materialized

determine the effectiveness and sufficiency of training, and to target areas for improvement.[3]

Increased scrutiny of Army financial management and use of resources has placed significant pressure on the chain of command to account for the impact of resources on Army readiness.[4] There is a continuous tension between the ability of currently used metrics to capture inventory versus availability. For example, while the Army owns over 100 percent of certain required equipment, units continue to report chronic shortages. This, in turn, alarms policy makers.[5] Moreover, the distribution of resources across deployed and nondeployed units can distort the readiness picture. As noted, "some units are over-ready, some critically under-ready, but aggregate shows over-supply."[6] A number of CBO and GAO reports reveal the increased scrutiny over resource allocation that the Army is facing. In 2007, the CBO stated

---

[3] Government Accountability Office, *Army and Marine Corps Training: Metrics Needed to Assess Initiatives on Training Management Skills, Report to Congressional Committees*, Washington, D.C.: Government Accountability Office, July 2011a.

[4] A number of CBO and GAO reports reveal the increased scrutiny over resource allocation that the Army is facing. In 2007, the CBO stated that the Army had requested more funds than it needed to manage the RESET program: Congressional Budget Office, *Replacing and Repairing Equipment Used in Iraq and Afghanistan: The Army's RESET Program*, September 2007. The GAO published a number of reports citing the Army for pervasive and ongoing financial management problems: Government Accountability Office, *Testimony before the Subcommittee on Readiness and Management Support, Committee on Armed Services, U.S. Senate. DOD Financial Management: Numerous Challenges Must Be Addressed to Improve Reliability of Financial Information. Statement of Asif A. Khan, Director, Financial Management and Assurance*, Washington, D.C.: Government Accountability Office, GAO-11-835T, July 27, 2011b; Government Accountability Office, *DOD Financial Management: Improvement Needed in DOD Components' Implementation of Audit Readiness Effort*, Washington, D.C.: Government Accountability Office, GAO-11-851, September 2011c; Government Accountability Office, *DOD Financial Management: Ongoing Challenges in Implementing the Financial Improvement and Audit Readiness Plan, Statement of Asif A. Khan, Director, Financial Management and Assurance*, Washington, D.C.: Government Accountability Office, GAO-11-932T, 2011d; Government Accountability Office, *Financial Management Improvement and Audit Readiness Efforts Continue to Evolve, Statement of Asif A. Khan, Director, Financial Management and Assurance*, Washington, D.C.: Government Accountability Office, GAO-10-1059T, September 29, 2010.

[5] DAMO ODR Notes, 2011.

[6] Annotated client notes, 2011.

that the Army had requested more funds than it needed to manage the Reset program.[7]

These concerns are evident as Congress has placed increasing pressure on the Army to improve financial reporting and allocation of resources, including reporting on resources to improve readiness levels.[8] Congressional lawmakers are particularly interested in validating Army requests for resources to maintain readiness levels with the implication that no more than is necessary needs to be allocated to alter a unit's readiness rating.[9] Most recently, a 2011 CBO report concluded that linking resources to readiness levels could not be done.[10] The CBO cited the subjectivity of readiness indicators as one reason that makes it problematic to link readiness indicators with funding levels. It also stated that Department of Defense (DoD) budget requests for readiness funds are not closely linked to information gathered through readiness assessment tools, and furthermore, since funding is based on overall assessments of readiness, it is difficult to link funding to current readiness information gathered at the unit level.

The effect of funding on readiness levels is further compounded by the fact that the Army diverts resources from more-ready to less-ready units prior to deployment.[11] Thus far and despite a strong desire to do so, systematically linking funding to readiness in order to assess the impacts of changes to funding continues to be beyond the grasp of both congressional lawmakers and Army analysts. The implication of this issue, with impending budget cuts and financial strain, is that Congress may cut O&M spending.[12]

---

[7] Congressional Budget Office, *Replacing and Repairing Equipment Used in Iraq and Afghanistan: The Army's RESET Program,* September 2007.

[8] GAO, 2011b; GAO, 2011c; GAO, 2011d; Congressional Budget Office, *Linking the Readiness of the Armed Forces to DoD's Operations and Maintenance Spending*, April 2011.

[9] HASC Notes, 2011.

[10] CBO, 2011.

[11] CBO, 2011.

[12] HASC Notes, 2011.

Another area of noted concern is the correlation between closely related resources. Units will assign opposite ratings to closely related resources such as personnel (P-rating) and training (T-rating). This inconsistency may be a result of the properties of each metric (i.e., metrics may be designed to be related, but actually are not), or this issue may be more about the approach taken by the individual doing the rating. For example, units may simultaneously report P4 (the lowest rating of personnel readiness) and T1 (the highest rating of training readiness). The P-rating is based on a quantitative measure of the number and type of personnel that a unit has, whereas the T-rating is a commander assessment of training readiness. It is not inconceivable that these two rating measures that are developed through completely different approaches (not just the resource being assessed) reach radically different conclusions about the status of readiness. One way to address this, according to an Army recommendation, is to require P4 units to explain any T1 rating. In general, a review of guidance for determining all ratings needs to be done to ensure consistency.

Critics argue that the underlying process of commanders rating themselves inevitably leads to subjective and ultimately inaccurate grades despite standard criteria to base the ratings on. Moreover, as readiness reports move up the chain of command, the ratings can be upgraded based on a higher-ranking commander's assessment. Ultimately, successive rating changes may produce more favorable but less accurate results.[13] According to Fisher and Howard, the system faces significant pressure to report more favorable readiness ratings throughout the `chain of command.'[14] Furthermore, units underreport resources in order to be issued additional items in what was described as a "culture of overentitlement."[15]

Both the Army and external stakeholders such as the GAO acknowledge the problems of rating readiness for assigned missions. Current metrics are designed to capture primary assigned missions, although some units have secondary assigned missions. The capability

[13] Fisher and Howard, 2006.

[14] Fisher and Howard, 2006.

[15] Annotated client notes, 2011.

to report a secondary assigned mission is not in place, as metrics did not capture secondary assigned mission, but there are more recent efforts to put that in place.[16] Nonetheless, the GAO contends that there is poor linkage between designed and assigned mission assessments.[17] The 2010 Army working group recommended that both policy and software be changed to allow for reporting distinct A-Levels and Y/Q/N assessments for multiple assigned missions.[18] The 2011 ARC further recommended that a process be developed for Assigned Mission Manning (AMM) projections, as well as discrete measurements developed that capture unit training proficiency for assigned missions.[19]

The use of composite scores has raised additional concerns among some decision makers. Current composite metrics do not account for differences in the distribution of resources across units under the ARFORGEN cycle. Composite scores can also produce distorted USR measurements if resources are not distributed based on requirements. A study argued that a composite index should be developed to compile all the assessments to be used, for example, to predict mission success. These indicators can be divided into three groups to provide a clearer picture of readiness: (1) lagging (following an event); (2) leading (prediction or forecast-related); and (3) coincident (occurring at the same time as an event).[20] Nonetheless, it is argued that the use of averaging across the set of concerned units and outliers will affect the composite score.[21] The working group that examined this issue recommended

---

[16] Army Readiness Council (ARC), *2010 ARC Discussion Issue Paper: Army Organizations to Report into DRRS-Strategic, From #2-5*, 2010; Army Readiness Council (ARC) *2011 Executive Summary*, November 4, 2011.

[17] Government Accountability Office, *Report to Congressional Committees: Military Readiness: Army and Marine Corps Reporting Provides Additional Data, but Actions Needed to Improve Consistency*, Washington, D.C.: Government Accountability Office, June 2011e.

[18] ARC, 2010.

[19] ARC, 2011.

[20] John T. Dewey, *Defense Readiness Reporting System: A Better Way to Measure Readiness?* USAWC Project, March 28, 2007.

[21] ARC, 2010.

that resources and requirements are aggregated at the Composite unit level (i.e., brigade level) to determine the Composite P and S-Levels.[22]

Conformance Conformity with Formal Doctrine

Readiness assessments are based on formal requirements and authorization documents (e.g., MTOE, TDA, METL), and the process itself is institutionalized within the Army enterprise. Documentation describing the process is relatively easily accessible and widely disseminated. Nonetheless, some concerns are acknowledged within the Army as to the conformance of readiness reporting, as it occurs in practice, with formal requirements. The wide dissemination of documentation has led to second-order effects such as confusion over which document to use in light of changes, updates, and activations. For example, ratings associated with assigned missions are more difficult to report because unit capabilities associated with executing assigned missions are often not captured on the MTOEs of the tasked units.

Another concern expressed is that documentation and guidance on readiness reporting is not keeping up with readiness reporting requirements of the Secretary of Defense (SECDEF) and the Chairman of the Joint Chiefs of Staff (CJCS). The implications are failure to comply with authoritative policy requirements. If the supporting infrastructure (i.e., software systems) is not made consistent with reporting requirements, multiple reporting mechanisms may also emerge. This could lead back to the same concerns over duplicative efforts and resulting system inefficiencies. The rollout of DRRS-S may help address this issue, but as of 2010 the system remains only partially operational.[23] In the 2011 Global Readiness Conference, it was noted that guidance has been updated to better fulfill CJCS statutory requirements. Guidance on Force Readiness Reporting (CJCSI3401.02B), GSORTS (CJCSM 3150.02B), and DRRS were all updated in 2011 after an extensive review process. Nonetheless there were concerns that the Joint Forces Readiness Review (JFRR) overall readiness assessment was vague and

[22] ARC, 2011.

[23] ARC, 2010.

incomplete, with limited value to senior leaders as part of the Joint Combat Capabilities Assessment (JCCA).[24]

The Army working group cited a number of areas where further guidance could be provided in Army doctrine. One area is in the use of TPE in EOH calculations. Current AR 220-1 guidance is not clear on this issue, particularly as it relates to the rules for TPE projections. The working group recommends that projected TPE not be included in the current AME level, and that commanders be mandated to report the projected AME level (with TPE) as a data point and address risk in their comments.[25] AME currently includes a block for current and projected needs to keep commanders from speculating on their deployment readiness levels while not communicating their current readiness.[26] Another example is with LIN exemptions and the lack of leveraging of existing processes to exempt obsolete LINs, as well as a need to review MTOEs to validate LIN requirements.[27]

Another area requiring further guidance is in specifying the theater-specific standards and conditions that the Army can achieve in its METs. Currently, COCOM staff members are not able to determine whether units can meet requirements, although more could be done to specify the significance of the difference between service and theater-relevant standards and conditions.[28] Additionally, formal definition and guidance are required for Minimum Mission Essential Wartime Requirements (MMEWR).[29]

One area of readiness reporting that is not reflected in formal Army doctrine is in Professional Military Education (PME). There is increased interest in the status of PME among Army leadership. While PME is reviewed in the SRUs, it is not captured in AR 220-1. The

---

[24] ARC, 2011.

[25] ARC, 2010.

[26] DAMO ODR Notes, 2011.

[27] ARC, 2010; Elliot, Whitaker, Cervone, and Pinkela, *Improving Equipment Readiness and Reporting (IER2),* FORSCOM—G4, G4 Forward OIC, no date.

[28] DRRS IO Notes, 2011.

[29] Annotated client notess, 2011.

Army working group recommends incorporating Professional Military Education Qualified (PMEQ) into AR 220-1 under Personnel and adding a PMEQ column that uses the same ratings as DMOSQ. According to the working group, this will give commanders ownership of the process and place greater emphasis on PME as a component of readiness. Commanders will then have an incentive to ensure that soldiers attend PME courses during ARFORGEN dwell time.[30]

In addition to the issues above that are acknowledged by the Army, external consumers of readiness reports such as the GAO cite a number of other areas of tension between documented reporting requirements and actual reporting. Over a series of reports, the GAO cites a number of concerns with tracking and reporting on the status of prepositioning programs and equipment and the impacts of any shortfalls. The GAO also expressed concerns over the tracking of nonstandard, tactical equipment and its implications. Items acquired other than through the standard Army supply system are often not accounted for on the MTOE while filling key capability requirements, resulting in the Army not getting MTOE credit for the items. This documentation shortfall allows a unit to have its equipping readiness underrepresented because it lacks those items based on readiness reporting by MTOE, while still possessing the items or in-lieu-of items.[31]

A GAO 2011 report stated that current DoD guidance contained little information on prepositioned stocks, and that documentation needed to be developed to ensure that prepositioning programs and reporting reflected national military objectives. While a working group had been established to look into this issue, the GAO claimed that it lacked sufficient authority to bring about the required changes.[32]

The Army has issued guidance on the disposition of nonstandard *nontactical* equipment, but greater ambiguity surrounds procedures dealing with nonstandard *tactical* equipment. Much of this equip-

---

[30] ARC, 2010.

[31] Annotated client notes, 2011.

[32] Government Accountability Office, *Defense Logistics: Department of Defense Has Enhanced Prepositioned Stock Management but Should Provide More Detailed Status Reports*, Washington, D.C.: Government Accountability Office, September 2011f.

ment has been commercially acquired or is nondevelopmental equipment rapidly acquired and fielded outside of the normal budgeting and acquisition process. The GAO points out that a system for tracking, monitoring, and managing this equipment is impaired by the lack of visibility and the lack of a focal point to act in an oversight role.[33] For example, although the Army has plans for the disposition of the MRAP fleet, the GAO argued that cost estimates were incomplete and did not follow cost-estimating best practices. The option chosen to integrate the MRAP fleet into force structure placed the majority of the fleet into prepositioned stocks, but according to the GAO, studies were not done consistent with federal government standards to assess future costs associated with this option.[34] While CDRT enables the Army to assess tactical nonstandard equipment already in use in theater, the decision about most of the equipment evaluated through the program was to continue to fund it with overseas contingency operations funds. The GAO argues that the Army should have applied Federal Government Standards for Internal Control and developed detailed policies, procedures, and practices for the management of nonstandard tactical equipment.[35]

Efficacy of Data Entry, Management, and Reporting Tools

The current processes in place to facilitate reporting are not optimally configured, and staff lack key skills to use the tools. In addition, the hardware and software infrastructure is not sufficiently supporting the requirements of the readiness reporting system. Readiness data are reported and managed through the Defense Readiness Reporting System (DRRS), a system designed to integrate data entry, management, and reporting at all levels. The DRRS replaced GSORTS to

---

[33] Government Accountability Office, *Military Readiness: DOD Needs to Strengthen Management and Oversight of the Defense Readiness Reporting System, Report to the Subcommittee on Readiness and Management Support, Committee on Armed Services, U.S. Senate,* Washington, D.C.: Government Accountability Office, GAO-09-518, September 2009a.

[34] Government Accountability Office, *Report to Congressional Addressees, Warfighter Support: Improved Cost Analysis and Better Oversight Needed over Army Nonstandard Equipment*, Washington, D.C.: Government Accountability Office, GAO-11-766, September 2011i.

[35] GAO, 2011i.

better fulfill the reporting requirements of top leadership as well as to integrate the multitude of tools that are used to enter information on all aspects of readiness.[36]

Many of the features of DRRS are automated to ease the data entry burden of commanders and standardize measures to allow for aggregation and comparisons to be made across levels of the Army. Both Army leadership and Congress have access to unit-level information on readiness although access to information is limited to unclassified systems.[37] However, a number of concerns were noted both within the Army and externally. For example, under NetUSR, data reporting requirements are significant and can still pose a burden on commanders at all levels that may adversely impact the quality of the data being reported. The requirement to report monthly is viewed as tedious particularly if there have been only incremental changes between reporting points. The Army Working Group contends that little meaningful information is provided on such a frequent basis.[38]

An important attribute of data reporting systems is timeliness in producing information. A recent assessment by the GAO raised the issue of timeliness with readiness reporting, but it mostly applied to the Marine Corps.[39] The GAO pointed out that units report some readiness information inconsistently through the use of different time frames, and different methods of reporting on personnel and equipment.[40] Another concern was the lack of linkage between core and assigned mission assessments. The GAO further cites Army internal review procedures as failing to pick up on the reporting inconsistencies.[41]

By and large, however, the readiness reporting system produces information in a timely manner. Being mostly automated, readiness

---

[36] For example, it was noted that DRRS is continuously receiving data such as PBUSE and location data. DRRS is currently housing 68 datasets from 24 different sources, DRRS IO, 2011.

[37] Dewey, 2007; HASC, 2011.

[38] ARC, 2010.

[39] GAO, 2011e.

[40] GAO, 2011e.

[41] GAO, 2011e.

reports provide information to both internal Army and external stakeholders on a mostly fixed schedule. The unit status report (USR) is generated on a monthly basis, and deviations from that schedule generally do not occur. The USR feeds into the Strategic Readiness Update (SRU), and these reports are provided monthly to Army leadership to give an Army-wide assessment of readiness. The Joint Forces Readiness Review (JFRR) and the Quarterly Readiness Report to Congress (QRRC) are reported on a quarterly basis, the former to Army leadership, and the latter to members of Congress.

Previously we discussed the problem with documentation not providing sufficient guidance on nonstandard equipment. In a similar vein, the Army Working Group stated that the data entry and management tool that unit commanders use to enter USR data was not capturing all on-hand equipment such as ILO and nonstandard LINs. LIN exemptions are not captured in the automated feature of DRRS, and the same applies for interim updates of MTOEs. Thus, these types of changes must be managed manually and undermine the ease that the automated features are intended to provide.[42] The GAO expressed similar concerns about poor tracking and oversight of nonstandard equipment.[43] The Army Working Group recommended establishing two LIN exemption types, for example, one for synchronization and one for obsolete/documentation.[44]

It was also noted that there was duplicate reporting that could be resolved by better integration across data reporting and management systems, particularly between NetUSR and other systems such as DTMS and FSO METL. Data on training readiness are manually input to NetUSR, and establishing a data exchange between NetUSR and DTMS could improve training data integration and consistency between the two systems. In both cases, the Army acknowledges and is working to address these issues.[45] The Army Working Group further

[42] ARC, 2010; DRRS IO Notes, 2011.

[43] GAO, 2011i.

[44] ARC, 2010.

[45] ARC, 2010.

recommended that additional work be done to find the optimal reporting frequency and report type to ensure that unit reporting requirements meet the need to report readiness information on a regular basis, yet minimize unnecessary reporting burden on unit commanders.[46] It was also noted that staff require formalized training in the use of the data reporting tools. Current practices suggest that staff training in the use of the data-reporting tools is insufficient and/or underutilized.[47]

The Army has sought to improve integration and coordination across multiple reporting systems to address internal and external concerns through the implementation of DRRS. The system is intended to encompass previously disparate efforts to enter and manage readiness data. Nonetheless, the GAO cites problems with interoperability across Army reporting systems, particularly between the new system and its precursors. The GAO report cites a number of issues linked to problems with implementation, including limited user participation in the development of system requirements; ineffective system testing procedures carried out; poor implementation of work scheduled to bring DRRS online; insufficient staffing resources; lack of oversight; and reporting that is inconsistent with legislative requirements. The report pointed out that as of 2009, DRRS did not interface with legacy systems, which was considered critical to ensure a seamless transition from one system to the other. The report also indicated that the metrics used were considered less objective and less precise without a time advantage compared with the metrics reported through the legacy systems.[48] This is further manifested in the lack of uniformity and synchronization of reporting into DRRS-S with reporting by other levels into the JFRR.[49]

---

[46] ARC, 2010.

[47] ARC, 2010; Elliot, 2011.

[48] GAO, 2009a.

[49] ARC, 2010.

Sufficiency of Reporting on Prepositioning Programs and Installations

Logistics, prepositioning, and depot programs reporting are noted as falling short. The GAO published a series of reports on Army prepositioning programs and cited a number of key concerns. In a 2007 report, the GAO concluded that there was no determination of sound secondary item and operational project stock requirements. The report further noted an absence of systematic measurement and reporting on readiness, and a lack of a comprehensive plan for maintenance and storage. For example, the report cited poor storage practices that resulted in uncertain future facility requirements and higher maintenance costs because of storing some equipment outdoors. The GAO also cited inadequate maintenance oversight of the Army's prepositioning program, raising concerns about the true condition of the equipment at some locations.[50]

Following this initial assessment, the GAO requested status updates on Army prepositioning programs and practices, including funding requirements and the risk to current operations and plans.[51] The Army was additionally asked to report on the status of spare parts maintained in prepositioned stocks and on the services' progress to replenish their individual prepositioned sets, such as level of fill and readiness rates, and changes to those sets from the previous year. The

---

[50] Government Accountability Office, *Defense Logistics: Improved Oversight and Increased Coordination Needed to Ensure Viability of the Army's Prepositioning Strategy*, Washington, D.C.: Government Accountability Office, GAO-07-144, February 2007. The 2009 Supplemental Overseas Contingency Operations budget identified $319.1 million in Operations and Maintenance Procurement funds and $987 million in Other Procurement funds to reset prepositioned stocks (GAO, 2010). Government Accountability Office, *Force Structure: Assessment of Army Progress in Modular Restructuring, Prepositioned Equipment, and Equipment Reset*, Washington, D.C.: Government Accountability Office, GAO 10-507R, April 26, 2010c.

[51] Government Accountability Office, *Defense Logistics: Army Has Not Fully Planned or Budgeted for the Reconstitution of Its Afloat Prepositioned Stocks*, Washington, D.C.: Government Accountability Office, GAO-08-257R, February 8, 2008a; Government Accountability Office, *Defense Logistics: Department of Defense's Annual Report on the Status of Prepositioned Materiel and Equipment Can Be Further Enhanced to Better Inform Congress*, November 4, 2009, Washington, D.C.: Government Accountability Office, GAO-10-172R, November 4, 2009; GAO, 2011f.

GAO also requested that the Army track funding for prepositioned equipment separately from other equipment-related requests.[52]

In the 2011 report, the third on this particular issue, the GAO concluded that DoD had responded to the six required reporting elements in its annual report on prepositioning programs to Congress. The GAO credited DoD for having developed effective department-wide guidance on prepositioned stocks to achieve national military objectives. DoD was further credited for having effectively organized to provide joint oversight for prepositioning programs to achieve efficiencies.[53] Nonetheless, the report cited a number of persistent weaknesses. For example, the GAO pointed out that the Army still did not disclose the full range of prepositioning equipment, such as equipment required in excess of a military unit's authorization to meet specific combatant command planning requirements. Moreover, the Army did not list in its annual report the following items requested by the GAO: any operation plan affected by shortfalls in prepositioned stocks and the risks associated with these shortfalls; the full range of mitigation factors; and the extent to which these mitigation factors can reduce risk. The GAO recommended that DoD facilitate joint program management across the services to achieve cost efficiencies with prepositioning programs.[54]

The Army is required to report on the status of training ranges, and a GAO 2010 report found that while the Army had improved reporting on training ranges, a few gaps remained.[55] Specifically, the GAO requested more historical information on factors that contribute to a range's overall capability or encroachment score; future projections of a range's overall encroachment and capability scores; and more detailed information on potential changes to the scores in future years. The GAO also requested range data to perform trend analysis that

---

[52] GAO, 2009.

[53] GAO, 2011f.

[54] GAO, 2011f.

[55] Government Accountability Office, *Military Training: DOD Continues to Improve Its Report on the Sustainability of Training Ranges,* Washington, D.C.: Government Accountability Office, September 14, 2010a.

could help prevent misconceptions and provide a more comprehensive understanding of what the range's capability and encroachment score means. The GAO recommended the development of an integrated training range database that identifies available training resources, specific capacities and capabilities, and training constraints caused by limitations on the use of training ranges that all services could have access to. The GAO also recommended establishing a training range readiness system to reflect the impact on readiness caused by training constraints due to limitations on the use of training ranges. The Army did not concur with the third and fourth recommendations.[56]

Adaptation to Modernization Initiatives

Some key issues related to modernization were brought to light through the document review. The GAO and CBO have been strongly critical of a number of the Army's force modernization initiatives. The criticism rests on the notion that because modernization initiatives have not met targets, readiness reporting will not accurately reflect the impact of these initiatives.

In 2010, the GAO cited concerns with efforts to modernize tools utilized by the Army to manage inventory and depot repair operations.[57] According to the GAO report, the Army dedicated $1 billion to this program and was originally supposed to complete all deployments in 2005, but unsuccessful initial deployment in 2003 prompted delays to two additional deployments in 2009 and 2010. The GAO found problems with data inaccuracies and delays in software development as part of the Army Logistics Modernization Program (LMP), both of which were contributing to problems with overestimated workforce

[56] GAO, 2010a.

[57] Government Accountability Office, *Report to the Chairman, Subcommittee on Readiness, Committee on Armed Services, House of Representatives, Defense Logistics: Additional Oversight and Reporting for the Army Logistics Modernization Program Are Needed*, Washington, D.C.: Government Accountability Office, GAO-11-139, November 2010b.

needs at Army depots and limiting the use of the Army Workload and Performance System (AWPS) to manage Army-wide manpower.[58]

Recently, DoD commissioned an independent contractor, LMI, Inc., to conduct an examination of DoD depot maintenance and reporting. LMI provided a set of recommendations to address some concerns with both maintenance and reporting. This included revising the statutory framework of depot maintenance; linking acquisitions and sustainment; strengthening the core determination process; improving depot reporting; and establishing an independent commission or series of facilitated forums to review the major alternatives for improving depot maintenance management and execution.[59] The GAO, in turn, requested DoD's response to the recommendations provided by LMI, Inc.

Both the GAO and the CBO cited significant concerns with Army implementation and reporting on modernization initiatives.[60] The GAO contends that the Army needs to take a more strategic approach to decision making in modernization initiatives and to promote greater transparency.[61] According to the GAO, programs and investments should be based on sound plans with measurable, realistic goals and time frames, prioritized resource needs, and performance measures to gauge progress. The GAO cites modular restructuring as exemplify-

---

[58] GAO, 2010c; Government Accountability Office, *Defense Logistics: Oversight and a Coordinated Strategy Needed to Implement the Army Workload and Performance System*, Washington, D.C.: Government Accountability Office, GAO-11-566R Defense Logistics, 2011g.

[59] Nicholas Advellas, Joseph L. Berry, Michael D. Disano, David M. Oaks, Earl R. Wingrove III, *Future Capability of DOD Maintenance Depots, Report*, LG901M2, LMI, February 2011; Government Accountability Office, *Defense Logistics: DOD Input Needed on Implementing Depot Maintenance Study Recommendations, Briefing for Congressional Committees,* Washington, D.C.: Government Accountability Office, GAO-11-568R, June 2011h.

[60] Government Accountability Office, *Testimony before the Subcommittee on Tactical Air and Land Forces, Committee on Armed Services, House of Representatives, Force Structure: Restructuring and Rebuilding the Army Will Cost Billions of Dollars for Equipment but the Total Cost Is Uncertain, Statement of Janet A. St. Laurent, Managing Director, Defense Capabilities and Management*, Washington, D.C.: Government Accountability Office, GAO-08-669T, April 10, 2008b; Congressional Budget Office, *An Analysis of the Army's Transformation Programs and Possible Alternatives*, June 2009.

[61] GAO, 2008b.

ing a lack of linkage between Army's funding requests and equipment requirements, including measures of performance and progress, which in turn impedes oversight by DoD and Congress to inform budget decisions.[62] Within the Army, it is acknowledged that without conditions and standards for modernization initiatives, it is difficult to integrate readiness reporting on these initiatives into DRRS. Specifically, unit modernization efforts should be included in the MET.[63] Another question is whether the MTOE, as it is currently structured, is overly constraining in terms of a basis from which to report readiness in the context of modernization initiatives.[64]

As an example, previous estimates did not take into account Army National Guard equipping needs associated with providing operational support in OIF. There are also questions about the targeting of Reset funds to prepare units for deployment. The GAO also points out that it is not clear whether current prepositioned equipment requirements reflect actual needs because of a lack of a department-wide prepositioning strategy, and multiple funding requests make it difficult for decision makers to understand the Army's full funding needs. The GAO contends that a comprehensive plan is needed that outlines modular restructuring and expansion initiatives that identifies progress and total costs.[65]

Both the GAO (2008) and CBO (2009) were critical of the Army's Future Combat Systems (FCS) program, which was phased out in 2009.[66] Understanding these criticisms is instructive as alternative modernization initiatives are pursued. Both the GAO and the CBO pointed out that the program would continue to encounter problems with high costs and insufficient funds, and that this would exacerbate over time. The technologies that were going to be used were not at a

---

[62] GAO, 2008b.

[63] DRRS Implementation Office, 2011.

[64] Annotated client notes, 2011.

[65] GAO, 2008a.

[66] Government Accountability Office, *Defense Acquisitions: Decisions Needed to Shape Army's Combat Systems for the Future, Report to Congressional Committees*, Washington, D.C.: Government Accountability Office, GAO-09-288, March 2009b; CBO, 2009.

minimum level of maturity and actual demonstrations were limited, and it was not clear that sufficient requirements would be met and associated technical risks mitigated. Additionally, the program was not anticipated to meet the deployment timeline, and time to deployment was not going to be reduced as originally anticipated.[67]

In testimony before the Subcommittee on Tactical Air and Land Forces, Committee on Armed Services, the GAO argued that the Army needed to take a more strategic approach to its force modernization initiatives.[68] Modular restructuring, in particular, was cited as an area of major concern pointing to a lack of linkage between the Army's funding requests and equipment requirements. Initial estimates of equipping costs for modular units were based on preliminary designs, and the Army has not revised these initial estimates to reflect new requirements. Furthermore, the GAO anticipates that the Army will face equipping shortfalls that will require additional funding. Initial estimates also did not take into account costs associated with major operational support provided by the Army National Guard with units equipped at the same level as Active Component units. The GAO contends that the Army should have developed a comprehensive strategy that links modular requirements with funding requests, and regular reporting of progress in moving toward a modular force.[69] The Army agreed with the GAO's assessment and is attempting to address these issues as of a 2010 update.[70] The Army continues to report shortages in personnel with particular ranks and specialized skills and has had to use older equipment in place of new ones in certain areas.[71]

A 2009 CBO study further argued that the modularity initiative has resulted in the creation of additional combat brigades and has "cost more and yielded fewer benefits than originally estimated."[72] The CBO

---

[67] GAO, 2008a; CBO, 2009.

[68] GAO, 2008b.

[69] GAO, 2008b; GAO, 2010c.

[70] GAO, 2010c.

[71] GAO, 2010c.

[72] CBO, 2009, p. IX.

found that more personnel than originally anticipated were needed to support these additional combat brigade units, and while personnel may be able to move faster under modularity, equipment transfer takes the same amount of time as nonmodular units. Initial cost estimates of $21 billion projected by the Army are now expected to grow nearly seven-fold to $140 billion through 2013, and according to the CBO, could exceed $250 billion through 2030.[73]

A 2009 CBO study further argued that the modularity initiative has resulted in the creation of additional combat brigades and has "cost more and yielded fewer benefits than originally estimated." The CBO found that more personnel than originally anticipated were needed to support these additional combat brigade units, and while personnel may be able to move faster under modularity, equipment transfer takes the same amount of time as nonmodular units. Initial cost estimates of $21 billion projected by the Army are now expected to grow nearly seven-fold to $140 billion through 2013, and according to the CBO, could exceed $250 billion through 2030.[74]

Relevance Across Components

Current readiness reports provide information across all Army components, and most of the issues facing the Active Component are also relevant to the Reserves. In this section, we highlight the readiness reporting issues that are more specific to the Reserve components. Fisher and Howard argue that readiness reporting mechanisms such as the USR and the metrics used in the ratings are not suitable for the Reserve Components and the National Guard.[75] For example, metrics used in the USR do not account for the wide geographic distribution of Army Reservists, counting them as not qualified despite having completed training related to a specific military occupational specialty. Similarly, the geographic dispersion of Army Reserve equipment renders readi-

[73] GAO (2008b) estimates that equipping modular units, expanding the force, resetting equipment, and replacing prepositioned equipment will cost at least $190 billion through 2013.

[74] CBO, 2009, p. ix.

[75] Fisher and Howard, 2006.

ness reporting challenging because the acquisition, maintaining, and inventorying of the equipment is done by staff who do not belong to the units they service. Thus, USR measures for EOH and maintenance in the Army Reserve are unreliable since commanders may only see their unit equipment during inventories.[76]

A recommendation to address this issue is to establish ready-to-go equipment sets for specific types of units. These equipment sets would belong to the maintenance units that are located at training sites, and then these units would report to on the use, maintenance, and availability of the equipment. The unit would leave the minimal training set behind and then pick up a complete set at the power projection platform or fall on to equipment in theater. Thus, equipment and maintenance would no longer be measures of Army Reserve unit readiness.[77]

---

[76] Fisher and Howard, 2006.

[77] Fisher and Howard, 2006.

APPENDIX B

Selected Rapid Capability Organizations

In the years following the invasions of Afghanistan and Iraq, the Army stood up a number of programs and processes geared toward rapidly responding to units' requests for off-MTOE equipment as well as documenting new equipment and assessing its place in the MTOE. The following is an overview of three of these programs: the Capabilities Development for Rapid Transition (CDRT), the Rapid Equipping Force (REF), and the Rapid Fielding Initiative (RFI).

Capabilities Development for Rapid Transition (CDRT)

The Army's process for evaluating and transitioning rapidly acquired capabilities is CDRT, established in 2004. This process, led jointly by TRADOC ARCIC and G-3/5/7, evaluates NSE with regard to future potential servicewide value. Materiel systems and nonmaterial capabilities are nominated by the deployed forces after at least 120 days of evaluation in the field and completion of a Forward Operational Assessment (FOA). The CDRT process steps are outlined in Figure B.1. At the end of the process, recommendations are made for the disposition of the evaluated capabilities. There are three possible outcomes for each capability:

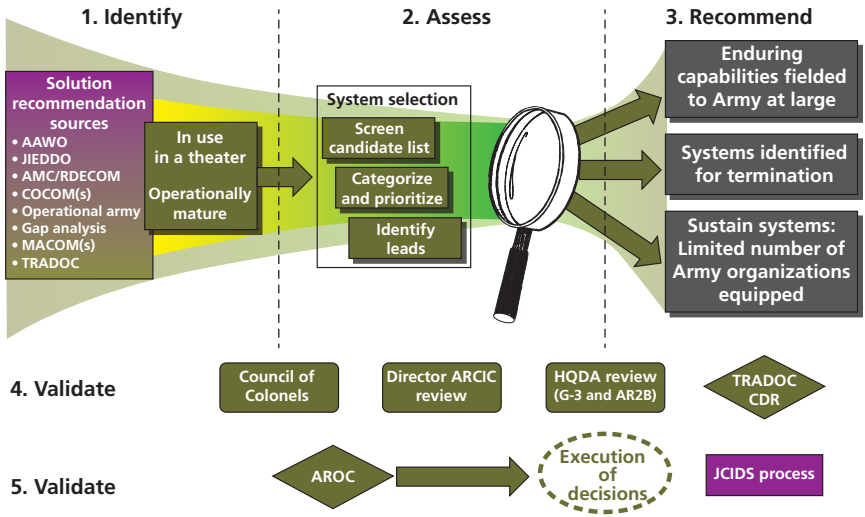
- **Acquisition Program Candidate (APC):** The capability is found to be applicable to appropriate Army units, has the potential for increased production, and addresses both current and future force capability gaps or requirements. APC capabilities are transferred

to the appropriate program office. Typically, they will be inserted into the JCIDS process at an appropriate point, depending on their maturity, or merged with other development programs addressing the same capability gap or requirement.

- **Sustain:** These capabilities are found to have continuing utility for currently deployed units, but are not determined to be applicable to the larger Army. Supplemental funding is used for continued sustainment, managed by the AMC.
- **Terminate:** These capabilities are found to have no or limited utility, or to have been superseded by other systems. Any further sustainment becomes the responsibility of the unit that owns the property.

The first iteration of CDRT took place in late 2004. Currently, CDRT iterations run on an overlapping quarterly cycle. CDRT provides a rich dataset of rapidly developed and fielded capabilities that

Figure B.1
Steps of the Army's Capabilities Development for Rapid Transition (CDRT) Process

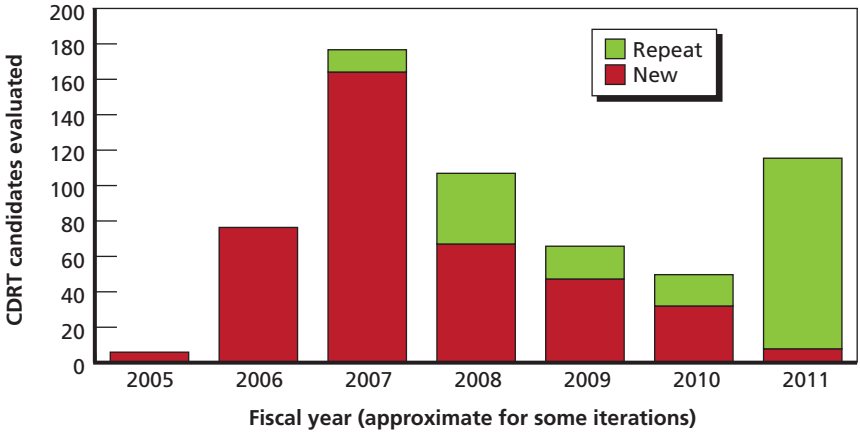


RAND *RR230-B.1*

are identified as valuable from Army forces in theater. Also, because CDRT is the primary process for transitioning equipment from rapid to standard acquisition processes, it is possible to track these transitions over time and understand the impact of ACD on MTOEs and readiness reporting. We will examine this data closely below.

Capabilities considered within the CDRT process peaked early in Iraq and Afghanistan and have declined dramatically over recent years, as seen in Figure B.2. The greatest number of nominations occurred in the first few iterations (2005–2007), when the process was getting off the ground and evaluating nonstandard equipment (NSE) delivered in the early years of the Global War on Terror. The number of new systems under evaluation peaked in 2007 at 164. The drop-off that has occurred after that time has been dramatic—on average, there have been 52 percent fewer nominations each year since 2007, culminating in a low of nine new nominations for the first three iterations in 2011. In iterations 11 and 12, in fact, there were only two new nominations each time.

Figure B.2
CDRT Candidates Evaluated Per Year



NOTE: "New" candidates are capabilities being evaluated for the first time in CDRT. "Repeat" candidates are those previously evaluated as Sustain and renominated in a later iteration.

RAND *RR230-B.2*

The overall number of nominations is not, however, dropping in the same way, as the data in Figure B.2 indicate. In 2011 there were more total nominations than in any year since 2007. The vast majority of these were repeats, capabilities that were rated Sustain in previous iterations. Since a Sustain rating results in supplemental funds assigned for sustainment, systems will often reenter CDRT when this funding ends. The end result is that a large number of systems do not truly receive a final evaluation from CDRT. They are rated Sustain and a final decision is deferred to a later date.

In general, the CDRT process is effective at identifying worthy capabilities for transition to standard Army acquisition processes. While CDRT has selected only a small percentage (8 percent) of rapidly acquired systems to be APC, the systems it has selected appear to be well chosen. The 46 materiel systems rated APC have translated, after merging some of them together and others into existing development programs, into 32 programs in the Army's acquisition processes. Twenty of these have already become Acquisition Programs that will compete in the 12–17 POM, with many others reaching their capability production document (CPD) or capability development document (CDD), generally well in advance of where a standard JCIDS program would stand after a similar time period. Only one program has been dropped from JCIDS, and that was determined to be a GSA item. The conclusion is that CDRT, when it does make final evaluations, makes well-considered ones.

CDRT defers final disposition decisions on a large number of capabilities. Through the first 12 iterations of CDRT, 389 unique materiel capabilities were evaluated. Of these, only 46 (12 percent) were identified as APC and transitioned to the JCIDS process. An additional 151 (39 percent) were terminated, while the remaining 192 (49 percent) were rated Sustain. Many of the systems rated Sustain reentered CDRT in later iterations: in fact, 33 percent of all CDRT evaluations have been of these repeats, and 66 percent of all CDRT evaluations (repeats included) have resulted in a Sustain decision.

The large number of repeat nominations indicates that CDRT is being used not just as a transition process, but also as a process for obtaining ongoing sustainment funding for NSE. It does not seem that

having the CDRT community continually reevaluate NSE and continually confirm a Sustain rating represents the best use of that community's time and effort. The Army may wish to consider alternative approaches to revalidate NSE for sustainment funding.

Rapid Equipping Force

The Rapid Equipping Force is the key organization within the Army for directly and rapidly reacting to an immediate need. Established in 2002 to address deficiency in rapidly deploying technology solutions, the REF has an objective to identify and deploy a solution within 90 days of validation of the need. Given the short time frame, the REF focuses on identifying commercial off-the-shelf (COTS) and/or government off-the-shelf (GOTS) solutions. To date, the REF has delivered over 800 solutions to the field, usually in small quantities to the single unit with the specific need. The REF also coordinates with PMs to ensure that once a solution has been developed, it will be possible to quickly identify and obtain it should the need arise for a different unit. Further, the REF is tied closely to the CDRT process and has nominated and evaluated a large number of capabilities for transition to standard Army equipment.[1]

Other organizations are focused on rapidly developing technologies that will lead to deployable solutions. One example is the Biometrics Task Force (BTF), created in 2006 in response to operational needs for biometric identity verification methods. The BTF is charged with identifying and developing biometric technologies and integrating them into the force. The BTF has recently been renamed the Biometric Identity Management Agency (BIMA) and is in the process of transitioning to a permanent Field Operating Agency (FOA) within G-3/5/7. Other organizations more focused on rapid development leading to deliverable solutions include the C-RAM and BETTS-C task forces.

---

[1] REF Meeting, T. Pat Barrett, REF Director's Initiatives Group Chief, December 14, 2011.

Rapid Fielding Initiative

The Rapid Fielding Initiative (RFI) is an organization focused on rapidly and efficiently fielding common equipment to deploying soldiers and units. The RFI was created by Program Executive Officer (PEO) Soldier in 2002 in response to inefficient fielding of individual equipment, which led to soldiers' subsidizing their own equipment. The RFI's objective is to field its regularly updated equipment to every deploying soldier and unit in advance of deployment. The organization uses a spiral development approach to continually upgrade its equipment list. The RFI straddles the development and reaction functions of other rapid fulfillment organizations, as it focuses on building a common set of equipment for each soldier and unit and ensuring efficient distribution of its products.

There are a number of key features of the equipment distributed by RFI. It is generally COTS and readily available with short lead times. It is not equipment that requires extensive training and would thus be needed for domestic peacetime operations. It is tailored toward the needs of the current theater, thereby providing capability beyond the general-purpose equipment soldiers have for training and normal peacetime operations.[2]

The equipment fielded by the RFI is Organizational Clothing and Individual Equipment (OCIE), generally NSE and not MTOE equipment. Readiness reporting does not capture OCIE. Indications that a unit had recently received new equipment via the RFI would be reflected in other unit documents such as individual soldier hand receipts or central issue facility records.

---

[2] RFI Meeting, David Super, RFI, March 8, 2012.

APPENDIX C

MTOE Scrubs

From December 2010 through October 2011, under the direction of the Chief of Staff, the Army undertook a broad review of requirement and authorization documents. Known as the "MTOE Scrubs," this effort focused on whether the equipment requirements documented on Modified Tables of Organization and Equipment (MTOEs) were appropriate for full-spectrum operations (FSO). This appendix will provide some background on the MTOE Scrubs, present some of their key findings, and discuss the significance of the MTOE Scrubs for the Army, including which elements of them should be preserved to supplement existing Army processes.

Background

The MTOE Scrubs were motivated by senior leader concern about MTOEs. Those concerns can be characterized in three groups.[1] First, were MTOEs suitable for FSO? That is, did documented requirements position units to fulfill missions all along the spectrum of conflict, or, for instance, were MTOEs too focused on high-intensity conflict? Second, were MTOEs too "rich"? That is, was there more equipment documented as a requirement than units actually needed to accomplish their designed missions? Third, were MTOEs "wrong"? Recent opera-

[1] G-3/5/7 DAMO-FM, briefing slides, "Documentation/LIN Review Tiger Team—Final Update," briefing to the Vice Chief of Staff of the Army, September 22, 2011; interview, G-3 FM, April 4, 2012.

tional experience in Iraq and Afghanistan indicated that many units were fighting with equipment that was not on their MTOE, while leaving much that was at home.

G-3 FM was charged with coordinating a "Tiger Team" to address these concerns. In addition to G-3 FM, represented organizations included HQDA G-1, G-4, G-8, U.S. Army Force Management Support Agency (USAFMSA), AMC, TRADOC, Office of the Chief of the Army Reserve (OCAR), the National Guard Bureau (NGB), and FORSCOM.[2] The Tiger Team's basic approach was to identify a type of unit worthy of examination (e.g., an infantry brigade combat team), find a specific unit with an MTOE that was neither too old nor too new (e.g., 1/10 IBCT), use that unit's MTOE as an exemplar, and then invite all other IBCTs to offer their feedback in a four- to five-day conference.[3] Pre-conference input was solicited using the exemplar MTOE. Such preliminary feedback was invited principally on LIN-related issues, but during the conferences discussion encompassed manning and organization topics. See Table C.1 for the conferences and their respective foci. The Tiger Team reviewed 18 standard requirements codes (SRCs) in this manner, representing 3,858 units in the Army.[4]

Outcomes

The Scrubs' output and impact can be divided into two categories: identification of strategic-level issues that speak to senior leaders' concerns about MTOEs' suitability for FSO, and ancillary benefits, including the identification and resolution of LIN-specific issues that directly affect readiness reporting.

---

[2] G-3/5/7 DAMO-FM, 2011; interview, G-3 FM, 2012; LTG William J. Troy, "Army Modified Table of Organization and Equipment (MTOE) Scrub Strategic Issues," Department of the Army, Office of the Chief of Staff, October 4, 2011; The Stryker, Infantry, and Heavy Warfighter Forums also assisted in conducting MTOE Scrub events.

[3] Interview, G-3 FM, 2012.

[4] G-3/5/7 DAMO-FM, 2011. The SRCs selected represented a large number of units, but some key communities were not covered. Most importantly, no Aviation MTOEs were reviewed.

Table C.1
MTOE Scrub Conference Locations, Subjects, and Dates

Date	Focus (Unit)	Location
December 2010	SBCTs (4/2 SBCT)	Joint Base Lewis-McChord
January 2011	Sustainment units	Fort Lee (Sustainment CoE)
March 2011	IBCTs (2/10 IBCT)	Fort Drum[a]
April 2011	SRC 11 (Signals units)	Pentagon (AEERC 14.0)
June 2011	Maneuver support units	Fort Leonard Wood (MSCoE)
July 2011	HBCTs	Fort Carson

[a]HQDA G-8 led an event at Fort Drum on November 17–19, 2010 that examined the MTOEs of some sustainment units. This was not an official HQDA Tiger Team "MTOE Scrub," though it served as a partial model.

SOURCE: G-3/5/7 DAMO-FM, 2011.

Strategic Issues

The Scrubs' chief objective was to identify strategic issues for further Army study and action. An October 2011 memo from the Director of the Army staff described 27 specific issues and assigned them variously to TRADOC, HQDA G-3/5/7, and HQDA G-1 for analysis.[5] Of the 27 issues, 4 were assigned to G-3/5/7, 2 to G-1, and 21 to TRADOC. The organizations were to provide information papers not later than December 15, 2011, that outlined the issue at hand, recommended whether further study was required, and provided a way ahead for any such studies.

The TRADOC papers were made available for RAND to review. The 21 issues were addressed in 18 papers covering 7 topic areas: unit design, electric power, personnel, soldier equipment, communications, vehicle issues, and mission command. Of these, 12 papers conclude that "no further study" was required.[6] A further seven indicated that

[5] Troy, 2011.

[6] TRADOC's cover memo to the 18 information papers indicates that 8 of the 21 issues deserve further study, implying that 13 rather than 12 require "no further study." Only 12 papers plainly state "no further study," or words to that effect. John J. Twohig, Memorandum for MG Anthony R. Ierardi, HQDA DAMO-FMF, "Army Modified Table of Organization and Equipment (MTOE) Scrub Strategic Issues Information Papers," Headquarters

analysis of or an actual solution to the issue is already under development. In only 2 of the 21 cases does an information paper imply that the MTOE Scrubs have raised a *new* issue that deserves further study, and in both cases the actual role played by the Scrubs is ambiguous.[7]

Ancillary Benefits

In addition to collectively raising the aforementioned FSO-related strategic issues, each individual MTOE Scrub conference brought some ancillary benefits to the Army.[8]

Some such benefits were LIN-focused. The Scrubs reviewed 845 discrete LINs.[9] The HQDA Tiger Team was able to direct issues that specific units had with LINs on their MTOEs to the appropriate, existing Army process for resolution. Concerns about a LIN's suitability could be directed to LIN Validation, a quarterly exercise in which USAFMSA reviews hundreds of LINs and basis of issue plans (BOIPs) to ensure that they are appropriate to current Army needs. If conference participants felt a given LIN was obsolete, a request for type reclassification could be directed to the SLAMIS website. If a unit had an EOH shortage against a documented requirement, HQDA Tiger Team members could provide improved LIN visibility and direct cross-leveling as appropriate. If units expressed a strong preference to deliver a capability with a more modern piece of equipment than that listed on their MTOE, HQDA representatives were in a position to explain the reasoning behind the current document. For example, if

---

TRADOC, Force Design Directorate, Army Capabilities Integration Center, December 21, 2011.

[7] The two issues in question are "Define/clarify whether the Army has taken too much CBRN risk" and "Define/clarify the Army plan for Cyber Security." In the former case, the information paper strongly implies that the MTOE Scrubs stimulated a closer look at this issue, though TRADOC moved to analyze it before being tasked by the Army Staff with the information papers. In the latter case, the information paper indicates that further study is required, but implies that this requirement was recognized before the MTOE Scrubs.

[8] A comprehensive record of what LINs were reviewed, issues raised, and resolution (if any) of issues is not available. The following discussion is based on interviews with participants from G-3 FM, TRADOC, and the Stryker Warfighting Forum.

[9] G-3/5/7 DAMO-FM, 2011; interview with G-3 FM, 2012.

unit representatives indicated that they wanted M-4s on their MTOE instead of M-16s, Tiger Team members could discuss the resources required to provide all units with M-4s, and explain the Army's preference for directing those resources toward developing an improved soldier weapon in the future.

The HQDA Tiger Team also used the Scrubs as an opportunity to improve readiness reporting. Attendees were briefed on Unit Status Report (USR) best practices. In particular, the Tiger Team was able to identify for attendees increased opportunities to report Authorized Substitute and In-Lieu-Of LINs against MTOE requirements that previously showed an EOH shortage.

Significance

The MTOE Scrubs' significance to the Army should be considered from two angles. The first angle is whether, as a one-time event, the MTOE Scrubs were worthwhile. Available data do not support an assessment of the impact of LIN-level changes, but some consideration of the strategic issues is possible. The second angle is what, if any, elements of the MTOE Scrubs should be included as a permanent part of Army processes.

Impact on Strategic Issues

RAND Arroyo Center was able to review the Army's responses to 21 of the 27 strategic issues raised by the MTOE Scrubs, specifically those tasked to TRADOC. What was striking about information papers that contained TRADOC's responses was that in 60 percent of them, TRADOC concluded that no further study was necessary beyond what was provided in the 1–2 page paper, and a further 33 percent stated that no *additional* action was necessary. In other words, after a series of senior leader-driven, major conferences involving a broad swath of the operational community and key force design and equipping stakeholders, it was TRADOC's view that the Army should maintain the status quo rather than question the force design.

That at most two strategic issues assigned to TRADOC via the MTOE Scrubs resulted in some further action is not itself an indictment of the significance of the Scrubs. No presumption of action attaches to the findings of the MTOE Scrubs, which, however extensive they might have been, exist outside other normal Army processes for adjusting MTOEs. That at least seven of the strategic issues already had analyses or materiel solutions under way is in some ways encouraging, as it could indicate that issues captured in the MTOE Scrubs had previously been captured by those 'normal' processes.

Yet the nature of some of the TRADOC responses raises questions about whether the strategic issues have received the full consideration they might deserve from the Army. Of the 12 issues that received a flat "no further study" response, the majority stated, in effect, that units had found that their MTOEs, which are based on their doctrinal mission, were inadequate to meet the requirements imposed on them by operations. TRADOC was asked in these cases to "define/clarify" the doctrinal model roles, missions, function, and/or equipment requirements of the unit in question. In these cases, the information paper provided some detail on the units' doctrinal mission and design, and stopped there. Though such a response meets the letter of the tasking, it talks past the problems that gave rise to the issue. MTOE Scrubs indicated that unit designs were not well matched with unit employment; TRADOC merely confirmed that.

If these information papers are the final response to the strategic issues raised by the MTOE Scrubs, the Army will not have reaped significant strategic-level benefit from the exercise. The motivation behind the MTOE Scrubs was to discover whether MTOEs were suitable for FSO. The central question is, "Is unit design right?" The Scrubs raised a number of cases where the doctrinal model, *as employed* in one part of the spectrum of warfare, was inadequate—evidence that the unit design was not suitable for real-world mission requirements, and that the answer to the central question was "No." TRADOC's information papers did not take a position on whether unit design was right or wrong, but rather "defined and clarified" the doctrinal intent of unit design. This in effect tells the Army what it already knew: units were not designed to be employed as they are being employed in Afghani-

stan (and, earlier, in Iraq). Such elaboration is a useful starting point, but it is not a useful ending point. The response does not weigh the findings of the MTOE Scrubs—strategic-level issues based on doctrinal models that represent thousands of Army units—against the benefits of preserving the status quo. The implication is that unit design *is* right, and that recent operational experience should not drive change to it. This may in fact be the correct answer in each case, but it deserves study.

It is not clear at the time of this writing what will become of these TRADOC responses to the MTOE Scrubs' strategic issues. TRADOC interviewees expressed the opinion that even those papers that concluded that "no further study" was required were not necessarily the final word on the issue—but that HQDA would have to focus scarce TRADOC resources in the event that further analysis was called for.[10] Further, Arroyo has not reviewed the information papers tasked to G-1 or G-3/5/7 (understood to be in draft at this time); these too are an important part of understanding the MTOE Scrubs' impact. At the present time, however, it is possible to conclude that the MTOE Scrubs will not have a significant impact on strategic-level issues absent further analysis by the Army.

Preserving Unique Elements of the MTOE Scrubs

Progress on strategic-level issues aside, part of the MTOE Scrubs' significance turns on whether elements of them can and should be institutionalized as regular Army processes. It might not be feasible to regularly repeat such a series of conferences—the MTOE Scrubs in total cost between $200,000 and $300,000—and bringing together so many participants from different operational units is particularly challenging.[11] But two elements seem worth preserving: supplementary operational feedback on unit design and on LIN-specific issues.

[10] Interview with TRADOC ARCIC Force Design Directorate, April 18, 2012.

[11] Interview with G-3 FM, 2012.

The MTOE Scrubs were an opportunity for the operational community to provide feedback on current unit design.[12] HQDA and TRADOC representatives were able to get direct, interactive input from a broad sample of units of a specific type and form a detailed, composite picture of their perspective on the most important unit design problems. It seems that this might be a valuable supplement to the existing unit design process, as current avenues for operational input on the need for change to current TOEs are limited. On paper, the Force Design Update (FDU) process is supposed to be responsive to operational feedback: a "good idea" can come from anywhere. The formal mechanism to capture the "good idea," that is, to request a change to a TOE, is DA Form 2028, "Recommended Changes to Publications and Blank Forms."[13] This free-text form must be completed in hard copy and then passed through the chain of command. The generating METL is responsible for validating the change request with all similar units, which may be in other MACOMs or components. This perhaps achieves a breadth of input even more comprehensive than that available from the MTOE Scrubs, but the period from request to outcome is as much as 46 months.[14] The process is viewed as onerous

[12] Some of these unit design issues are evident in the list of 27 strategic-level issues, but these are not the entirety of them. The Stryker Warfighter Forum, for instance, collected unit design issues in a separate memo sent by the I Corps Deputy Commander to Commanding General FORSCOM. The issues listed there were raised in the December 2010 SBCT MTOE Scrub and vetted by the Stryker Warfighters Forum with the rest of the Stryker community. They are prioritized, with a proposed solution and projected net cost. FORSCOM provided this memo to TRADOC. LTG Lloyd Miles, memorandum for Commander, U.S. Army Forces Command, "2011 Stryker Brigade Combat Team (SBCT) Force Design Updates (FDUs)," May 19, 2011.

[13] AR 71-32, "Force Development and Documentation—Consolidated Policies," Headquarters, Department of the Army: Washington, D.C., March 3, 1997. Note that units can also request that MTOEs be changed, using form 4610-R, which is available on FMSWeb. Note that AR 71-32 calls for TOEs to be reviewed at least every three years. TRADOC indicated that the Army has not done cyclic TOE reviews in over a decade. This is not necessarily in violation of the regulation, as it stipulates that TOEs are exempt from the once-every-three-years rule if they have been changed in some way in the interim. It seems probable that a TOE would have at least one new BOIP approved for it every three years. This would hardly substitute for a full review, but give relief from the regulation.

[14] AR 71-32, 1997.

and is rarely pursued.[15] The Army intends to automate the DA Form 2028 process.

Apart from this formal process, TRADOC sources indicate that operational input to identify issues with existing force design is limited. TRADOC's Army Capabilities Integration Center (ARCIC) consults Center for Lessons Learned (CALL) reports and analyzes Operational Needs Statement (ONS) requests, but does not have a formal process for soliciting comments from units.[16] Such solicitation *does* happen in the Army. Some Warfighter Forums (e.g., the Stryker WfF) conduct data capture events with returning units, staff potential requests for documentation changes with the community at large, and deliver a consensus list to FORSCOM.[17] But it is not clear if, when, and how such feedback reaches TRADOC or whether it impacts force design in any way. Rather than start a new process to generate the kind of direct operational feedback offered by the MTOE Scrubs, the Army could consider tightening the link between these Warfighter Forum events and TRADOC. This step, in addition to automating the DA Form 2028 submittal, should improve operational feedback to unit design.

Operational feedback to unit design is an area where the Army's existing process does not seem adequate, and where an element of the MTOE Scrubs could be considered, if not a replacement, at least a substantial enhancement. A lesser but still significant opportunity exists to supplement existing processes to address LIN issues; much of the Scrubs' direct benefit to units and to Army readiness came about because they were able to address LIN-specific documentation concerns. In these cases, the Scrubs were facilitating the use of existing Army processes rather than providing a wholly new process. The Scrubs' unique contribution was possible because, much as with input on unit design, they provided a venue for direct interaction between HQDA stakeholders and a broad sample of the operational community on LIN issues.

---

[15] Interview with TRADOC ARCIC Force Design Directorate, April 18, 2012.

[16] Interview with TRADOC ARCIC Force Design Directorate, 2012.

[17] Interview with Stryker Warfighter Forum, April 16, 2012.

The benefit from this direct interaction flowed in both directions. First, for the operational community, it could speed the process of issue resolution. USAFMSA representatives could, for example, recognize a documentation error and correct it right away. Or G-8 staff could explain the resource constraints that drove documentation decisions—no documentation change may result, but the operational community would get instant feedback on *why* no change was forthcoming. Second, the HQDA stakeholders benefited from hearing input directly from a broad sample of a given operational community. The nature of LIN complaints (and this applies to unit design issues as well) could be more fully understood in a conversation than it would be if the request for a change had passed through the chain of the formal processes. The breadth of representation meant that conflicting views from within an operational community could be readily reconciled, or at least the source of the differences could be understood.

At least a modest version of the HQDA stakeholder-unit interaction fostered by the MTOE Scrubs on LIN issues should be preserved. A mini–Tiger Team could visit at least one of each type of unit moving out of their period in the Available pool, whether they deployed or not, to gather feedback on MTOE equipment. The Warfighter Forums' data capture events could provide synergy for applicable units. The unit's responses could then be vetted with other units of like type, before HQDA considers what, if any, changes should be made. This sampling would not afford the same level of attention to individual units' discrete documentation problems, but it could serve to stimulate increased use of regular Army processes to address LIN issues.

Conclusion

The MTOE Scrubs were directed at addressing specific senior leader concerns on a one-time basis. They raised strategic-level issues, but whether that has any impact on the Army remains to be seen. The initial responses available for review in many cases did not grapple with the underlying issue, and would seem to deserve further attention—which may or may not be forthcoming. The Scrubs also had the ancil-

lary benefit of addressing unit- and LIN-specific problems through direct interaction between a broad sample of the operational community and HQDA stakeholders.

While the MTOE Scrubs may have been a one-time event, elements of them should be preserved. In particular, the Army should supplement its existing processes for collecting feedback on MTOEs with opportunities for direct interaction between the operational community and Department of the Army stakeholders.

Table C.2
Issue Papers from the MTOE Scrubs

Tasked Organization	Issue Group	Issue	Way Ahead (Available for TRADOC Only)
HQDA G-3/5/7	N/A	Identify and recommend solutions to mitigate effects of migration of equipment from the MTOE to Common Table of Allowance (CTA).	
HQDA G-3/5/7	N/A	Recommend whether or not to change the Army policy that a Line Item Number (LIN) is either MTOE or CTA, but cannot be both.	
HQDA G-3/5/7	N/A	Fielding of equipment sometimes occurs ahead of documentation.	
HQDA G-3/5/7	N/A	Recommend how the Army should institutionalize capability scrubs as a part of the "art" of MTOE documentation.	
HQDA G-1	N/A	Assess whether the current Warrant Officer (WO) management strategy and grade structure guidance requires adjustment.	
HQDA G-1	N/A	Assess the balance between the speed of Noncommissioned Officer (NCO) promotions in technical MOSs vs. Army's expected experience level for that MOS.	
TRADOC	Unit Design	Define/clarify the doctrinal roles, missions, and expected doctrinal battle space area in unit designs for each BCT type (H/S/IBCT).	No further study required
TRADOC	Unit Design	Define/clarify the doctrinal roles, missions, function, and responsibilities of the Recon Squadron.	No further study required
TRADOC	Unit Design	Define/clarify the role and mission of the Brigade Engineer Battalion (BEB) Headquarters (HQ).	No further study required

Table C.2—continued

Tasked Organization	Issue Group	Issue	Way Ahead (Available for TRADOC Only)
TRADOC	Unit Design	Define/clarify the commonality and divergence in three modular BCT types. Discuss designs and the differing roles and missions for H/S/IBCTs.	No further study required
TRADOC	Unit Design	Define/clarify requirement for fire support for nonmaneuver units in an FSO environment.	No further study required
TRADOC	Unit Design	Define/clarify whether the Army has taken too much Chemical Biological Radiological Nuclear (CBRN) risk.	Further study required
TRADOC	Electric Power	Define/clarify how the Army should properly capture power generation requirements.	Further study ongoing
TRADOC	Electric Power	Define/clarify who on a staff has the responsibility to be formally trained in power planning, establishing a power network/network management plan, and installing power distribution equipment.	Further study ongoing
TRADOC	Personnel	Define/clarify costs in personnel and equipment to achieve standard designs for common organizations.	No further study required
TRADOC	Soldier Equipment	Define/clarify the Army standard for individual Soldier weapon systems at all echelons.	No further study required
TRADOC	Soldier Equipment	Define/clarify the Army standard for individual Soldier night vision at all echelons.	No further study required
TRADOC	Soldier Equipment	Define/clarify the Army's dual weapons policy.	No further study required
TRADOC	Communications	Define/clarify the communications architecture and doctrine for all echelons with regard to voice, data, digital, and video.	Further study ongoing + materiel solutions forthcoming

Table C.2—continued

Tasked Organization	Issue Group	Issue	Way Ahead (Available for TRADOC Only)
TRADOC	Communications	Conduct a study of the second and third order effects of migration to a network-centric Mission Command system.	Further study ongoing
TRADOC	Communications	Define/clarify the Army plan for cyber security.	Further study required
TRADOC	Communications	Define/clarify the Army's requirements and architecture for Soldier communications.	Materiel solution forthcoming
TRADOC	Vehicle Issues	Define/clarify intent to have commonality of design for wheeled vehicle platforms.	No further study required
TRADOC	Vehicle Issues	Define/clarify correct design/materiel solution for BCT's to conduct convoy security.	No further study required
TRADOC	Mission Command	Define/clarify the correct design and materiel solution for BCT leaders (Commanders and Command Sergeants Major) to conduct battlefield circulation.	No further study required
TRADOC	Mission Command	Define/clarify the minimum communication/digital system requirements for BCT and BN Commanders to provide Mission Command on the move.	Further study ongoing
TRADOC	Mission Command	Define/clarify the CO HQs/Command Post (CP) design, functions, tasks, equipment, and manning.	Further study ongoing

SOURCE: Troy, 2011; Twohig, 2011.

APPENDIX D

Framework for Considering Root Causes of Assigned Missions

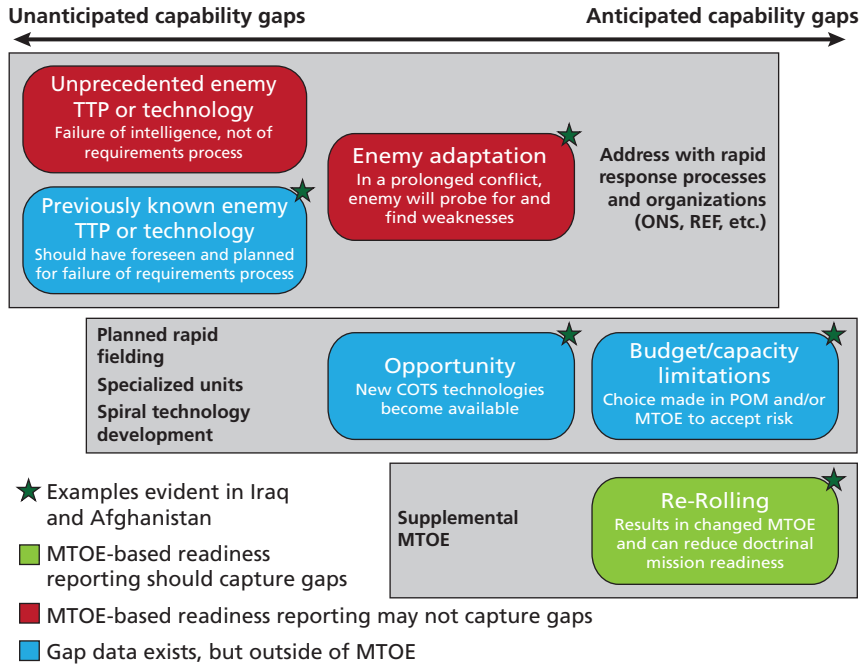
The boxes in Figure D.1 represent different types of capability gaps that may arise during an operation, grouped roughly on a scale from unanticipated gaps to anticipated gaps. Several of these gaps have been observed during operations in Iraq and Afghanistan. The approach of choice to addressing capability gaps (e.g., DOTMLPF) will vary depending on the type of gap—some possible approaches are shown in the gray boxes in Figure D.1.

Unprecedented Enemy TTP or Technology. It is possible that a deployed unit will encounter completely new or unexpected enemy TTPs or technology, due to a failure of intelligence to identify that enemy capability. If such a capability was never considered in a concept of operations (CONOPS), then a validated requirement associated with it will not exist and the MTOE will not be responsive.

Previously Known Enemy TTP or Technology. It is widely documented that U.S. forces were not adequately prepared for the shift to COIN operations in Iraq and Afghanistan. The DSB noted in 2011 that "insurgency has been the most prevalent form of armed conflict since at least 1949 . . . the U.S. military establishment turned its back on insurgency."[1] In particular, IEDs were not a new technology: they had been encountered previously in Bosnia and Somalia, and up-armored HMMWVs had been rushed into service in those prior

[1] Defense Science Board, "Report of the Defense Science Board Task Force on Defense Intelligence: Counterinsurgency (COIN) Intelligence, Surveillance, and Reconnaissance (ISR) Operations," February 2011.

Figure D.1
A Framework for Considering the Role of ACD Processes in Army Operations



RAND *RR230-D.1*

engagements. However, at the outset of operations in Iraq and Afghanistan, almost no armored vehicles were available to the deploying light forces in the Army. Only 2 percent of HMMWVs were armored, and armored security vehicles were only assigned to Military Police units. As the DoD Inspector General would note, DoD should have been better prepared to provide armored vehicles for irregular warfare.[2] This is not a case where entirely new CONOPS and requirements needed to be developed: up-armored vehicles had been developed and used before, and MRAPs had already been evaluated by the Army. How-

[2] Christopher J. Lamb et al., "MRAPs, Irregular Warfare, and Pentagon Reform," *Joint Force Quarterly,* Vol. 55, 2009.

ever, the planning process that focused on theater war and assumed that a short-term engagement did not incorporate requirements from such CONOPS into MTOE development. The need for armored vehicles (and other technologies) to counter IEDs was not anticipated (or at least was quickly discounted), but very clearly it could have been foreseen. In Iraq and Afghanistan, the primary capability gaps, force protection for COIN operations, had precedent.

Enemy Adaptation. As operations in Iraq and Afghanistan extended in time, the enemy continually adapted, particularly by developing new IEDs and similar devices to probe for and attack weaknesses in U.S. defenses. The fact of enemy adaptation can be anticipated, but the specific adaptations themselves cannot—all that can be known for sure is that weaknesses will almost certainly be identified and exploited.[3] Almost by definition, MTOEs do not provide readiness against these kinds of adaptation. It is worth noting that all the major forms of IEDs were seen fairly early in OIF and OEF, by 2005.[4] This underscores the value of having a robust rapid-response capability early in operations, when UONs become apparent with the greatest frequency.

Opportunity. In a number of fields, particularly IT, new technology becomes available on a faster time scale than that of DoD's acquisition processes. As a result, during operations and when supplemental funding is available, opportunities exist to incorporate new COTS technology to increase efficiency and reduce risk associated with assigned missions. It is desirable to have the ability to rapidly and continually identify useful technologies and solutions and push them to deployed forces where they will provide value. An example seen in recent operations is the rapid dissemination of new data-collection technologies and capabilities for SIGINT, battlefield awareness, and human terrain systems.[5]

---

[3] For detailed examples of enemy adaptations, see Christopher G. Pernin et al., *Armoring Against an Adaptive Enemy: Recent Experiences and Future Directions* (U), Santa Monica, Calif.: RAND Corporation, 2010. Not available to the general public.

[4] Lamb, 2009.

[5] DSB, 2011.

Budget/Capacity Limitations. As discussed previously, the MTOE is a compromise among a number of requirements generated from various CONOPS. Units cannot generally be resourced to address all possible requirements with minimal risk: to do so would require something approaching infinite budgets and carrying capacity. Choices must be made to accept risk in certain areas.[6] These risks can and should be clearly identified, so that when units are deployed for missions where greater risk was accepted, the capability gaps associated with those missions are clearly understood. Thus, these are anticipated capability gaps, and it is at least possible to put contingency plans in place to address them should they arise.

Re-Roling. It has been common in recent operations for units to be re-roled to address missions that are substantially different from the doctrinal missions for which they and their MTOEs were designed. Field Artillery units have been re-roled for maneuver, transport, and security missions. Chemical units have been re-roled for site exploitation operations. The resulting capability gaps are deliberate, but differ from the other capability gaps described here because they result primarily from training and personnel-related differences rather than from equipping differences. Routine unit readiness reporting (e.g., the commander's personnel and training ratings and general comments) should identify the resulting capability gaps.

Options for Addressing Capability Gaps

The sources of capability gaps indicated in Figure D.1 and described in the previous section can be loosely grouped into categories (see the gray boxes in the figure). Within these groups, the nature of the gaps and lessons from recent experience suggest methods for addressing them. Some gaps and associated UONs have to be addressed as they arise, through a robust rapid-response system. For others, planning ahead and putting contingencies in place before operations may help reduce the response time and cost of reaction.

Rapid-Response Processes and Organizations. When unanticipated capability gaps are encountered, and when lengthy engagements

[6] Interview with ARCIC, March 22, 2012.

lead to enemy adaptation, a robust rapid-response capability is needed. This was lacking at the outset of OEF and OIF, which resulted in the ad hoc creation of a large number of organizations focused on reacting. A number of these organizations eventually provided very effective capabilities to the Army. As one example, the REF has proven very capable at rapidly developing and deploying solutions, with almost all solutions delivered within their 90-day target. Prior reviews have identified a number of best practices associated with the REF that are recommended for rapid-response organizations.[7]

Unfortunately, as noted by the GAO and DSB, most of the processes in place in doctrine are not particularly robust and do not lend themselves to identifying best practices or to gathering and analyzing data on organizational effectiveness. Further, the Army has not developed a plan to carry rapid-response capability forward into peacetime or to ensure its availability for future conflicts. For example, the REF has developed proposals for its peacetime structure, but there is little optimism that funding levels will support these proposals.[8] The Biometrics Task Force (now BIMA), on the other hand, was institutionalized as a Field Operating Agency (FOA). But there is little in the way of a systematic approach based on lessons learned.

Planned Rapid Fielding. In cases where budget or other constraints lead to accepting increased risk for certain missions, potential capability gaps can be identified in advance of operations. Analysis of the CONOPS whose requirements are not fully addressed by the MTOE can be used to identify solutions that can be rapidly delivered should the need arise. We refer to this as Planned Rapid Fielding, and use the RFI as a model for how this may be implemented. If COTS capabilities can be identified that can be obtained with short lead times and do not require extensive and continual training in advance of use, plans can be put in place to make these available when certain contingencies arise. Equipment identified for Planned Rapid Fielding could be called out in supplemental MTOEs (see below) for specific assigned missions.

---

7 Drezner et al., 2010; Porche et al., 2011.

8 REF Meeting, 2011.

Specialized Issue to Selected Units. If Planned Rapid Fielding is not sufficient to address the risk of a contingency mission, either because a satisfactory COTS solution is not readily available or because extensive training is needed for using the capability effectively, an alternative is to identify a small number of units to receive the new capability. The Army has done this historically with first-to-deploy units, for example, issuing night-vision equipment to 82d Airborne and Ranger infantry units when the technology was new and exotic and not offered to other light infantry formations. Units so equipped would then be available to respond to missions where known capability gaps exist for units with standard MTOEs. The items in question would only appear in unit readiness reporting if they were unit "pacing items"—items central to the primary mission like howitzers in field artillery units. Otherwise, officials would have to employ the Army Total Asset Visibility system or property book records to identify units holding the equipment in question.

Spiral Technology Development. There are some technology areas, notably IT-related technologies, where the pace of commercial development outstrips the Army's deliberate acquisition processes. Adopting a spiral development strategy, where incremental capability improvements are planned and acquired on more rapid cycles, can maintain a high level of capability while reducing development cost. Previous RAND Arroyo Center studies have addressed this potential approach in detail.[9]

Supplemental/Alternative MTOEs. A unit's MTOE is a compromise designed to produce a unit ready for a range of missions to which it will most likely be assigned. The concepts of operations that lead to the MTOE will generally produce a wider range of requirements, not all of which can be accommodated by the MTOE, due to budget or capacity limitations. Choices are made and a greater degree of risk is accepted against some of these potential missions. A supplemental or alternative MTOE could be developed that would address significant gaps that are found in lower-likelihood concepts, thereby reducing the risk associated with them, but are not accommodated in

[9] Drezner et al., 2010; Porche et al., 2011.

the standard MTOE for that unit. The equipment in these MTOEs would not be authorized during peacetime, but the acquisition system, via the POEs, would be prepared to acquire and field the equipment rapidly during operations when the need for it is validated and supplemental funding becomes available.

Bibliography

Advellas, Nicholas, Joseph L. Berry, Michael D. Disano, David M. Oaks, and Earl R. Wingrove III, *Future Capability of DOD Maintenance Depots*, Report LG901M2, LMI, February 2011.

ALARACT, "Equipment Readiness Codes (ERCs)—Change in TOE/MTOE Documentation Policy," number 027/2007, February 2007.

ALARACT, "ILO-M Table in the Net-Centric Unit Status Report (NETUSR)," number 380/2011, April 15, 2010.

ALARACT, "Minimum Mission Essential Wartime Requirements (MMEWR)," number 027/2007, February 7, 2007.

ALARACT, "Transition to Equipment Only Table of Distribution and Allowances (E-TDA) in the Combined Joint Operational Area—Afghanistan (CJOA-A)," number 043/2011, February 11, 2011.

Annotated Client notes, 2011.

ARCIC, "Capability Based Requirements," 2010.

Army 2010 Tactical Wheeled Vehicle Strategy.

Army Readiness Council (ARC), *2010 ARC Discussion Issue Paper: Army Organizations to Report into DRRS-Strategic*, From #2-5, 2010.

Army Readiness Council (ARC), *2011 Executive Summary*, November 4, 2011.

Army Regulation 71-9, "Warfighting Capabilities Determination," December 2009.

Army Regulation 71-32, "Force Development and Documentation—Consolidated Policies," Headquarters, Department of the Army: Washington, D.C., March 3, 1997.

Army Regulation 220-1, "Army Unit Status Reporting and Force Registration—Consolidated Policies," Headquarters, Department of the Army, April 15, 2010.

Army Regulation 525-29, "Army Force Generation," Headquarters, Department of the Army, March 14, 2011.

Capabilities Development for Rapid Transition, Results of Iterations 1-12, SLAMIS, December 2011.

Chairman of the Joint Chiefs of Staff, *CJCS Guide to the Chairman's Readiness System*, Chairman of the Joint Chiefs of Staff Guide 3401D, Washington, D.C.: November 15, 2010. As of January 28, 2012: http://www.dtic.mil/cjcs_directives/cdata/unlimit/g3401.pdf

Chairman of the Joint Chiefs of Staff, *Joint Combat Capability Assessment*, Chairman of the Joint Chiefs of Staff Instruction 3401.01E, Washington, D.C.: April 13, 2010. As of January 28, 2012: http://www.dtic.mil/cjcs_directives/cdata/unlimit/3401_01.pdf

Congressional Budget Office, *An Analysis of the Army's Transformation Programs and Possible Alternatives*, June 2009.

Congressional Budget Office, *Linking the Readiness of the Armed Forces to DoD's Operations and Maintenance Spending*, April 2011.

Congressional Budget Office, *Replacing and Repairing Equipment Used in Iraq and Afghanistan: The Army's RESET Program*, September 2007.

DAMO ODR Notes, 2011.

Defense Science Board (DSB), "Report of the Defense Science Board on the Fulfillment of Urgent Operational Needs," Defense Science Board, July 2009.

Defense Science Board (DSB), "Report of the Defense Science Board Task Force on Defense Intelligence: Counterinsurgency (COIN) Intelligence, Surveillance, and Reconnaissance (ISR) Operations," Defense Science Board, February 2011.

Department of the Army, Office of the Vice Chief of Staff, *Army Equipping Strategy*, July 27, 2011.

Department of Defense, *Sustaining U.S. Global Leadership: Priorities for 21st Century Defense*, January 2012. As of January 28, 2012: http://www.defense.gov/news/defense_strategic_guidance.pdf

Dewey, John T., *Defense Readiness Reporting System: A Better Way to Measure Readiness?* USAWC Project, March 28, 2007.

Drake, Tim, Asymmetric Warfare Division, ARCIC, "2007 Current Force Capability Gap Analysis VI," briefing slides dated August 27, 2007.

Drezner, Jeffrey, A., et al., "Rapid Acquisition of Army Command and Control Systems," Santa Monica, Calif.: RAND Corporation, unpublished RAND research, December 2010. Not available to the general public.

DRRS Implementation Office (IO) Notes, 2011.

Elliot, Whitaker, Cervone, and Pinkela, *Improving Equipment Readiness and Reporting (IER2)*, FORSCOM—G4, G4 Forward OIC, no date.

Feickert, Andrew, "Mine-Resistant, Ambush-Protected (MRAP) Vehicles: Background and Issues for Congress," Congressional Research Service Report to Congress, January 2011.

Fisher, Capt. Gail A., and Col. Gary C. Howard (U.S. Army Reserve Retired), *Apples and Oranges: The Unit Status Report and Readiness in the Army Reserve*, January 1, 2006.

G-3/5/7 DAMO-FM, briefing slides, "Documentation/LIN Review Tiger Team—Final Update," briefing to the Vice Chief of Staff of the Army, September 22, 2011.

Government Accountability Office (GAO), *Defense Logistics: Improved Oversight and Increased Coordination Needed to Ensure Viability of the Army's Prepositioning Strategy*, Washington, D.C.: Government Accountability Office, GAO-07-144, February 2007a.

Government Accountability Office (GAO), *Defense Logistics: Army Has Not Fully Planned or Budgeted for the Reconstitution of Its Afloat Prepositioned Stocks*, Washington, D.C.: Government Accountability Office, GAO-08-257R, February 8, 2008a.

Government Accountability Office (GAO), *Testimony Before the Subcommittee on Tactical Air and Land Forces, Committee on Armed Services, House of Representatives, Force Structure: Restructuring and Rebuilding the Army Will Cost Billions of Dollars for Equipment but the Total Cost Is Uncertain, Statement of Janet A. St. Laurent, Managing Director, Defense Capabilities and Management*, Washington, D.C.: Government Accountability Office, GAO-08-669T, April 10, 2008b.

Government Accountability Office (GAO), *Defense Acquisitions: Decisions Needed to Shape Army's Combat Systems for the Future, Report to Congressional Committees*, Washington, D.C.: Government Accountability Office, GAO-09-288, March 2009a.

Government Accountability Office (GAO), *Military Readiness: DOD Needs to Strengthen Management and Oversight of the Defense Readiness Reporting System, Report to the Subcommittee on Readiness and Management Support, Committee on Armed Services, U.S. Senate*, Washington, D.C.: Government Accountability Office, GAO-09-518, September 2009b.

Government Accountability Office (GAO), *Defense Logistics: Department of Defense's Annual Report on the Status of Prepositioned Materiel and Equipment Can Be Further Enhanced to Better Inform Congress*, Washington, D.C.: Government Accountability Office, GAO-10-172R, November 4, 2009c.

Government Accountability Office (GAO), *Military Training: DOD Continues to Improve Its Report on the Sustainability of Training Ranges*, Washington, D.C.: Government Accountability Office, September 14, 2010a.

Government Accountability Office (GAO), *Financial Management Improvement and Audit Readiness Efforts Continue to Evolve, Statement of Asif A. Khan, Director, Financial Management and Assurance*, Washington, D.C.: Government Accountability Office, GAO-10-1059T, September 29, 2010b.

Government Accountability Office (GAO), *Report to the Chairman, Subcommittee on Readiness, Committee on Armed Services, House of Representatives, Defense Logistics: Additional Oversight and Reporting for the Army Logistics Modernization Program Are Needed*, Washington, D.C.: Government Accountability Office, GAO-11-139, November 2010c.

Government Accountability Office (GAO), *Improvements to DOD's Urgent Needs Processes Would Enhance Oversight and Expedite Efforts to Meet Critical Warfighter Needs*, Washington, D.C.: Government Accountability Office, GAO-10-460, April 2010d.

Government Accountability Office (GAO), *Force Structure: Assessment of Army Progress in Modular Restructuring, Prepositioned Equipment, and Equipment Reset*, Washington, D.C.: Government Accountability Office, GAO 10-507R, April 26, 2010e.

Government Accountability Office (GAO), *Defense Logistics: Oversight and a Coordinated Strategy Needed to Implement the Army Workload and Performance System*, Washington, D.C.: Government Accountability Office, GAO-11-566R Defense Logistics, 2011a.

Government Accountability Office (GAO), *Defense Acquisitions: Key Questions Confront the Army's Ground Force Modernization Initiatives, Testimony Before the Subcommittee on Tactical Air and Land Forces, Committee on Armed Services, House of Representatives, Statement of Michael J. Sullivan, Director, Acquisition and Sourcing Management*, Washington, D.C.: Government Accountability Office, March 2011b.

Government Accountability Office (GAO), *Warfighter Support: Improved Joint Oversight and Reporting on DOD's Prepositioning Programs May Increase Efficiencies*, Washington, D.C.: Government Accountability Office, GAO-11-647, May 2011c.

Government Accountability Office (GAO), *Defense Logistics: DOD Input Needed on Implementing Depot Maintenance Study Recommendations, Briefing for Congressional Committees*, Washington, D.C.: Government Accountability Office, GAO-11-568R, June 2011d.

Government Accountability Office (GAO), *Report to Congressional Committees: Military Readiness: Army and Marine Corps Reporting Provides Additional Data, but Actions Needed to Improve Consistency*, Washington, D.C.: Government Accountability Office, June 2011e.

Government Accountability Office (GAO), *Testimony Before the Subcommittee on Readiness and Management Support, Committee on Armed Services, U.S. Senate. DOD Financial Management: Numerous Challenges Must be Addressed to Improve Reliability of Financial Information. Statement of Asif A. Khan, Director, Financial Management and Assurance*, Washington, D.C.: Government Accountability Office, GAO-11-835T, July 27, 2011f.

Government Accountability Office (GAO), *Improved Cost Analysis and Better Oversight Needed over Army Nonstandard Equipment*, Washington, D.C.: Government Accountability Office, September 2011g.

Government Accountability Office (GAO), *Report to Congressional Committees, Military Training: Actions Needed to Assess Workforce Requirements and Appropriate Mix of Army Training Personnel*, Washington, D.C.: Government Accountability Office, September 2011h.

Government Accountability Office (GAO), *DOD Financial Management: Improvement Needed in DOD Components' Implementation of Audit Readiness Effort*, Washington, D.C.: Government Accountability Office, GAO-11-851, September 2011i.

Government Accountability Office (GAO), *Defense Logistics: Department of Defense Has Enhanced Prepositioned Stock Management but Should Provide More Detailed Status Reports*, Washington, D.C.: Government Accountability Office, September 2011j.

Government Accountability Office (GAO), *Report to Congressional Addressees, Warfighter Support: Improved Cost Analysis and Better Oversight Needed over Army Nonstandard Equipment*, Washington, D.C.: Government Accountability Office, GAO-11-766, September 2011k.

Government Accountability Office (GAO), *DOD Financial Management: Ongoing Challenges in Implementing the Financial Improvement and Audit Readiness Plan, Statement of Asif A. Khan, Director, Financial Management and Assurance*, Washington, D.C.: Government Accountability Office, GAO-11-932T, 2011l.

HASC Notes, 2011.

Headquarters, Department of the Army (HQDA), *Centralized Inventory Management of the Army Supply System*, Army Regulation 710-1, September 20, 2007.

Headquarters, Department of the Army (HQDA), "Defense Readiness Reporting System—Army Procedures," DA PAM 220-1, November 16, 2011.

Headquarters, Department of the Army (HQDA), *Warfighting Capabilities Determination*, Field Manual 3-0, Washington, D.C., December 28, 2009.

Headquarters, Department of the Army (HQDA), G-3/7 FM, "Update on ERC TF Proposal to Change Equipment Readiness Code (ERC)," briefing, August 1, 2006.

Interview with ARCIC, March 22, 2012.

Interview with Army Service Component Command staff member, telephone communication, May 14, 2012 (name withheld).

Interview with Combatant Command staff members, telephone communication, December 29, 2011 (names withheld).

Interview with Combatant Command staff members, telephone communication, May 14, 2012 (names withheld).

Interview with FORSCOM G-3, July 27, 2010.

Interview with FORSCOM G-4, August 1, 2012

Interview with G-3 FM, April 14, 2012.

Interview with Headquarters, U.S. Department of the Army staff members, Washington, D.C., October 7, 2011 (names withheld).

Interview with Headquarters, U.S. Department of the Army staff members, Washington, D.C., October 27, 2011 (name withheld).

Interview with Headquarters, U.S. Marine Corps staff members, Washington, D.C., December 12, 2012 (names withheld).

Interview with House Armed Services Committee and House Appropriations Defense Subcommittee staff members, Washington, D.C., November 4, 2011 (names withheld).

Interview with HQDA G-3 CIB, July 12, 2012.

Interview with Joint Staff staff members, Washington, D.C., December 12, 2012 (names withheld).

Interview with Joint Staff staff members, Arlington, Va., January 12, 2012 (names withheld).

Interview with Office of the Secretary of Defense staff members, Washington, D.C., November 4, 2011 (name withheld).

Interview with Office of the Secretary of Defense staff members, Washington, D.C., December 15, 2011 (name withheld).

Interview with Stryker Warfighter Forum, April 16, 2012.

Interview with TRADOC ARCIC Force Design Directorate, April 18, 2012.

Interview with U.S. Army Force Management Support Agency, Arlington, Va., May 8, 2012 (names withheld).

Interview with U.S. Army Training and Doctrine Command staff members, Arlington, Va., January 17, 2012 (name withheld).

Johnson, Stuart E., et al., *A Review of the Army's Modular Force Structure*, Santa Monica Calif.: RAND Corporation, TR-927-2-OSD, 2012. As of July, 2012: http://www.rand.org/pubs/technical_reports/TR927-2.html

Kelly, Terrence R., John E. Peters, Eric Landree, Louis R. Moore, Randall Steeb, and Aaron Martin, *The U.S. Combat and Tactical Wheeled Vehicle Fleets*, Santa Monica, Calif.: RAND Corporation, MG-1093-OSD, 2011. As of January 28, 2012:
http://www.rand.org/pubs/monographs/MG1093.html

Klimas, Joshua, E., Matthew W. Lewis, Lisa Colabella, Rick Eden, Matthew E. Boyer, and Aimee Bower, *Assessing Army Acquisition Objectives and Equipment On-Hand Goals* (U), Santa Monica, Calif.: RAND Corporation, TR-1271-A, 2013. Not available to the general public.

Krepinevich, Andrew, *An Army at the Crossroads*, Washington, D.C.: Center for Strategic and Budgetary Assessments, 2008.

Lamb, Christopher J., et al., "MRAPs, Irregular Warfare, and Pentagon Reform," *Joint Force Quarterly,* Vol. 55, 2009.

Lewis, Matthew W., et al., *New Equipping Strategies for Combat Support Hospitals*, Santa Monica, Calif.: RAND Corporation, MG-887-A, 2010.
http://www.rand.org/pubs/monographs/MG887.html

Moroney, Jennifer D. P., Adam Grissom, and Jefferson P. Marquis, *A Capabilities-Based Strategy for Army Security Cooperation*, Santa Monica, Calif.: RAND Corporation, MG-563-A, 2007.
http://www.rand.org/pubs/monographs/MG563.html

Miles, LTG Lloyd, memorandum for Commander, U.S. Army Forces Command, "2011 Stryker Brigade Combat Team (SBCT) Force Design Updates (FDUs)," May 19, 2011.

Mulrine, Anna, "How Pentagon Budget Cuts Will Reshape the Army," *Christian Science Monitor*, January 27, 2012. As of January 28, 2012:
http://www.csmonitor.com/USA/Military/2012/0127/How-Pentagon-budget-cuts-will-reshape-the-Army

Pernin, Christopher G., Duncan Long, Patrick Mills, Todd Nichols, Erin York, and John F. Fei, *Documenting Equipment in an ARFORGEN Army* (U), Santa Monica, Calif.: RAND Corporation, unpublished RAND research, January 2012. Not available to the general public.

Pernin, Christopher G., Edward Wu, Aaron L. Martin, Gregory Midgette, and Brendan See, *Efficiencies from Applying a Rotational Equipping Strategy*, Santa Monica, Calif.: RAND Corporation, MG-1092-A, April 2011.
http://www.rand.org/pubs/monographs/MG1092.html

Pernin, Christopher G., et al., *Armoring Against an Adaptive Enemy: Recent Experiences and Future Directions* (U), Santa Monica, Calif.: RAND Corporation, 2010. Not available to the general public.

Porche III, Isaac, Elliot I. Axelband, Bruce J. Held, Jerry M. Sollinger, and Christopher Paul, "Cyber Acquisition for the Army," Santa Monica, Calif.: RAND Corporation, unpublished RAND research, April 2011. Not available to the general public.

Price, Carter, Aaron Martin, Edward Wu, and Christopher G. Pernin, *Where Might the U.S. Army Budget Go, and How Might It Get There?* Santa Monica, Calif.: RAND Corporation, OP-331-A, 2011. http://www.rand.org/pubs/occasional_papers/OP331.html

Rasch, Jr., COL R., "Lessons Learned from Rapid Acquisition: Better, Faster, Cheaper?" U.S. Army War College, 2011.

REF Meeting, T. Pat Barrett, REF Director's Initiatives Group Chief, December 14, 2011.

RFI Meeting, David Super, RFI, March 8, 2012.

Rumbaugh, Russell, *What We Bought: Defense Procurement from FY01 to FY10*, Washington, D.C.: The Henry L. Stimson Center, 2011. As of April 2013: http://www.stimson.org/images/uploads/research-pdfs/Contentv2.pdf

Ryan, Missy, "Initial U.S. Drawdown to Pull from Restive East," *Reuters*, October 18, 2011. As of January 28, 2012: http://www.reuters.com/article/2011/10/18/us-afghanistan-usa-troops-idUSTRE79H6G420111018

Shurkin, Michael, *British, French, and German Armies' Commitment to Full Spectrum Operations in an Age of Fiscal Austerity*, Santa Monica, Calif.: RAND Corporation, RR-222-A, 2013. http://www.rand.org/pubs/research_reports/RR222.html

Stoskus, Paul, "Department of the Army Rapid Equipping Force to International Armaments Technology and Exhibition," presentation, June 16, 2004.

TRADOC Regulation 71-20, "Concept Development, Capabilities Determination, and Capabilities Integration," February 2011.

Troy, LTG William J., *Army Modified Table of Organization and Equipment (MTOE) Scrub Strategic Issues*, Department of the Army, Office of the Chief of Staff, October 4, 2011.

Twohig, John J., Memorandum for MG Anthony R. Ierardi, HQDA DAMO-FMF, "Army Modified Table of Organization and Equipment (MTOE) Scrub Strategic Issues Information Papers," Headquarters TRADOC, Force Design Directorate, Army Capabilities Integration Center, December 21, 2011.

U.S. Army Forces Command, "Contingency Expeditionary Force (CEF): 'Regionally Aligned Brigade,'" undated briefing slides.

U.S. Army Medical Command, Director of Logistics, *Army Medicine Equipping Strategy*, Version 15, May 2011.

The Army has developed an impressive capacity to adapt to emerging requirements by providing units with new capabilities rapidly and flexibly as units prepare for deployment through the Army Force Generation (ARFORGEN) process. The Army's ability to report on readiness throughout these adaptations, however, is challenged. The readiness reporting system is largely predicated on a bottom-up, deliberate process with known milestones and pre-determined designs to which the Army would build readiness. As those targets are changed, for instance when deploying to a changing operational environment as was seen in Iraq and Afghanistan, the reporting system cannot easily keep up. The key challenge to readiness reporting is that Army units now routinely prepare for assigned missions that sometimes differ in meaningful ways from their designed missions.

This study examines the Army's readiness reporting system in light of the increased adaptiveness demonstrated by Army units in the past decade. In this study we found that while the readiness reporting system still works as originally intended, the current readiness reporting system captures only a portion of the adaptations readily seen in recent years. The study offers recommendations to better reflect these adaptations in the readiness reporting system.

ARROYO CENTER

www.rand.org

$27.95

ISBN 978-0-8330-8032-5

52795

9 780833 080325

RR-230-A