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The Fundamentals of Military Readiness

October 2, 2020

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R46559

CRS REPORT
Prepared for Members and
Committees of Congress

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SUMMARY

R46559

October 2, 2020

G. James Herrera
Analyst in U.S. Defense Readiness and Infrastructure

The Fundamentals of Military Readiness

Each year the Department of Defense (DOD) requests and Congress authorizes and appropriates billions of dollars in Operations and Maintenance (O&M) funding to support what the DOD calls *readiness*. Additionally, other types of defense appropriations may be used to contribute to producing, sustaining, or otherwise enabling readiness. DOD defines readiness as "the ability of military forces to fight and meet the demands of assigned missions." What precisely this means is a matter of ongoing discourse among congressional leaders and defense officials alike.

Despite disagreement over specific definitions of readiness, DOD retains statutory authorities and responsibilities to produce and sustain ready military forces, and Congress has the constitutional authority to resource and regulate military forces for the nation. For these reasons, many government officials and members of the defense community agree that the focus of readiness is to generate "ready" military forces. The process of generating these forces is complex, and differs across a range of various circumstances (e.g., branch of armed service, military occupation, status of a servicemember [commissioned officer, warrant officer, or enlisted], and duty type/component [i.e., active or reserve]). Nonetheless, the military's overall "readiness production process" can be broadly described in terms of producing and sustaining ready military units over time, with the principal focus within these units being the "warfighter" (i.e., the servicemember).

This report applies the analogy of a production line to explain the process. The readiness production process includes three fundamental parts:

- **Building initial readiness.** This includes providing initial training and testing along with proper resourcing, so that warfighters can progress to advanced training.
- **Increasing readiness.** This includes providing advanced individual and unit training, testing, and proper resourcing, so that warfighters are qualified and resourced to deploy with their operational units.
- **Sustaining readiness.** This includes the continual training and resourcing of units, prior to and following deployments, in order to ensure units remain ready for future assigned missions.

Related to the readiness production process are the assessment and reporting of military readiness. This report includes an overview of selected readiness systems, assessments, and sample metrics used to inform military and congressional leaders. These include

- the Defense Readiness Reporting System (DRRS);
- the Chairman's Readiness System (CRS);
- the Quarterly Readiness Report to Congress (QRRC);
- Mission Capable (MC) rates; and
- Aircraft Availability (AA) rates.

DOD has stated that readiness is principally funded through Operations and Maintenance (O&M) appropriations provided annually by Congress. For FY2021, DOD requested approximately $290 billion in O&M funding, amounting to approximately 41% of the department's overall discretionary budget request. In addition, both DOD and Congress have acknowledged that other types of appropriations may also be used to contribute to readiness. An important consideration for Congress is the oversight of readiness funding.

Another potential consideration for Congress is the establishment of common readiness metrics across DOD. Common metrics based upon a common lexicon would allow for a more accurate comparison of unit readiness across the Services.

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Preface

This report was produced to help Members of Congress, congressional committees, and their staff understand the fundamental aspects of what the United States military and the Department of Defense (DOD) call "readiness." In the absence of legislation that defines or describes the features of readiness, this report relies largely on existing military doctrine, policies, and public communications to frame and describe readiness and its major components. Although there may be competing points of view of what constitutes military readiness—both in a broad sense and in terms of more narrow definitions—this report does not analyze these other perspectives. Rather, it begins the modern discussion of "what is readiness" by concentrating on the current DOD perspective. The intent is to inform the congressional debate over what constitutes readiness by providing a reference point. As a follow-on to this discussion, future Congressional Research Service reports may focus on *readiness management* (i.e., how DOD manages the fundamental components of readiness), and the *impact of national strategy* on readiness requirements (this latter topic focusing on the question "ready for what?").

Introduction

Readiness is a term regularly applied to the United States' ability to produce, deploy, and sustain military forces that will perform successfully in combat. The DOD—including its predecessors the Departments of War and Navy—and Congress have used the word "readiness" since at least the 1830s to discuss the state of military personnel, training, equipment, and other related activities.[1] Definitions for readiness have changed over time, and have varied in specificity.[2] The word has also been periodically adapted in DOD policies and congressional reports to apply to specific military forces (e.g., "reserve readiness"), or to contributing factors to total readiness (e.g., "individual medical readiness").[3]

DOD's current definition of readiness, published in joint doctrine, reveals a particularly broad characterization of the concept (See section "DOD's Definition of Readiness").[4] DOD also permits several closely defined variants of the term to coexist (e.g., "operational readiness").[5] In

[1] Earliest found congressional reference of the word "readiness" used in a military context was in 1836. It can be found in House Report 785 of the House of Representatives, Committee on Naval Affairs. See https://congressional.proquest.com/congressional/docview/t47.d48.295_h.rp.785?accountid=12084; an 1857 reference can be found in House Report 207 of the House of Representatives, Committee on Military Affairs. See https://congressional.proquest.com/congressional/docview/t47.d48.914_h.rp.207?accountid=12084.

[2] For example, compare the definitions of "readiness" as defined by DOD in 1986, 1989, and in 2005. See Joint Chiefs of Staff (JCS), *The Dictionary of Military and Associated Terms*, JCS Publication 1, DOD, January 1986, p. 221, at https://www.cato.org/sites/cato.org/files/pubs/pdf/pa342.pdf; and JCS, *The Dictionary of Military and Associated Terms*, Joint Publication (JP) 1-02, DOD, December 1989, p. 228, at https://apps.dtic.mil/dtic/tr/fulltext/u2/a258036.pdf#page=230; and also
JCS, *Department of Defense Dictionary of Military and Associated Terms*, JP 1-02, DOD, April 12, 2001 (as amended through August 31, 2005), p. 444, at https://apps.dtic.mil/sti/pdfs/ADA439918.pdf#page=452.

[3] For a historical example of a modified definition of readiness, see "reserve readiness" as defined by the Congressional Budget Office (CBO) in 1978: Congressional Budget Office, *Improving the Readiness of the Army Reserve and National Guard: A Framework for Debate*, CBO (1978), p. 15, at https://www.cbo.gov/sites/default/files/95th-congress-1977-1978/reports/1978_02_improving.pdfl; also see DOD Instruction (DODI) 6025.19, *Individual Medical Readiness (IMR)*, June 9, 2014, at https://www.esd.whs.mil/Portals/54/Documents/DD/issuances/dodi/602519p.pdf.

[4] See *DOD Dictionary of Military and Associated Terms*, As of January 2020, p. 180, at https://www.jcs.mil/Portals/36/Documents/Doctrine/pubs/dictionary.pdf#page=186.

[5] See *DOD Dictionary of Military and Associated Terms*, As of January 2020, p. 161, at https://www.jcs.mil/Portals/36/

the absence of a published, official DOD readiness framework, each of these terms and their relationship to each other can be confusing. However, what is common to all of these terms is the process by which the military produces and sustains *ready forces*. This process can be complex, and published materials explaining readiness generation are often not written for the general public. Likewise, the different methods by which DOD assesses and reports the readiness of its forces can also be a challenge to deconstruct.

Despite the challenges, military readiness remains a subject of high importance to Congress and it is often at the heart of many defense budget debates. In particular, Congress frequently uses DOD's reported "readiness levels" (see section "Readiness Metrics and Reporting") as a key input to determining defense funding requirements.

Given the importance of readiness, it is useful for government officials who have policy, resourcing, and/or oversight responsibility for the military, to share with the military a common understanding of readiness and the fundamental elements that comprise it.[6] For Congress, this shared understanding could translate into more than just ensuring military forces are properly resourced to accomplish missions, but also enable it to oversee DOD stewardship of federal resources more effectively. It may also support congressional oversight of DOD compliance with statutory requirements to regularly and accurately assess and report readiness.[7]

This report explains the fundamentals of military readiness and includes

- a discussion of what readiness is, both in general and for DOD;
- a general description of the process by which ready forces are generated;
- examples of readiness metrics commonly used by DOD;
- an overview of how readiness is reported within DOD and to Congress; and
- an explanation of how readiness is funded within defense budgets.

The report concludes with a set of considerations for Congress regarding DOD readiness metrics and congressional oversight of readiness funding.

Readiness Broadly

Readiness is a term that is not statutorily defined and not exclusively used by the defense community. During the past two decades, it has become increasingly common to see the word readiness used as an alternative expression for *preparedness* throughout both the public and private sectors. Outside of DOD, several federal departments and agencies, as well as state and local governments, now use the word readiness commonly in their public statements and official reports.[8] This has largely been in the context of being prepared for a national emergency, natural disaster, unexpected economic downturn, or other considerably threatening event.

Typically, readiness is applied to certain groups or communities of people *at risk*. For example, in 2017, Merrill Lynch published a financial study that "revealed major gaps in retirement readiness" for pre-retiree Americans over age 50.[9] However, when discussed at a national or

Documents/Doctrine/pubs/dictionary.pdf#page=167.

[6] See Government Accountability Office (GAO), *DOD's Readiness Rebuilding Efforts May Be at Risk without a Comprehensive Plan*, GAO-16-841 (September 2016), at https://www.gao.gov/assets/680/679556.pdf.

[7] See 10 U.S.C. §117 and 10 U.S.C. §482.

[8] For an example, see https://www.dhs.gov/coronavirus/overview-dhs-response.

[9] Bank of America, *Merrill Lynch Study Finds New Retirement Realities Usher in Opportunities and Challenges*, Bank

international level, readiness can also been applied to the entire population of a country or to transnational populations. For example, in 2019, the United States Department of Agriculture published a collaborative technical report on "Green Readiness, Response, and Recovery."[10] This report was broadly directed at all U.S. communities, and discussed the practice of "greening" to build readiness and resilience to environmental and man-made disturbances communities may face.[11]

How someone uses the term "readiness" is often tied to the *context* in which it is applied, and the *focus* of its application. For federal departments and agencies (hereinafter "federal agencies"), internal guidance, public policy statements, and official definitions for readiness may be issued that help explain what the *context* and *focus* of readiness is for a particular federal agency.

DOD's Definition of Readiness

DOD officially defines the term "readiness" in Joint Publication 1 (JP 1) as "the ability of military forces to fight and meet the demands of assigned missions."[12] DOD states that assigned missions are undertaken in support of the fulfillment of the written *national strategy* of the United States of America.[13] From a military perspective, national strategy encompasses three strategic documents, the: (1) National Military Strategy (NMS), (2) National Defense Strategy (NDS), and (3) National Security Strategy (NSS).[14] This intentionally broad definition of readiness highlights DOD's *focus on military forces*, and the general *context is those forces' ability to fight and win*, anywhere, and at any given time.

From Definition to Basic Framework

Although broad, DOD's official definition of readiness encompasses several key words that have a functional meaning within the military. Examining these words more closely allows for DOD's definition to be partially deconstructed and a basic framework for readiness to take form.

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of America Newsroom, February 15, 2017, at https://newsroom.bankofamerica.com/press-releases/global-wealth-and-investment-management/merrill-lynch-study-finds-new-retirement.

[10] Lindsay K. Campbell et al., *Green Readiness, Response, and Recovery: A Collaborative Synthesis*, United States Department of Agriculture, Forest Service, 2019, at https://www.fs.fed.us/nrs/pubs/gtr/gtr_nrs-p-185.pdf.

[11] Ibid.

[12] JCS, *Joint Publication 1, Doctrine for the Armed Forces of the United States*, DOD, incorporating change 1, July 12, 2017, p. GL-10, at https://www.jcs.mil/Portals/36/Documents/Doctrine/pubs/jp1_ch1.pdf?ver=2019-02-11-174350-967.

[13] From discussions with the Joint Staff and the Office of the Secretary of Defense (OSD). Also see 10 U.S.C. §117(a).

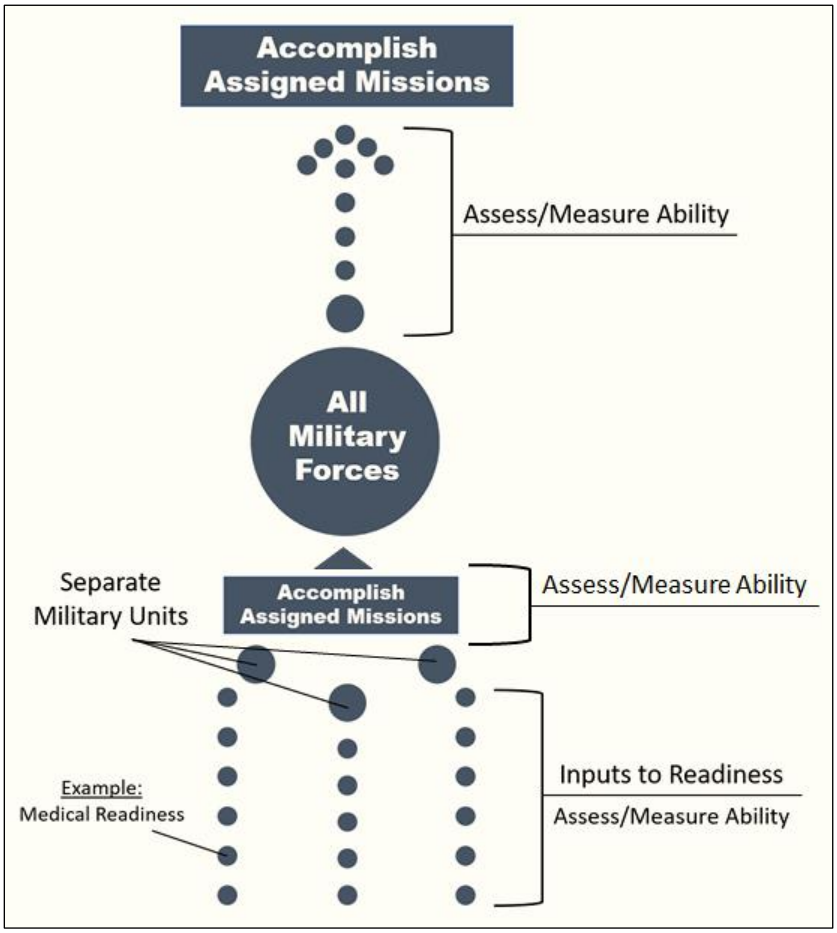
[14] The NMS is a "document approved by the Chairman of the Joint Chiefs of Staff for distributing and applying military power to attain national security strategy and Defense Strategic Guidance objectives." The NDS is a document approved by the Secretary of Defense that "focuses on the Department of Defense's role in implementing the President's National Security Strategy (NSS). It was officially put in place by Congress in Section 941 of the National Defense Authorization Act for FY2017 (P.L. 114-328), and in accordance with the National Security Act of 1947, to replace the Quadrennial Defense Review." The NSS is a "document approved by the President of the United States for developing, applying, and coordinating the instruments of national power to achieve objectives that contribute to national security." See *DOD Dictionary of Military and Associated Terms*, DOD, June 2020, at https://www.jcs.mil/Portals/36/Documents/Doctrine/pubs/dictionary.pdf; and also DOD, "National Defense Strategy," Office of the Secretary of Defense Historical Office, accessed August 31, 2020, at https://history.defense.gov/Historical-Sources/National-Defense-Strategy/.

- *Ability* indicates that some type of measurement must occur in order to know the degree to which military forces can, or cannot, meet the demands of assigned missions (see section "Readiness Metrics and Reporting").
- *Military forces* is a commonly used term that is not defined in statute or DOD doctrine, but generally refers to *military units*—which are composed of warfighters (i.e., servicemembers) and their respective weapons systems (see section "How is Readiness Generated?").
- *Assigned missions* are those operational missions a unit may be tasked to accomplish by a higher authority (see section "Missions, Tasks, and Forces").[15]

Together, these words reveal that readiness from a doctrinal perspective is based on knowing the degree to which *a military unit*, and collectively *all units*, can accomplish operational missions. This inherently requires the military to self-assess, and measure through various means and methods, the abilities of its forces. With this fundamental concept in mind, more narrow definitions for readiness (i.e., readiness defined for only one component of what makes military forces able) can then be understood as contributing (or an input) to the basic framework for readiness (**Figure 1**).

[15] DOD Directive 7730.65, *Department of Defense Readiness Reporting System (DRRS)*, Incorporating Change 1, Effective May 31, 2018, p. 10, at https://www.esd.whs.mil/Portals/54/Documents/DD/issuances/dodd/773065p.pdf?ver=2018-05-31-084047-687.

Figure 1. Basic Readiness Framework



Source: CRS Graphics.

Notes: Derived from DOD definition of readiness.

This report makes use of DOD's current definition of readiness to help explain readiness generation, assessment, and reporting as it exists today. There may be other broad definitions of readiness that could apply to the military, but those are not examined in this report.

Missions, Tasks, and Forces

The number of *assigned missions* encompassed within the DOD definition of readiness are myriad and can change as new adversaries arise or old adversaries take new approaches. An assigned mission can be conceptualized as "an operational requirement that a unit is formally assigned to plan for, prepare for, or to execute."[16] These missions are generally received "through a higher headquarters directive, plan, or order, which normally contains a mission statement and command guidance or intent."[17] Assigned missions can include both "Named Operations" and "Top Priority Plans." These categories of assigned missions are defined by DOD below.

[16] Army Regulation (AR) 220-1, *Army Unit Status Reporting and Force Registration – Consolidated Policies*, U.S. Army, April 15, 2010, p. 92, at https://armypubs.army.mil/epubs/DR_pubs/DR_a/pdf/web/r220_1.pdf#page=101.

[17] See Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 3401.02B, *Force Readiness Reporting*, May 31, 2011,

- **Top Priority Plans.** "Those designated as "level 4" in the Joint Strategic Capabilities Plan" (JSCP), which are in the nature of anticipated missions.[18] The JSCP "provides military strategic and operational guidance from the Chairman of the Joint Chiefs of Staff (CJCS) to the Combatant Commanders and the Service Chiefs for preparation of plans to accomplish tasks and missions using current military capabilities."[19]
- **Named Operations.** "Those operations designated by the President, Secretary of Defense, and/or the Joint Chiefs of Staff (e.g. Operation Iraqi Freedom (OIF))."[20] These are in the nature of actual missions.

Following a mission analysis, a commander will specify which *mission essential tasks*, or METs, will be used by a unit to accomplish an assigned mission(s).[21] These essential tasks are "specified or implied task[s] that an organization must perform to accomplish the mission."[22] METs are typically associated with the "core" mission of the unit—i.e., the function for which the unit was designed and trained to accomplish. A unit's core mission is also called its *designed mission*, and is the complete set of missions for which the unit was organized or designed to accomplish.[23]

Missions (both assigned and designed) are generally allocated by specific unit-level within the command structures of operational forces (also "operating forces").[24] For example, operational Army units' missions include the collective missions that must be accomplished by all of the Army's organizational echelons from individual companies up through the battalion, brigade, division, corps, and higher organizational levels.[25] At a joint level, missions include those issued by one or more combatant commanders (CCDRs) to their designated joint force commanders who employ force elements that can operate within, or across, combatant commands (CCMDs).[26]

Enclosure C, p. C-18, at https://www.jcs.mil/Portals/36/Documents/Library/Instructions/3401_02.pdf?ver=2016-02-05-175031-670#page=40.

[18] Ibid, p. C-18.

[19] U.S. Army War College, "Joint Strategic Capabilities Plan (JSCP)," accessed March 30, 2020, at https://ssl.armywarcollege.edu/dde/documents/jsps/terms/jscp.cfm.

[20] Ibid.

[21] A MET is defined as "an event in which a unit or organization must be proficient to be capable of accomplishing an appropriate portion of its wartime mission." See U.S. Marine Corps (USMC), *Commander's Readiness Handbook*, USMC (April 2017), p. 9, at https://www.usmcu.edu/Portals/218/LLI/CCSPW/Commanders%20Readiness%20Handbook_2017.pdf?ver=2019-01-31-131133-860#page=15.

[22] Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 3401.02B, *Force Readiness Reporting*, May 31, 2011, Enclosure C, p. GL-4, at https://www.jcs.mil/Portals/36/Documents/Library/Instructions/3401_02.pdf?ver=2016-02-05-175031-670#page=50

[23] See Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 3401.02B, *Force Readiness Reporting*, May 31, 2011, Enclosure C, p. C-18, at https://www.jcs.mil/Portals/36/Documents/Library/Instructions/3401_02.pdf?ver=2016-02-05-175031-670#page=40; also see R. Derek Trunkey, *Implications of the Department of Defense Readiness Reporting System*, CBO, Working Paper 2013-03 (May 2013), p. 7, at https://www.cbo.gov/sites/default/files/cbofiles/attachments/44127_DefenseReadiness.pdf#page=10.

[24] For more on "operational" and "administrative" military forces, see Mark P. Levitt, *The Operational and Administrative Militaries*, University of Pennsylvania Law School, Penn Law: Legal Scholarship Repository (2019), at https://scholarship.law.upenn.edu/cgi/viewcontent.cgi?article=2973&context=faculty_scholarship. Also see Army Regulation (AR) 525-30, which defines for the Army *operating forces* as "Those forces whose primary missions are to participate in combat and the integral supporting elements thereof."

[25] For more information on Army military units and their composition, see DOD's "Military Units Army" website at https://www.defense.gov/Experience/Military-Units/Army/#army.

[26] A force element can be defined as a "doctrinally organized, distinguishable collection of people, materiel and equipment, and facilities at a specified level of preparation (readiness) required to accomplish tasks and produce effects

Separately, but intrinsically linked to the operational forces' ability to complete their missions, the military's administrative (otherwise "institutional") forces must also be able to accomplish their distinct missions. For example, the *institutional* Army is responsible for recruiting, organizing, supplying, training, and equipping operational forces for employment by Joint Force commanders.[27]

Each Service's administrative units are generally responsible for producing the initial ready forces of the military (e.g., through Army Initial Entry Training units, Navy and Marine Corps Recruit Training units and Fleet Replacement Squadrons, and Air Force Basic Military Training squadrons and Formal Training Units). Administrative units also sustain military forces over time (e.g., through DOD maintenance depots, Service installations commands, Joint Munitions Command).[28] The operational units in each Service also play a part in generating ready forces. However, their role is largely to increase or sustain readiness before or after a deployment once servicemembers are assigned to an operational unit. Operational units sustain and increase their readiness through a combination of continuous combat training and exercises, field maintenance, and planning and preparation to be able to rapidly mobilize, deploy, and redeploy.[29] In general, it is the operational units in the military whose levels of readiness are measured and reported in the DOD's official readiness reporting system (see section "Readiness Metrics and Reporting").[30]

Because context is important to understanding unit readiness, it is helpful to know the general mission assignments of the military units under discussion. It is also helpful to understand how the ability or inability to perform those missions relate to a Service's, or DOD's, overall estimation of their ability to accomplish national strategy. At the broadest levels—the readiness of an entire Service or the military as a whole—achieving this understanding can be a significant challenge. Accordingly, Congress requires testimony from DOD civilian and military leaders to help inform its legislative decisions relating to readiness funding and oversight.

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within a given time period." At a Joint operational level, this can include single Service operational formations such as a carrier strike group (CSG) or a brigade combat team (BCT), or a combination of formations from multiple Services, such as a Marine expeditionary unit (MEU) deployed together with Navy amphibious assault ships. Definition extracted from Institute for Defense Analyses (IDA) Paper "Defense Governance & Management, Improving the Defense Management Capabilities of Foreign Defense Institutions, Using a Relational Database (FOCIS) to Improve Defense Force Planning and Budgeting, An Overview for Project Leaders," NS P-5361, March 2017, at https://www.ida.org/-/media/feature/publications/d/de/defense-governance—management-improving-the-defense-management-capabilities-of-foreign-defense-institutions—using-a-relational-database-focis-to-improve-defense-force-planning-and-budgeting—an-over/p-5361.ashx.

[27] For information on what is generally included in the "Institutional Army," see Chapter Two of "What the Army Needs to Know to Align its Operational and Institutional Activities" by the RAND Corporation, 2007, at https://www.rand.org/pubs/monographs/MG530.html. For information on the "Administrative" Navy, select "Get Started" under "Military Units: Navy," at https://www.defense.gov/Experience/Military-Units/Navy/. Also Army Regulation (AR) 525-30, p. 10.

[28] For more information on military organizations that sustain military forces, see CRS In Focus IF11466, *Defense Primer: Department of Defense Maintenance Depots*, by G. James Herrera; and CRS In Focus IF11263, *Defense Primer: Military Installations Management*, by G. James Herrera.

[29] For more information on field maintenance vs. depot maintenance, see Office of the Assistant Secretary of Defense for Sustainment, "Maintenance Overview," DOD, accessed March 30, 2020, at https://www.acq.osd.mil/log/MPP/field.html; and also Office of the Assistant Secretary of Defense for Sustainment, "Depot Maintenance," DOD, accessed March 30, 2020, at https://www.acq.osd.mil/log/MPP/depot.html.

[30] Administrative units are generally not measured or reported in the DOD's official readiness reporting system; however, military leaders do to some degree assess those units' readiness separately.

Statutory Responsibilities for Readiness

The Service Secretaries and the Commander of U.S. Special Operations Command (in areas unique to special operations) have authority and responsibility under Title 10, United States Code (U.S.C.) to generate and maintain military forces that can "fulfill the current and future operational requirements of the unified and specified [CCMDs]" (i.e., assigned missions).[31] These include organizing, training, equipping, and mobilizing/demobilizing assigned forces.[32] Also included are responsibilities for recruitment, servicing and supply, maintenance, and the construction and upkeep of military facilities. National Guard leadership has similar responsibilities under Titles 10 and 32 U.S.C., and also the additional charge of generating forces that can perform domestic operations.[33]

For example, an excerpt from Title 10 U.S.C. applicable to the Secretary of the Navy directs as follows:

> "The Secretary of the Navy is responsible for, and has the authority necessary to conduct, all affairs of the Department of the Navy, including the following functions:
> (1) Recruiting
> (2) Organizing
> (3) Supplying
> (4) Equipping (including research and development)
> (5) Training
> (6) Servicing
> (7) Mobilizing
> (8) Demobilizing
> (9) Administering (including the morale and welfare of personnel)
> (10) Maintaining
> (11) The construction, outfitting, and repair of military equipment
> (12) The construction, maintenance, and repair of buildings, structures, and utilities and the acquisition of real property and interests in real property necessary to carry out the responsibilities specified in this section"[34]

For each Service, USSOCOM, and the National Guard, select sections of Titles 10 and 32 U.S.C. relating to general readiness responsibilities are as follows:

- 10 U.S.C. §7013. Secretary of the Army.[35]
- 10 U.S.C. §8013. Secretary of the Navy (includes the Marine Corps).[36]
- 10 U.S.C. §9013. Secretary of the Air Force (includes the Space Force).[37]

[31] See Joint Chiefs of Staff, *Joint Publication 1–Doctrine for the Armed Forces of the United States*, DOD, March 25, 2013 (Incorporating Change 1, July 12, 2017), p. ii, at https://www.jcs.mil/Portals/36/Documents/Doctrine/pubs/jp1_ch1.pdf#page=4; and also 10 U.S.C. §7013(c), 10 U.S.C. §8013(c), 10 U.S.C. §9013(c), and 10 U.S.C. §167.

[32] Ibid.

[33] Ibid. National Guard leadership includes both civilian and military state leaders, such as Governors and state Adjutant Generals (called "TAGs"), as well as DOD civilian and military leaders in the Army, Air Force, and National Guard Bureau (NGB).

[34] 10 U.S.C. §8013.

[35] 10 U.S.C. §7013.

[36] 10 U.S.C. §8013.

[37] 10 U.S.C. §9013.

- 10 U.S.C. §167. Unified combatant command for special operations forces.[38]
- 10 U.S.C. §10503. Functions of National Guard Bureau: charter.[39]
- 32 U.S.C. §104. Units: location; organization; command[40]
- 32 U.S.C. §501. Training generally.[41]
- 32 U.S.C. §702. Issue of supplies.[42]
- 32 U.S.C. §904. Homeland defense duty.[43]

These requirements are comprehensive and involve the development of many military capabilities to meet the various readiness objectives set forth by each responsible military organization. Each military service—using authorities delegated by its Secretary—develops and manages its own Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, Facilities, and Policy (DOTMLPF-P) to achieve its Department's stated objectives and to meet statutory requirements.[44]

Branding Readiness: "Organize, Train, and Equip"

For several decades, multiple senior DOD civilian and military leaders have identified certain Title 10 responsibilities as synonymous with generating readiness. Most frequently cited are the tasks of *organizing*, *training*, and *equipping* military forces.[45] These responsibilities have been repeatedly described—in official doctrine and memoranda, congressional testimonies, and other publicly available materials—as fundamental to producing readiness.[46] Likewise, several non-DOD organizations across the defense community have also repeatedly used the phrase "organize, train, and equip" (or a similar variation) when describing how to build ready forces.[47] The repeated branding of readiness in this manner over time has led several leaders in the defense

[38] 10 U.S.C. §167. Also see CRS Report RS21048, *U.S. Special Operations Forces (SOF): Background and Issues for Congress*, by Andrew Feickert.

[39] "The National Guard Bureau is responsible for ensuring that units and members of the Army National Guard and the Air National Guard are trained by the states to provide trained and equipped units to fulfill assigned missions in federal and non-federal statuses." See Joint Publication 1, p. xiv, at https://www.jcs.mil/Portals/36/Documents/Doctrine/pubs/jp1_ch1.pdf#page=16.

[40] 32 U.S.C. §104.

[41] 32 U.S.C. §501.

[42] 32 U.S.C. §702.

[43] 32 U.S.C. §904.

[44] For more on DOTMLPF-P, see Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 3010.02E at https://www.jcs.mil/Portals/36/Documents/Library/Instructions/CJCSI%203010.02E.pdf?ver=2017-02-08-173223-657.

[45] For a historical example, see Carl H. Builder, Theodore W. Karasik, *Organizing, Training, and Equipping the Air Force for Crises and Lesser Conflicts*, RAND Corporation, 1995, at https://www.rand.org/pubs/monograph_reports/MR626.html; For a modern example, see Hawk Carlisle, "Unanswered Questions, Concerns Remain About the New Space Force," *National Defense*, January 27, 2020, at https://www.nationaldefensemagazine.org/articles/2020/1/27/unanswered-questions-concerns-remain-about-the-new-space-force.

[46] Former Secretary of Defense James N. Mattis, *Administrative and Personnel Policies to Enhance Readiness and Lethality*, July 21, 2017, at https://ec.militarytimes.com/static/pdfs/mattismemo.pdf; C. Todd Lopez, "Cybercom Cites Priorities Key to First-Year Success," statement of Air Force Maj. Gen. Charles Moore Jr., May 14, 2019, at https://www.defense.gov/Explore/News/Article/Article/1847835/cybercom-cites-priorities-key-to-first-year-success/.

[47] David C. Gompert, *Preparing Military Forces for Integrated Operations in the Face of Uncertainty*, RAND Corporation, Issue Paper IP-250-OSD (2003), p.3, at https://www.rand.org/content/dam/rand/pubs/issue_papers/2005/IP250.pdf; Admiral Patrick Walsh, USN (Ret.), "The Changing Battlefield." *George W. Bush Institute*, Issue 06 (Spring 2017), at https://www.bushcenter.org/catalyst/modern-military/patrick-walsh-changing-battlefield.html.

community to conclude that producing readiness *entails simply* organizing, training, and equipping the force.[48] Although it is true that these three functions contribute to generating readiness, the mantra is both an oversimplification of a complex matter and incomplete in terms of statutory responsibilities. Within DOD and each Service, these three identified Title 10 functions have specific meanings in terms of the Planning, Programming, Budgeting, and Execution (PPBE) process (see CRS In Focus IF10429, *Defense Primer: Planning, Programming, Budgeting and Execution (PPBE) Process*, by Brendan W. McGarry).[49]

Accordingly, DOD readiness funding requests to Congress have largely focused on supporting these three readiness responsibilities through operations and maintenance (O&M) appropriations (see section "Readiness Funding").[50]

What Does It Mean to Organize, Train, and Equip?

Organizing. Generally, arranging military forces into defined units with established command structures and designated tasks and missions. There is no official DOD definition for this term.

Training. Defined in CJCSI 3500.01J as "instruction and applied exercises for acquiring and retaining knowledge, skills, abilities, and attitudes (KSAAs) necessary to complete specific tasks." The Services can also have their own specific definitions. For example, Marine Corps Order (MCO) 1553.1B defines "training" for the Marine Corps as

> "The conduct of instruction, discipline, or drill; the building in of information and procedures; and the progressive repetition of tasks-the product of which is skill development and proficiency."

Equipping. Generally, providing military forces the military equipment and commercial products needed to be able to carry out assigned missions. 10 U.S.C. §2228 offers one definition for military equipment: "the term "military equipment" includes all weapon systems, weapon platforms, vehicles, and munitions of the Department of Defense, and the components of such items." The Services can also have their own specific definitions of equipping, such as in Army Regulation (AR) 525-30 which defines "equipping" for the Army as

> "The Army's ability to provide equipment to organizations to meet the current and projected documented requirements, and to meet surge demands in support of the NMS."

However, several other Title 10 functions can also contribute to producing and sustaining ready forces. For example, the construction of new buildings or the supplying (separate from equipping) of military forces, can also contribute to the military's ability to complete assigned missions.[51] Some of these other readiness functions are not funded through O&M appropriations.

[48] Carl H. Builder, Theodore W. Karasik, *Organizing, Training, and Equipping the Air Force for Crises and Lesser Conflicts*, RAND Corporation, 1995, at https://www.rand.org/pubs/monograph_reports/MR626.html;

[49] DOD states the PPBE process "supports the objective to provide the DOD with the most effective mix of forces, equipment, manpower, and support attainable within fiscal constraints." See DOD Directive 7045.14, *The Planning, Programming, Budgeting, and Execution (PPBE) Process*, January 25, 2013 (Incorporating Change 1, August 29, 2017), p. 2, at https://www.esd.whs.mil/Portals/54/Documents/DD/issuances/dodd/704514p.pdf?ver=2017-08-29-132032-353.

[50] GAO has stated that O&M appropriations are "directly related to military readiness because they provide funds for training troops for combat and for maintaining tanks, airplanes, ships, and related equipment. O&M accounts also fund a wide range of activities that are less directly related to readiness. These include many day-to-day activities such as civilian personnel management and payments, transportation, health, and child care." See GAO/T-NSIAD-00-98, p. 1, at https://www.gao.gov/archive/2000/ns00098t.pdf.

[51] Kari Hawkins, "Ensuring Readiness for Strategic Support: Installation Readiness," Army Materiel Command Public Affairs, June 5, 2019, at https://www.theredstonerocket.com/military_scene/article_af8344a0-87a2-11e9-a574-cfd5f6fbde67.html.

Rebranding for Comprehensiveness

Over the last decade, DOD has begun to change its approach to identifying essential readiness functions for Congress. That is, DOD has become more inclusive in its descriptions of what is required to generate readiness.[52] This may have been a result of sequestration and the across-the-board mandatory funding cuts that military leaders say have had a significant impact on readiness (as well as on *modernization*).[53] It may also be due to increased congressional interest in, and public exposure of, certain vulnerabilities or cases of mismanagement across DOD that have been linked to readiness. For example

- Deteriorating facilities and infrastructure.[54]
- Mismanagement of family housing.[55]
- Supply chain vulnerabilities and challenges.[56]

A third contributing cause may be that the Services, through their own internal readiness studies and force evaluations, have determined that a more holistic approach to assessing readiness is needed to address reported low readiness levels and related force issues.[57]

A Service Example

As a Service example of the expansion of essential functions in the military's concept of readiness, the Army recently published a revised AR 525-30. In this regulation, the Army describes its *Strategic Readiness Tenets*, or SRTs, which include manning, equipping, sustaining, training, leading, maintaining installations, and fostering capacities and capabilities.[58] The regulation states that "each readiness tenet contains measureable objectives and qualitative indicators which provide leading indicators of future changes in readiness." AR 525-30 further

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[52] For an example, see Terri Moon Cronk, "Increased Funding Will Improve Military Readiness, Senior Officers Say," *DOD News*, February 15, 2018, at https://www.defense.gov/Explore/News/Article/Article/1442908/increased-funding-will-improve-military-readiness-senior-officers-say/.

[53] See for example: Jim Garamone, "Mattis Says DoD Needs Years to Correct Effects of Sequestration," *DOD News*, June 13, 2017, at https://www.defense.gov/Explore/News/Article/Article/1213034/mattis-says-dod-needs-years-to-correct-effects-of-sequestration/; and Senate Hearing 113-173, *The Impacts of Sequestration and/or a Full-Year Continuing Resolution on the Department of Defense*, Hearing before the Committee on Armed Services, United States Senate, February 12, 2013, at https://www.govinfo.gov/content/pkg/CHRG-113shrg86707/html/CHRG-113shrg86707.htm.

[54] See Claudette Rollo, "Infrastructure Funding Level Poses Risk, Officials Say," *DOD News*, March 18, 2015, at https://www.defense.gov/Explore/News/Article/Article/604296/infrastructure-funding-level-poses-risk-officials-say/; also see Jared Serbu, "After years of neglect, military facility upkeep gets attention in 2020 budget," Federal News Network, March 19, 2019, at https://federalnewsnetwork.com/dod-reporters-notebook-jared-serbu/2019/03/after-years-of-neglect-military-facility-upkeep-gets-attention-in-2020-budget/; and DOD Inspector General, *Fiscal Year 2020 Top DOD Management Challenges*, DOD, October 15, 2019.

[55] See Karen Jowers, "Is anybody tracking health issues from mold and other military housing hazards?" *Military Times*, March 19, 2019, at https://www.militarytimes.com/pay-benefits/2019/03/20/is-anybody-tracking-health-issues-from-mold-and-other-military-housing-hazards/; and DOD Inspector General, *Fiscal Year 2020 Top DOD Management Challenges*, DOD, October 15, 2019.

[56] See DOD Inspector General, *Fiscal Year 2020 Top DOD Management Challenges*, DOD, October 15, 2019, p. 99; and GAO, "DOD Supply Chain Management—High Risk Issue," accessed July 1, 2020, at https://www.gao.gov/key_issues/dod_supply_chain_management/issue_summary#t=0.

[57] Joe Gould, "Military chiefs warn of force-readiness struggles," *Defense News*, February 7, 2017, at https://www.defensenews.com/congress/2017/02/07/military-chiefs-warn-of-force-readiness-struggles/.

[58] AR 525-30, p. 10, available at https://armypubs.army.mil/epubs/DR_pubs/DR_a/pdf/web/ARN15118_AR525_30_FINAL.pdf.

states that "some indicators have relationships with others, either within the tenet, or across two or more tenets ... [and] ... These relationships are based on the use of ... strategic levers" (see **Table 1**).[59] Strategic levers are defined as follows:

> These are measures the Army can take, upon direction, to mitigate possible readiness shortfalls.... Such actions include, but are not limited to, changes to policy, resourcing, and funding.[60]

Table 1. Army Strategic Readiness Tenets

Leading indicators and strategic levers

Readiness Tenets	Leading Indicators	Strategic Levers
Manning	Personnel Structure Acquire Employ Retain	Accessions, retention, and recruitment policy Regular Army/RC Manning Guidance Implementation or cancelation/delay/reduction of boards Changes in force structure Changes in civilian life cycle policies
Equipping	Equipment on Hand (EOH) Pacing Item Equipment on Hand (PI–EOH) Equipment Readiness Code-P (ERC-P) Equipment Modernization	Strategic Portfolio Assessment and Review (SPAR) and POM process to prioritize limited funding Relative priority of units as found in the Integrated Requirements Prioritization List (IRPL) Changes to Army organization structure and locations
Sustaining	Maintain Army Readiness Project the Force Set Theater Sustainment Sustain Unified Land Operations	Adjustments to policy and legislative requirement Budgets or funding levels informed through the POM/SPAR process Force structure adjustments through the TAA process and adjustments to AC/RC units
Training	Collective training Institutional training Training support	Adjustments to operational tempo (OPTEMPO) funding Adjustments to training strategies/training support system Adjustments to policy and doctrine Adjustments to priorities and requirements

[59] Ibid.

[60] Ibid.

Readiness Tenets	Leading Indicators	Strategic Levers
Leading	Qualification Education Experience	Adjustments to force structure, training, education, personnel, and assignment policies Adjustments to resourcing, priorities, and requirements Adjustments to individual and collective training opportunities, education opportunities, and implementation or modifications of leadership or leader development programs and initiatives
Installations	Mission readiness Soldier and Family Readiness Installation Capacity	Adjustments to installation policies, regulations, and doctrine Adjustments to Army facility or service standards (quantity, quality, or eligibility parameters) Adjustments to Facility Investment Strategy (FIS) and annual Facility Investment Guidance (FIG) Project prioritization PPBE Funding Allocations and Reallocations at Mid-Year and End of Year (Reviews)
Capacity and Capability	War Time Readiness Force Generation DODIN–A Readiness	Adjustments to policy and doctrine Adjustments to force structure Adjustments to resourcing, priorities, and requirements Adjustments to future modernization, and science and technology investments

Source: Army Regulation 525-30 (Effective May 9, 2020), pp. 17-18.

As DOD's readiness discussion expands to include other Title 10 responsibilities, so too does the designation of what constitutes "readiness funding." DOD's perspective has been that O&M appropriations are the primary form of funding for readiness (see section on "Readiness Funding").[61] However, DOD and Service officials testifying before Congress are increasingly citing readiness concerns when requesting non-O&M appropriations (e.g., family housing or military construction (MILCON) appropriations).[62]

[61] DOD, *Department of Defense Fact Sheet: Sequestration's Impact to Regaining Readiness*, DOD (2012), at https://archive.defense.gov/pubs/DoD_Readiness_Fact_Sheet_FINAL.pdf; Sydney J. Freedberg, Jr., "House Approps Chair Promises Pentagon 'Flexibility' On O&M Funds," *Breaking Defense*, March 7, 2018, at https://breakingdefense.com/2018/03/house-approps-chair-promises-pentagon-flexibility-on-om-funds/; DOD, *Fiscal Year (FY) 2020 Annual Performance Plan & FY 2018 Annual Performance Report, FY 2018-FY 2022*, DOD (February 22, 2019), p. B-3, at https://cmo.defense.gov/Portals/47/Documents/Publications/Annual%20Performance%20Plan/FY%202020%20Annual%20Perf%20Plan%20and%20FY%202018%20Annual%20Perf%20Report.pdf?ver=2019-03-28-155655-073.

[62] For an example, see Terri Moon Cronk, "DoD's Underfunded Maintenance Backlog Exceeds $116 Billion, Official Says," *DOD News*, April 18, 2018, at https://www.defense.gov/Explore/News/Article/Article/1497582/dods-

How is Readiness Generated?

DOD generates readiness by producing and sustaining military forces that are able to fight and accomplish assigned missions, but what is a *military force*? The term is not officially defined in joint doctrine or in statute.[63] However, it is generally discussed across the defense community in terms of *military units*, which may include both a unit's personnel (i.e., its "warfighters") and its associated major weapons systems (e.g., fighter jets).[64] These units typically have a role in fighting an adversary (i.e., they are part of the operating force), and can be individually or collectively deployed by CCDRs, depending on the mission(s) to be accomplished (see "Missions, Tasks, and Forces" section). Though seemingly a straightforward understanding of a military force, this general characterization leaves some questions. For example, each Service distinguishes between combat units and noncombat units and these delineations have changed over time.[65] Additionally, as technology advances, these differences can diminish or disappear altogether.[66] This is particularly apparent as unmanned and automated weapons systems begin to change the roles of warfighters.[67]

In this report, the term "military force" applies equally to all types of units within the operating forces of the military. Also, within this report, readiness generation is focused primarily on the process of producing and sustaining warfighters (i.e., people) rather than weapons systems.[68] Weapons systems are treated in this report as dynamic instruments employed by, or with, military personnel. In other words, *weapons systems are inputs to generating readiness*. This is not to say weapons systems are not an important readiness factor for units; they are. However, weapons systems are produced and maintained separately from warfighters, and their condition and availability is also measured and reported separately (see section "Readiness Metrics and Reporting"). It is important to acknowledge that some weapons systems are exceptionally

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underfunded-maintenance-backlog-exceeds-116-billion-official-says/.

[63] Although what a military force *is* has not been defined in statute, 18 U.S.C. §2331 does state what a military force *is not* in the context of international terrorism: "the term "military force" does not include any person that-(A) has been designated as a-(i) foreign terrorist organization by the Secretary of State under section 219 of the Immigration and Nationality Act (8 U.S.C. 1189); or (ii) specially designated global terrorist (as such term is defined in section 594.310 of title 31, Code of Federal Regulations) by the Secretary of State or the Secretary of the Treasury; or (B) has been determined by the court to not be a "military force"."

[64] Adapted from conversations with the Joint Staff.

[65] For example, a recent change to Army branch designations saw Cyber units re-designated from combat support to combat arms. See Brandon O'Connor "West Point grads get assignments through new branching system," DOD, November 18, 2019, at https://www.army.mil/article/229826/. Note, the term "combat arms" is doctrinally no longer used by the Army, however, it is still used in Army regulations and in public discourse. See Army Field Manual (FM) 3-90-1, Offense and Defense, Vol. 1, March 22, 2013, p. xi, at https://armypubs.army.mil/epubs/DR_pubs/DR_a/pdf/web/fm3_90_1.pdf.

[66] For a related commentary, see Lieutenant Colonel Christopher R. Paparone, "Combat Service Support and Combat Arms: Avoiding a Cultural Chasm," *U.S. Army War College*, at https://alu.army.mil/alog/issues/SepOct00/MS538.htm.

[67] See Paul Scharre, *Army of None: Autonomous Weapons and the Future of War* (W.W. Norton & Company, New York), April 24, 2018.

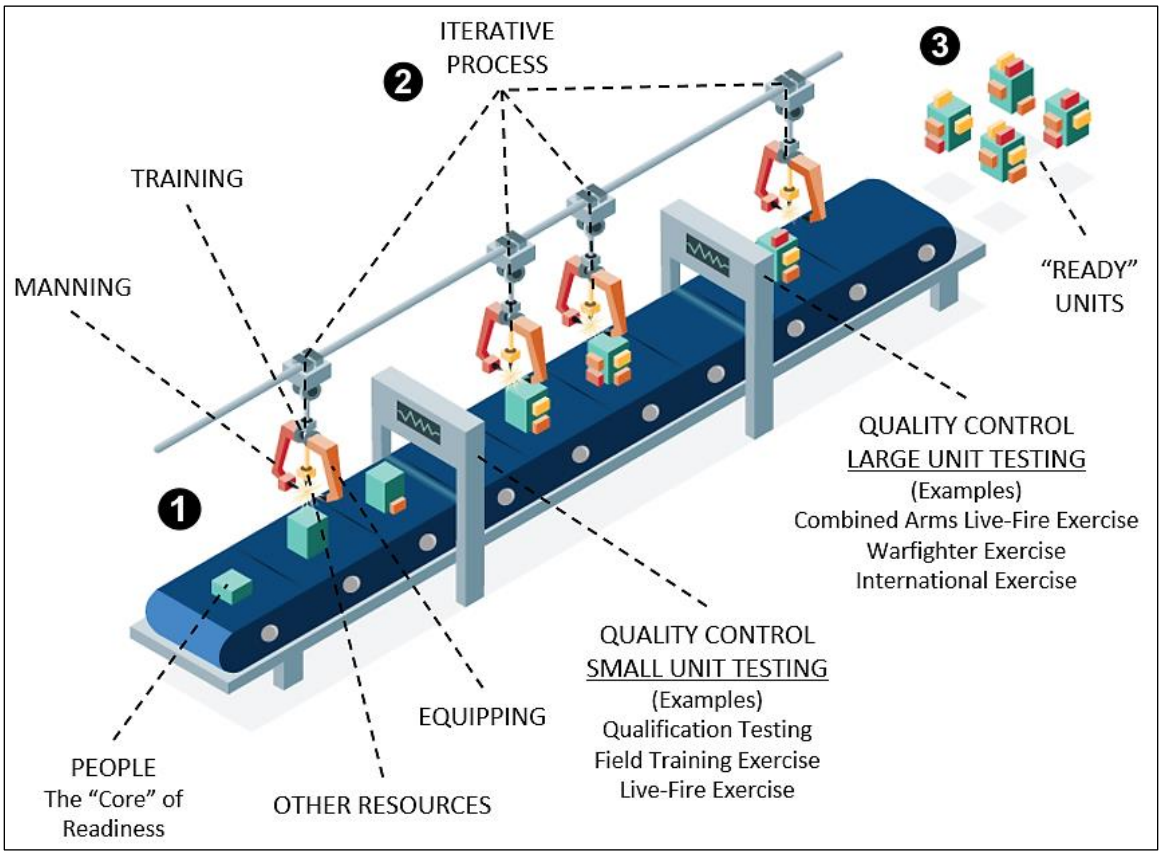
[68] DOD defines a "weapon system" as "A combination of one or more weapons with all related equipment, materials, services, personnel, and means of delivery and deployment (if applicable) required for self-sufficiency." See Joint Chiefs of Staff, *Joint Publication 3-0 Joint Operations*, DOD, January 17, 2017 (Incorporating Change 1, October 22, 2018), p. GL-17, at https://www.jcs.mil/Portals/36/Documents/Doctrine/pubs/jp3_0ch1.pdf?ver=2018-11-27-160457-910#page=221. The DOD definition combines the material with the non-material by incorporating the human operator. This allows for DOD to designate an infantry squad as a "weapons system" in the same manner as an F-35 Joint Strike Fighter is considered a weapon system. CRS is not making a determination as to the validity of this definition, but rather has chosen to separate the human from the material in order to simplify the readiness generation process.

important to the readiness of certain unit types (e.g., the availability of aircraft for aviation units or ships for surface fleets). Thus, when measuring and assessing overall unit readiness, it is useful to assess units holistically, including all the elements that contribute to the unit's capabilities.

Producing and Sustaining Ready Forces

Each of the Services is responsible for producing and sustaining ready military forces for use by joint force commanders. They accomplish this by using the administrative organizations in each Military Department and the operational units in each Service that must continuously build upon existing readiness.[69] Although the specific requirements to produce ready forces in each Service are different, the basic concept of readiness production can be described across all the Services using the analogy of a production line (**Figure 2**). This production line begins with untrained personnel and ends with a final product that is a capable military force (i.e., a military unit) in the form of ready warfighters. This linear "readiness production process" can be broken into three fundamental parts: (1) building initial readiness, (2) increasing readiness, and (3) sustaining readiness.

Figure 2. Unit Readiness Production Process



Source: CRS graphic based on DOD interviews and reference material.

[69] Each Service has different ways in which it distinguishes its operating forces from its institutional (otherwise administrative or generating forces), but in terms of readiness production, both types of forces are essential to producing and sustaining military readiness.

1. **Building initial readiness.** The process begins by receiving untrained personnel (i.e. recruits) and providing them with some degree of entry-level training. These recruits must be properly resourced to complete their accession.[70] Likewise, the administrative units providing this training must also be properly resourced in order to provide adequate training. In due course, recruits are tested to ensure proficiency in the basic requirements of their profession. If they pass, they continue along the production line. If they do not pass, depending on the circumstance, some may be recycled—meaning they will have another opportunity to train, test, and pass.
2. **Increasing readiness.** Personnel who have completed their entry-level training must then receive advanced training from additional training units. At some point, recruits who complete their advanced training will be awarded an occupational specialty, and become fully qualified to join operational units.[71] Next, the service's operational forces assume the responsibility of producing ready forces (i.e., producing ready units). Operational units integrate new personnel and provide them—along with existing unit personnel—unit-specific training that increases both individual *and* total unit readiness.[72] Operational units will test their warfighters' proficiency regularly (both as individuals and collectively) to ensure units are maintaining or increasing their readiness.[73] It is important to remember that in order to produce ready forces, each unit in the production line—be it an administrative unit or an operational unit—must be properly resourced in order to be able to perform their functions.
3. **Sustaining readiness: preserving or strengthening the ability to complete assigned missions.**[74] After operational units have achieved a determined level of

[70] Resourcing in this context is broad, and includes all material goods and supplies (e.g., food, clothing, and ammunition), equipment (including weapons systems), infrastructure (e.g., training ranges, dining facilities, and living quarters), and the personnel necessary to provide adequate training.

[71] The amount of advanced training a person receives from administrative training units is typically associated with the specific military profession the person is entering, the role the person will play in their operational unit (e.g., commissioned officer, warrant officer, enlisted person), and the specific Service the person is in. For example, an Air Force fighter pilot (a commissioned officer) may go through multiple training units to become fully qualified in their profession before entering an operational unit, and it may take on average 2-5 years to complete this training, depending on the type of aircraft. Conversely, an enlisted Army infantry soldier might go through a single training unit that combines initial entry training with advanced individual training to become qualified as an infantryman. It takes typically 22 weeks to become qualified as an enlisted Army infantryman. See Thomas Brading, "22-week infantry OSUT set to increase lethality, with more career fields to follow," *Army News Service*, November 5, 2019, at https://www.army.mil/article/229272/ 22_week_infantry_osut_set_to_increase_lethality_with_more_career_fields_to_follow.

[72] Ideally, the integration of new personnel into operational units serves to increase the total readiness of a unit as they become trained to higher degrees of proficiency. However, there must be maintained a careful balance between the absorption and attrition of unit personnel into a unit.

[73] Similar to other performance tests, the degree to which proficiency is tested reflects how much of a change in readiness has occurred from an established baseline. In other words, if you train a military force, and then test and pass that force at a minimum requirements level, you'll get a force that is qualified to deploy, but perhaps only ready to deploy and perform at a minimum level. Conversely, if you increase the level of training for a military force, making it more multifaceted and greater in scope, and then test and pass that force at a higher degree of difficulty, that military force will have a higher level of readiness to perform assigned missions. In the end, the mission requirements may be the same for all similar operational units, but the manner in which the mission is executed will likely be more effective.

[74] The Army provides a definition for "sustainable readiness," which is closely related to the concept of "sustaining readiness" described in this report. The Army defines sustainable readiness as "The building and preservation of the highest possible overall unit and strategic readiness posture for the Army over time, given the resources available, so that the Army is ready to meet known and emergent operational demands, while being optimally postured to meet

readiness, they are then considered "ready units."[75] That is, the warfighters and their operational units are qualified and properly resourced to be able to deploy and perform assigned missions. We are now at the end of a single production line. However, across the military several production lines operate simultaneously, and some units complete the production process faster than others. This is important to joint force commanders, both in terms of the availability of operational units for deployments (i.e., are all the units of a desired force element ready to deploy at a given time?), and the need to sustain readiness until operational units are called upon to perform their assigned missions. For those ready units that have completed the production process but are not scheduled to deploy, their next step is to maintain the readiness they have achieved.[76] This can be interpreted as reentering the production line as a whole or in parts, to receive further training and testing, thus preserving or enhancing the unit's capabilities until called upon to deploy for an assigned mission.[77] Unit commanders must consider several aspects of unit readiness once a unit has completed the production process. For example, how much absorption and attrition has the unit experienced? If a unit has deployed, for how long, and how much readiness has it "consumed" or "expended"? Is the unit being directed to change its organization and mission (e.g., transitioning from an Armored Brigade Combat Team to a Stryker Brigade Combat Team)? These factors inform unit commanders of how much training and testing is necessary to sustain unit readiness.

Sustaining ready forces, like the production of ready forces, involves several DOD organizations and stakeholders (see **Appendix A**). This includes the warfighters themselves, who are individually and collectively responsible for maintaining and increasing their own readiness, whether through improved performance, staying healthy and fit, or maintaining their equipment.[78]

A production line is just one *simplified* way of illustrating how ready forces are produced (for an alternative illustration, see **Appendix B**).

Expending Readiness

In the defense community, the deployment of military forces to accomplish assigned missions is often viewed as the *expenditure of readiness*.[79] What is commonly understood across the military

contingency surge demand." See Army Regulation (AR) 525-29, *Force Generation – Sustainable Readiness*, U.S. Army, October 1, 2019, p. 72, at https://armypubs.army.mil/epubs/DR_pubs/DR_a/pdf/web/ARN9412_AR525_29_FINAL.pdf#page=78.

[75] The exact requirements to be considered "ready" depend on the specific operational unit, its design, its training and resourcing requirements, and other requirements that may be mission-specific.

[76] Many operational units do not regularly deploy, thus they are in a constant process of preparation to sustain and enhance their readiness.

[77] Alternatively, one could view the readiness production line as only ending when a unit deploys, and upon a unit's redeployment, deployed forces would reenter the production line once again to regenerate unit readiness.

[78] See Col. Ron Rondeau, "Medical readiness is an individual responsibility," U.S. Air Force, May 18, 2009, at https://www.march.afrc.af.mil/News/Commentaries/Display/Article/168833/medical-readiness-is-an-individual-responsibility/.

[79] For an example, see Kathleen H. Hicks, Heather A. Conley, Lisa Sawyer, *Evaluating Future U.S. Army Force Posture in Europe: Phase II Report*, Center for Strategic and International Studies (Lanham, MD: Rowman & Littlefield, 2016), p. 53, at https://csis-website-prod.s3.amazonaws.com/s3fs-public/publication/160712_Samp_ArmyForcePostureEurope_Web.pdf#page=65.

is that certain skills are perishable and health and wellness—both physical and mental—can decrease over time; thus, they must be regularly maintained. When a unit deploys, the ability to maintain these skills and health and wellness conditions can become extremely difficult, particularly when the assigned mission is in an austere environment and/or requires constant operational activity. Examples of skills and health and wellness conditions that can perish over time include weapons proficiency (i.e., marksmanship), physical fitness (including nutritional health), and mental health resilience (i.e., "psychological health" and "behavioral health").[80]

When operational units return from a deployment, some degree of readiness has been consumed, or otherwise expended, thus operational units must reenter the *production line* in order to regenerate lost readiness.[81] Exact levels of readiness consumption are difficult to determine. However, it is generally established that lengthy military deployments involving high operational tempos (OPTEMPOs) consume a greater amount of readiness than shorter deployments with lower OPTEMPOs, though some noncombat deployments may not follow this OPTEMPO principle if training for assigned missions is incorporated into the deployment.[82]

Readiness Metrics and Reporting

The Services and USSOCOM report the readiness of *military units*—operational units and, to a certain extent, administrative units—to DOD senior leaders using two interrelated *systems*:

- The Department of Defense Readiness Reporting System (DRSS).
- The Chairman's Readiness System (the CRS).

These two systems report the capability of the armed forces to complete missions necessary to execute national strategy (See section "DOD's Definition of Readiness").[83] Generally, this includes assessing the resources of units and their ability to complete essential tasks, whether as an individual unit (e.g., an Army company, Air Force squadron, or Navy submarine squadron), Service, CCMD, or other DOD component/agency, or a combination thereof.[84] Each Service,

[80] The term "mental health" used in this report is synonymous with the DOD terms "behavioral health" and "psychological health." For more on psychological health, see DOD Instruction 6490.05, *Maintenance of Psychological Health in Military Operations*, Incorporating Change 2, Effective May 29, 2020, at https://www.esd.whs.mil/Portals/54/Documents/DD/issuances/dodi/649005p.pdf.

[81] In this report, readiness regeneration has been included within "Part 3 – Sustaining readiness" of the readiness production process.

[82] GAO states that OPTEMPO "refers to the rate at which military units are involved in all military activities, including contingency operations, exercises, and training deployments." See GAO, *Military Readiness: Clear Policy and Reliable Data Would Help DOD Better Manage Service Members' Time Away from Home*, GAO-18-253, April 2018, p. 2-3, at https://www.gao.gov/assets/700/691459.pdf#page=6; also Laura J. Junor, *Managing Military Readiness*, Institute for National Strategic Studies, National Defense University, February 2017, pgs. 42-43, at https://ndupress.ndu.edu/Portals/68/Documents/stratperspective/inss/Strategic-Perspectives-23.pdf; and Kathleen H. Hicks, Heather A. Conley, Lisa Sawyer, *Evaluating Future U.S. Army Force Posture in Europe: Phase II Report*, Center for Strategic and International Studies (Lanham, MD: Rowman & Littlefield, 2016), p. 53, at https://csis-website-prod.s3.amazonaws.com/s3fs-public/publication/160712_Samp_ArmyForcePostureEurope_Web.pdf#page=65.

Kathleen H. Hicks, Heather A. Conley, Lisa Sawyer, *Evaluating Future U.S. Army Force Posture in Europe: Phase II Report*, Center for Strategic and International Studies (CSIS) (Lanham, MD: Rowman & Littlefield, 2016), p. 53, at https://csis-prod.s3.amazonaws.com/s3fs-public/publication/160712_Samp_ArmyForcePostureEurope_Web.pdf#page=65; also see Mark F. Cancian and Seamus P. Daniels, "The State of Military Readiness: Is There a Crisis?," CSIS, April 18, 2018, at https://www.csis.org/analysis/state-military-readiness-there-crisis.

[83] CJCS Guide 3401D.

[84] DOD defines an essential task as a "specified or implied task an organization must perform to accomplish the

CCMD, or other DOD component can use additional assessment processes and systems to help determine readiness at different management levels (e.g., strategic vs. operational vs. tactical/unit readiness), and to help inform DRRS and the CRS.[85] However, DOD has only one authoritative readiness reporting system—DRRS—and one Joint Force readiness assessment system—the CRS—that together provide DOD leaders the necessary information to determine overall defense readiness.

In general, DRRS is built for all DOD components to assess and report unit readiness (i.e., "unit reporting"). The CRS was built for the Chairman of the Joint Chiefs of Staff (CJCS), and is focused on assessing and reporting the readiness of the Joint Force, which includes at a minimum considering unit, operational, and strategic readiness assessments jointly.[86]

Within these systems, not all units in the military assess and report their readiness to the same degree. In terms of readiness reporting, DOD uses two categories: *registered units* and *measured units*. Only those designated a measured unit are assessed and report their readiness in DRRS.[87]

Registered Units.

> At a minimum, all units and organizations that are assigned in the "Forces For Unified Commands" document or have the potential to support, by deployment or otherwise, a directed Operation Plan (OPLAN), Concept Plan (CONPLAN), contingency operation, homeland security operation, or provide Defense Support of Civil Authorities (DSCA) will be registered. This includes units such as Marine Expeditionary Forces, Marine Expeditionary Units, Brigades, Battalions, Regiments, Ships, Squadrons, Groups, Wings, Regional HQs, Bases, Stations, Installations, Hospitals, Training Units, and Schools. The Navy will register Coast Guard units. The Joint Staff and [combatant commands] will register selected joint units not having a Service affiliation organized under an approved joint manning document.[88]

Measured Units.

> All combat, combat support, combat service support units of the operating forces, including Active, National Guard, and Reserve and units apportioned to or allocated in support of an OPLAN, CONPLAN, Service war planning document, Named Operation, or Forces For Unified Commands are designated as measured units. Provisional, task-organized and "ad hoc" combat, combat support, and combat service support units of each Service and [combatant command] are also measured units. Measured units will provide capability assessments to DRRS-S and their status of training and resources in ... DRRS-S.[89]

DRRS and the CRS employ separate assessment processes consisting of multiple readiness assessments that employ a variety of measures and metrics to determine outputs (i.e., "readiness

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mission." See DOD Dictionary of Military and Associated Terms, p. 76.

[85] For an example, see AR 525-30.

[86] CJCS Guide 3401D states "Readiness from the strategic perspective focuses on the ability of the joint force to perform missions and provide capabilities to achieve strategic objectives as identified in strategic level documents.... Assessing strategic readiness requires a global perspective to account for demands between regional and functional responsibilities." DOD defines the *joint force* as "A force composed of elements, assigned or attached, of two or more Military Departments operating under a single joint force commander." See *DOD Dictionary of Military and Associated Terms*, p. 116, at https://www.jcs.mil/Portals/36/Documents/Doctrine/pubs/dictionary.pdf#page=122.

[87] The Services may also establish their own additional categories of reporting that include a portion of the full reporting requirements. For an example, see AR 220-1, p. 1.

[88] CJCS Guide 3401D.

[89] CJCS Guide 3401D.

levels").[90] Some of these measures and metrics are integral to these system's assessments and are used together with a commander's judgment of a unit's ability to complete essential tasks to determine outputs. There can also be "stand-alone" metrics or measures that may be formally reported through an assessment system (e.g., part of a DRRS assessment), but also reported separately from the assessment process due to their importance to unit commanders and senior DOD leaders. Stand-alone metrics and measures may affect commanders' assessment decisions, and can be included in official readiness reports to DOD and Congress. Two common stand-alone metrics used to assess unit readiness are Mission Capable (MC) rates and Aircraft Availability (AA) rates. These are maintenance metrics used to assess certain military weapons systems' availability (see section "Mission Capable (MC) and Aircraft Availability (AA) Rates").

What Is a Measure? What Is a Metric?

Measure. Generally, an amount derived from taking a measurement (e.g., 10 grams, 100 degrees, and 1000 miles). Individual Services may also have their own specific definition or variant of a definition for a "measure" or "measurement." For example, Army Regulation (AR) 525-30 defines a measurement as "A status assessment that is objective because it is calculated from authoritative data."

Metric. A derivative of two or more measures generally expressed as a ratio or percentage (e.g., 12/15, 83%, 1:5) Individual Services may also have their own specific definition or variant of a definition for "metric." For example, AR 525-30 defines a metric as "A quantitative, objective, or empirical data point that supports a standard of measurement."

Sections 117, 153, and 193 of Title 10 U.S.C. require that DOD uniformly establish these readiness systems across the Services, Joint Staff, and combatant commands, and provide to Congress "a report regarding the military readiness of the active and reserve components" each calendar quarter.[91] This report to Congress is known as the Quarterly Readiness Report to Congress, or QRRC (see section "The Quarterly Readiness Report to Congress (QRRC)"). In addition to the QRRC, Congress may also receive ad hoc readiness reports and briefings from DOD and the Services.[92]

The Defense Readiness Reporting System (DRRS)

Title 10 U.S.C. Section 117 requires the Secretary of Defense to "establish a comprehensive readiness reporting system" for DOD that will

> measure in an objective, accurate, and timely manner the capability of the armed forces to carry out-(1) the National Security Strategy prescribed by the President in the most recent annual national security strategy report under section 108 of the National Security Act of 1947 (50 U.S.C. 3043); (2) the defense planning guidance provided by the Secretary of Defense pursuant to section 113(g) of this title; and (3) the National Military Strategy prescribed by the Chairman of the Joint Chiefs of Staff.[93]

[90] Outputs from DRRS do inform assessments that are part of the CRS, thus DRRS is viewed as part of the CRS from the Chairman of the Joint Chiefs of Staff perspective. See CJCS Guide 3401D, p. 7.

[91] 10 U.S.C. §117; 10 U.S.C. §153; 10 U.S.C. §193; 10 U.S.C. §482.

[92] R. Derek Trunkey, *Implications of the Department of Defense Readiness Reporting System*, CBO (May 2013), p. 13, at https://www.cbo.gov/sites/default/files/cbofiles/attachments/44127_DefenseReadiness.pdf#page=16.

[93] 10 U.S.C. §117.

Another statutory requirement is that the reporting system be a "single authoritative readiness reporting system for the Department, and that there shall be no military service specific systems."[94]

DOD meets these requirements through the Defense Readiness Reporting System, or DRRS. DRRS represents a single authoritative readiness reporting system for DOD, but the term is also commonly used to refer to one or more DRRS-related components, including Service-specific data input and reporting systems (i.e., DRRS Service "variants" also called "increments"[95]), DRRS-related web-based services, and associated DRRS readiness assessments. DRRS can then be viewed as a "family of systems" and assessments that form a "DRRS Enterprise." Each of these DRRS components connect in the form of a single, secure, web-based information system called DRRS Strategic, or DRRS-S (see **Figure 3**). DRRS-S provides a centralized electronic reporting system for the Office of the Secretary of Defense (OSD), the Joint Staff, and other senior DOD officials.

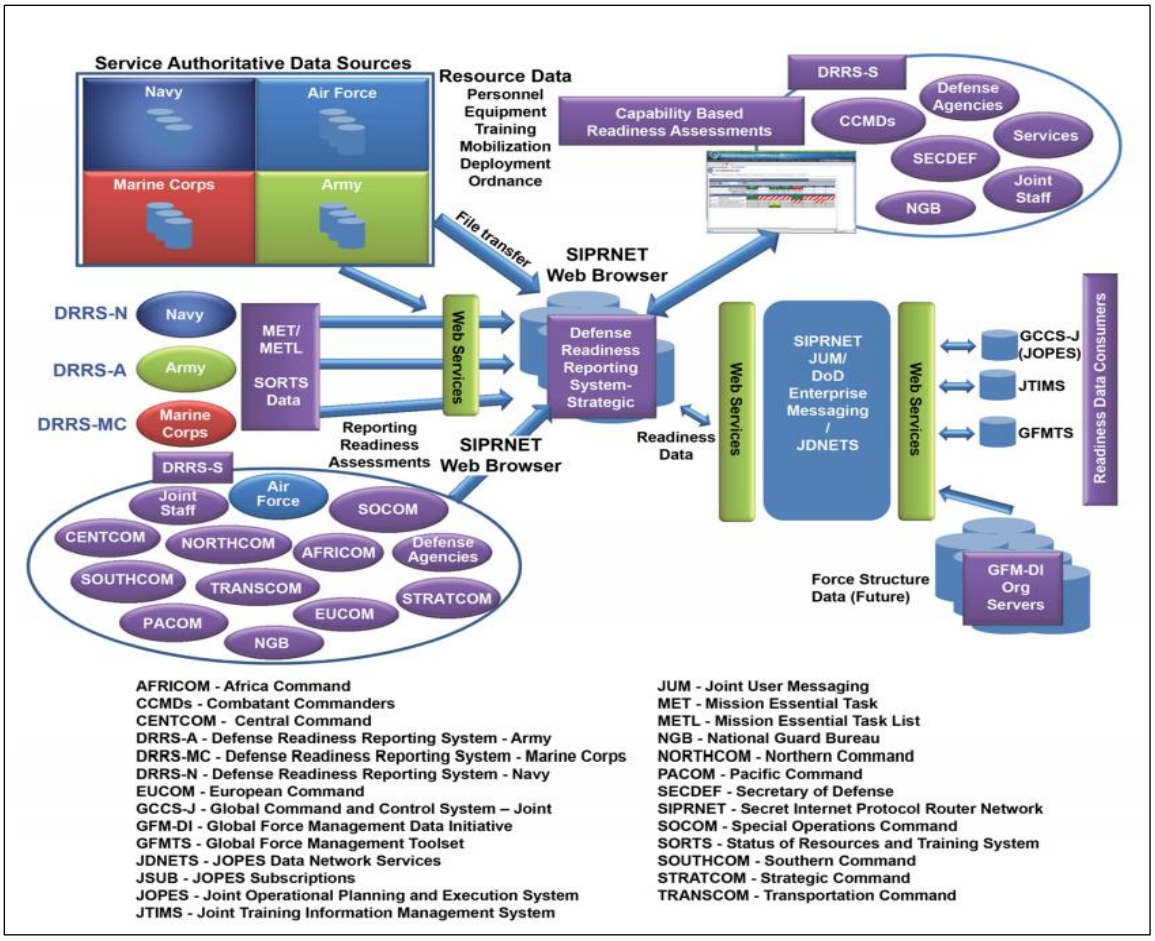
DOD states DRRS-S is a "top level collection of approved hardware and software components culminating in a web-based user interface. It provides the only strategic tool able to access readiness data and information across the DRRS Enterprise."[96]

[94] Ibid.

[95] Director, Operational Test and Evaluation, *FY 2015 Annual Report*, January 2016, p. 31.

[96] DOD, *DRRS Primer for Senior Leaders*, OUSD(P&R), 2011, Appendix A, p. 33, at http://www.highgroundconsulting.net/uploads/3/0/0/4/3004662/drrs_psl_final_-_4_mar_11.pdf#page=41.

Figure 3. DRRS Enterprise and DRRS-S



Source: DOD, *Director, Operational Test and Evaluation (DOT&E) FY 2016 Annual Report*, The office of the Director, Operational Test and Evaluation, December 2016, p. 37, at https://www.dote.osd.mil/Portals/97/pub/reports/FY2016/dod/2016drrs.pdf?ver=2019-08-22-105334-057.

DRRS-S operates on DOD's Secret Internet Protocol Router Network (SIPRNet) and receives and processes readiness reports and data from several sources.[97] These include the Service-specific variants of DRRS, which are DRRS-A (Army), DRRS-N (Navy), and DRRS-MC (Marine Corps).[98] Air Force units, CCDRs and their subordinate units, and other DOD components report directly to DRRS-S.[99] Additionally, the Air Force uses the Air Force Input Tool (AF-IT) to report certain data to DRRS-S.[100] **Figure 4** provides a simplified illustration of the various readiness data sources to DRRS-S (the Service variants of DRRS-S, the AF-IT, Joint data sources, etc.) from both a "command-level" (i.e., warfighter rank) and associated "management level" (i.e., tactical, operational, strategic) perspective.

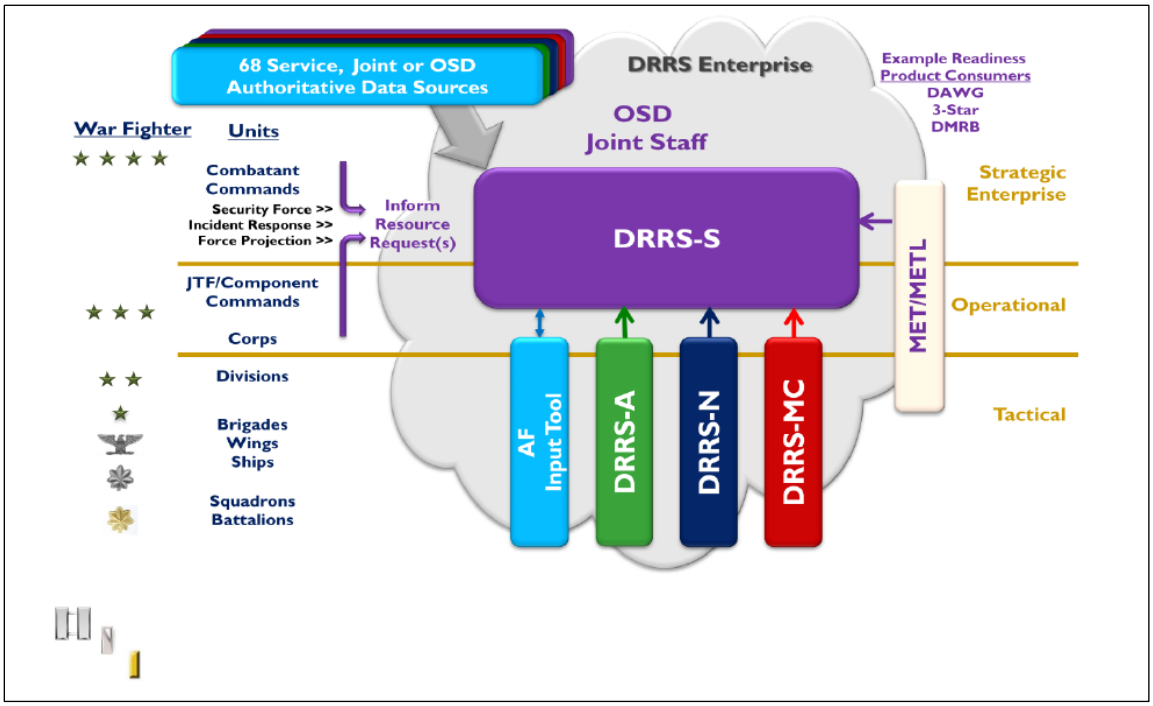
[97] Director, Operational Test and Evaluation, *FY 2015 Annual Report*, January 2016, p. 31.

[98] DOD changed its original DRRS implementation plan "to accommodate the Services' desire to identify and correct reporting errors and problems of interpretation within their own systems before transmitting their data to the central system" (i.e., DRRS-S). These changes included each Service maintaining its own version of DRRS. See R. Derek Trunkey, *Implications of the Department of Defense Readiness Reporting System*, CBO, Working Paper 2013-03 (May 2013), p. 7, at https://www.cbo.gov/sites/default/files/cbofiles/attachments/44127_DefenseReadiness.pdf#page=10.

[99] Director, Operational Test and Evaluation, *FY 2015 Annual Report*, January 2016, p. 31.

[100] AF-IT is not considered a variant of DRRS-S.

Figure 4. DRRS-S Data Sources and Command Levels



Source: DRRS Primer for Senior Leaders, OUSD(P&R), 2011.

In general, the DRRS Enterprise and its integrated readiness assessments (hereinafter referred to as "DRRS" in the singular) comprise a single comprehensive reporting system that allows unit commanders to assess and report the readiness of their units to perform both their *designed* and *assigned* missions (see section "Missions, Tasks, and Forces"). For more detailed information on DRRS, to include readiness assessments, metrics, and unit ratings, see **Appendix C**.

The Chairman's Readiness System (CRS)

The CRS is a system that allows the CJCS and the Joint Staff to assess and determine the readiness of the Joint Force. According to CJCS Guide 3401D

> The CRS "provides a common framework for conducting commanders' readiness assessments, blending unit-level readiness indicators with combatant command, Service, and Combat Support Agency (CSA) (collectively known as the C/S/As) subjective assessments of their ability to execute the National Military Strategy (NMS) ... [T]he CRS provides the C/S/As a readiness reporting system measuring their ability to integrate and synchronize combat and support units into an effective joint force ready to accomplish assigned missions."[101]

To determine Joint Force readiness, the CJCS and Joint Staff assess readiness from at least three different perspectives: (1) strategic readiness, (2) operational readiness, and (3) tactical or unit readiness.[102] There can be additional perspectives of readiness, however these three are the ones currently associated with the CRS in CJCS Guide 3401D.[103] Each of these draws on outputs from

[101] CJCS Guide 3401D.

[102] Additional information on these perspectives can be found in CJCS Guide 3401D.

[103] Examples of the pervasiveness of these three perspectives can also be seen in AR 525-30, *Military Operations*—

DRRS and other readiness assessments. The CRS uses a combination of these outputs as the basis for three strategic-level assessments that are collectively called the Joint Combat Capability Assessment (JCCA). As the INSS states, the "JCCA is not a reporting system; rather, it is a collection of near-term analyses depicting the force's ability to execute required priority plans."[104] The JCCA is composed of the following three assessments.

- The Joint Force Readiness Review (JFRR).
- Plan Assessments.
- Readiness Deficiency Assessment (RDA).

The JCCA also includes a readiness report that is used as an input to the QRRC.[105] The 2017 INSS report provides the following general descriptions for each JCCA assessment:

> **JFFR**.
>
> The JFRR is conducted quarterly and combines readiness input from a variety of perspectives including individual units, CCDRs, the military Services, and combat support agencies to assess the DOD ability to conduct missions corresponding to the National Military Strategy (NMS).[106]
>
> **Plan Assessments.**
>
> Plan assessments are comprehensive evaluations of the DOD ability to successfully execute a specific contingency plan or a set of bundled plans. The assessment includes evaluations of force flow and the likelihood of meeting objectives and timelines. Plan assessments ... are only done on a quarterly basis. They may be done out of cycle to assess the risk of a plan that is deemed likely to be executed. The product of these assessments is a detailed narrative of the ability to execute the plan, including details of likely problems, potential failures, consequences, and mitigation discussions.[107]
>
> **RDA.**
>
> The Joint Staff submits the RDA each year as a culminating assessment of the impact of reported deficiencies on the ability to conduct the NMS. The RDA includes a strategic assessment that focuses on readiness trends in each of the Joint Capability Areas.[108] It also

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Army Strategic and Operational Readiness, April 9, 2020, at https://armypubs.army.mil/epubs/DR_pubs/DR_a/pdf/web/ARN15118_AR525_30_FINAL.pdf; and U.S. Navy, *Strategic Readiness Review*, Department of the Navy, 2017, at https://www.hsdl.org/?abstract&did=806464; and also the following news article from Senior Airman Vernon R. Walter III, "Cannon AFB Assessed on Operational Readiness," U.S. Air Force, 27th Special Operations Wing Public Affairs, November 27, 2019, at https://www.cannon.af.mil/News/Article-Display/Article/2028768/cannon-afb-assessed-on-operational-readiness/.

[104] Laura J. Junor, *Managing Military Readiness*, Institute for National Strategic Studies, National Defense University, February 2017, p. 33, at https://ndupress.ndu.edu/Portals/68/Documents/stratperspective/inss/Strategic-Perspectives-23.pdf.

[105] Details regarding the current methodologies and inputs of some JCCA assessments are not publicly available. The only official unclassified CJCS publications regarding the JCCA—CJCS Guide 3401D and CJCSI 3401.01E—were first published in 2010 and last made current in 2013 and 2014 respectively. The Joint Staff has indicated that certain JCCA assessments and CRS processes contained within these publications have since changed. For example, Readiness Assessment (RA) levels used in the CRS to synthesize METL assessments, plan assessments, and readiness deficiencies were scheduled to be eliminated from the CRS, therefore they are not included in this report. See CJCS Guide 3401D. From the author's interviews with the Joint Staff.

[106] Ibid.

[107] Ibid.

[108] Joint Capability Areas, or JCAs, are "Collections of like DOD capabilities functionally grouped to support capability analysis, strategy development, investment decision making, capability requirements portfolio management, and capabilities-based force development and operational planning." See CJCSI 5123.01H, *Charter of the Joint*

> includes an operational assessment that considers the consequences of CCDR/combat support agency deficiencies on top-priority plans, named operations, and mission assignments.[109]

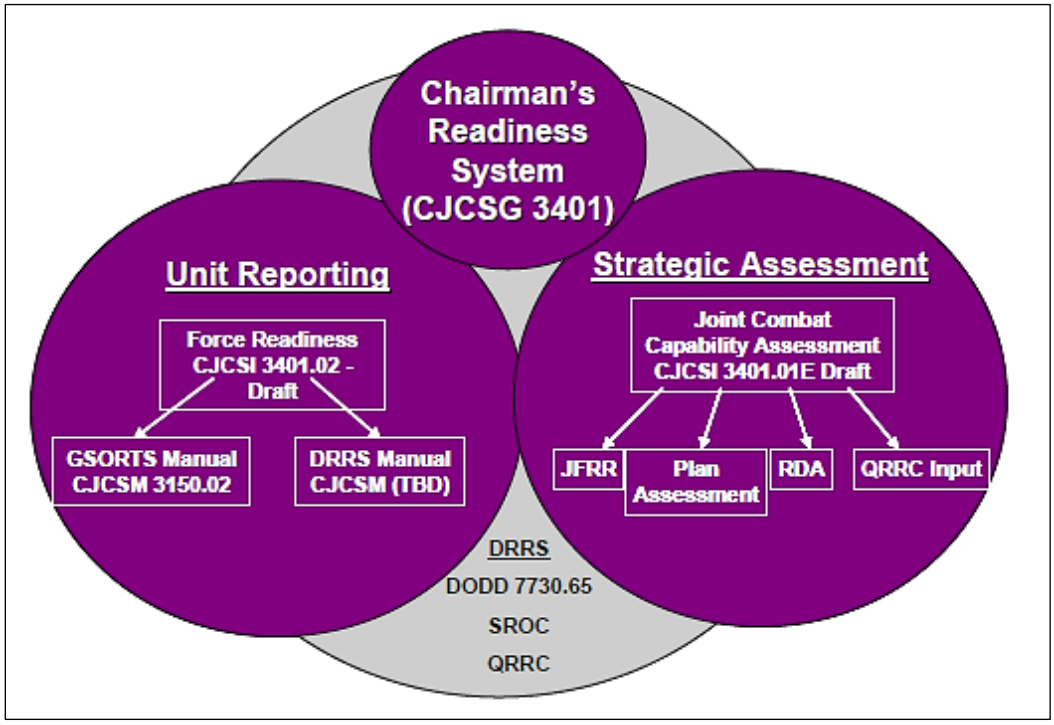
The JFRR is not only a part of the CRS, but is also a written report required to be submitted to Congress every first and third calendar quarter. Additional requirements for the JFFR can be found in 10 U.S.C. Section 482.

> SEMI-ANNUAL JOINT FORCE READINESS REVIEW.-(1) Not later than 30 days after the last day of the first and third quarter of each calendar year, the Chairman of the Joint Chiefs of Staff shall submit to Congress a written report on the capability of the armed forces, the combat support and related agencies, operational contract support, and the geographic and functional combatant commands to execute their wartime missions based upon their posture and readiness as of the time the review is conducted.[110]

The process for how JCCA inputs and unit reporting assessment outputs are collectively used to determine overall readiness of the Joint Force can be found in CJCSI 3401.01E. The general framework for the CRS has been illustrated by DOD and can be found in **Figure 5**.

Figure 5. DOD Depiction of the CRS

Relevant publications and assessments



Sources: CJCSI 3401.01E (current as of May 19, 2014) and CJCS Guide 3401D (current as of November 25, 2013).

Requirements Oversight Council (JROC) and Implementation of the Joint Capabilities Integration and Development System (JCIDS), August 31, 2018, p. E-1, at https://www.jcs.mil/Portals/36/Documents/Library/Instructions/CJCSI%205123.01H.pdf?ver=2018-10-26-163922-137#page=89.

[109] Ibid.

[110] 10 U.S.C. §482.

Mission Capable (MC) and Aircraft Availability (AA) Rates

Two "stand-alone" readiness metrics frequently used by DOD for major weapons systems are Mission Capable (MC) rates and Aircraft Availability (AA) rates, which assess the availability of certain major weapons systems to perform assigned missions. A discussion on these metrics is included in this report because they are often cited independently in official readiness reports and in the media.[111] These readiness metrics can also be frequently characterized in the media as a measure of the overall readiness of a unit that relies upon a major weapons system. This can be sometimes misinterpreted as representing the overall readiness of all units that rely upon the same weapons system (e.g., the readiness of all aviation units in a Service using the same aircraft).[112] Such a narrow explanation of unit readiness omits other key readiness elements. For example, an aviation unit may report a high MC rate (e.g., 90% MC rate) for their fighter aircraft, but lack a certain number of qualified pilots, maintenance personnel, or equipment necessary to carry out an assigned mission. In this example a high MC rate is not a good indicator of the unit's readiness.

In a 2019 Air Force Magazine interview, Air Force Chief of Staff Gen. David Goldfein stated

> The fastest way for me as chief and for us as the Air Force to increase the MC rate is to stop flying ... If I gave that airplane to maintenance, bought them the parts, they're going to get that MC rate high. But I'm not going to have people trained, I'm not going to have folks airborne, so my overall performance is going to go down.[113]

The Air Force Magazine article also reported

> Pentagon leaders want to move away from using MC rates as a major readiness metric. Their argument: there's more to getting a fleet ready for combat than simply knowing how many fighters can fly on a given day.[114]

Although not a substitute for more comprehensive readiness assessments, these two metrics still provide useful insights into the readiness of certain units; thus, it is important to understand how they differ. The two metrics are broadly defined as follows.

- **MC rate.** Definitions or formulas for the rate may vary by Service. However, one commonly accepted definition is the ratio of "uptime" to "uptime plus downtime:"[115]

$$MC\ Rate = \frac{Uptime}{Uptime + Downtime}$$

[111] These metrics are also included in existing DOD readiness assessments (e.g. MC rates are part of determining R-levels in DRRS). DOD, *MV-22 Squadrons Could Improve Reporting of Mission Capability Rates and Readiness* (Report No. DODIG-20 14-00 I) (U), DOD Inspector General, Report No. DODIG-2014-001, October 23, 2013, p. 3, at https://media.defense.gov/2018/Sep/12/2001965081/-1/-1/1/DODIG-2014-001%20(REDACTED).PDF#page=10.

[112] For an example, see https://www.airforcetimes.com/news/your-air-force/2019/07/26/aircraft-mission-capable-rates-hit-new-low-in-air-force-despite-efforts-to-improve/.

[113] Brian W. Everstine, "USAF Wants to Find New Ways to Discuss Fleet Readiness," *Air Force Magazine*, September 25, 2019, at https://www.airforcemag.com/usaf-wants-to-find-new-ways-to-discuss-fleet-readiness/.

[114] Ibid.

[115] Roy Rice, "Downtime per Flying Hour as a Metric for Aircraft Availability: An Alternative to Mission Capable Rate," *Phalanx*, Military Operations Research Society (MORS), Vol. 52, No. 2 (June 2019), pp. 64-67 (4 pages), at https://www.jstor.org/stable/26727134?seq=1#metadata_info_tab_contents.

"Uptime" includes the time that a weapons system is operating at a unit or location and the time it is inactive, but still available to be operated by a unit.[116] "Uptime plus downtime" can be considered the total time that a unit *possesses* a weapons system.[117] Another common way of expressing this rate is in terms of hours:[118]

$$MC\ Rate = \frac{Mission\ Capable\ Hours}{Unit\ Possessed\ Hours}$$

- **AA rate.** This readiness metric applies to military aviation units, mainly in the Air Force, and has been used as an alternative for, or in addition to, the MC rate. It is the ratio of mission capable hours to total aircraft inventory (TAI) hours. TAI hours differ from a unit's total possessed hours. This difference is based largely on the inclusion of aircraft categorized as non-available (i.e., in a certain status that takes the aircraft out of a unit's possession) in the summation of TAI hours. The AA rate is a metric that can be applied to the *entire fleet* of like aircraft at a unit, a specific location, for an aggregated fleet type (e.g., bombers, fighters), or for an entire Service, at a given time.

$$AA\ Rate = \frac{Mission\ Capable\ Hours}{TAI\ Hours}$$

This example from an Air Force research report illustrates the differences between the two rates (i.e., the differences in denominators).

> Base X has 20 TAI, three of those aircraft are at depot getting repaired, and two are in depot status awaiting engineer advice on a fix at the local base (i.e., five aircraft are not possessed by the base). In addition, one aircraft is in phase for regular maintenance and two are in scheduled time changes (i.e., they need work but are still possessed by the base). The AA for this base is 15/20 or 75% and the MC rate is 12/15 or 80%." This example gives a good idea of how these statistics can differ. USAF leadership for war planning does not care if the base is 80% MC if they only have 15 aircraft available and 18 are needed for a real world tasking.[119]

The Quarterly Readiness Report to Congress (QRRC)

Title 10 U.S.C. Section 482 requires the Secretary of Defense to submit to Congress a readiness report for the Total Force not later than 30 days after the end of each second and fourth calendar quarter.[120] The statute also requires the Secretary of Defense to provide Congress a briefing

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[116] Ibid.

[117] *Possessed* by a unit means the major weapons system is not in a "depot status" (i.e., needing repairs, replacements, supplies, or other maintenance the unit itself cannot provide) and is capable of performing at least one assigned mission. See Department of Defense Authorization for Appropriations for Fiscal Year 2005, Hearing Before the Committee on Armed Services, United States Senate, 108th Congress, Second Session on S.2400, Part 3 Readiness and Management Support, p. 49.

[118] Lt Col Jeff Meserve, "USAF Maintenance Metrics: Looking Forward with Aircraft Availability (AA)," Headquarters U.S. Air Force, 2007, at https://www.sae.org/events/dod/presentations/2007LtColJeffMeserve.pdf.

[119] Ibid., p. 3.

[120] The term "Total Force" refers to both the Active Components (AC) and Reserve Components (RC) of the armed forces (together AC/RC). See The Reserve Forces Policy Board, *Improving the Total Force Using the National Guard and Reserves*, RFPB Report FY17-01, November 1, 2016 at https://rfpb.defense.gov/Portals/67/Documents/Improving%20the%20Total%20Force%20using%20the%20National%20Guard%20and%20Reserves_1%20November

regarding the military readiness of the Total Force not later than 30 days after the end of each first and third calendar quarter.[121] These congressional briefings are intended to provide updates to the submitted readiness reports from the previous quarter. There are 10 elements required to be included in these readiness reports and briefings to Congress:

> "(1) A description of each readiness problem or deficiency that affects the ground, sea, air, space, cyber, or special operations forces, and any other area determined appropriate by the Secretary of Defense.
>
> (2) The key contributing factors, indicators, and other relevant information related to each identified problem or deficiency.
>
> (3) The short-term mitigation strategy the Department will employ to address each readiness problem or deficiency until a resolution is in place, as well as the timeline, cost, and any legislative remedies required to support the resolution.
>
> (4) A summary of combat readiness ratings for the key force elements assessed, including specific information on personnel, supply, equipment, and training problems or deficiencies that affect the combat readiness ratings for each force element.
>
> (5) A summary of each upgrade or downgrade of the combat readiness of a unit that was issued by the commander of the unit, together with the rationale of the commander for the issuance of such upgrade or downgrade.
>
> (6) A summary of the readiness of supporting capabilities, including infrastructure, prepositioned equipment and supplies, and mobility assets, and other supporting logistics capabilities.
>
> (7) A summary of the readiness of the combat support and related agencies, any readiness problem or deficiency affecting any mission essential tasks of any such agency, and actions recommended to address any such problem or deficiency.
>
> (8) A list of all Class A, Class B, and Class C mishaps that occurred in operations related to combat support and training events involving aviation, ground, or naval platforms, weapons, space, or Government vehicles, as defined by Department of Defense Instruction 6055.07, or a successor instruction.
>
> (9) Information on the extent to which units of the armed forces have removed serviceable parts, supplies, or equipment from one vehicle, vessel, or aircraft in order to render a different vehicle, vessel, or aircraft operational.
>
> (10) Such other information as determined necessary or appropriate by the Secretary of Defense."[122]

These readiness reports and briefings have been both individually and collectively referred to as the *Quarterly Readiness Report to Congress*, or QRRC.[123] The purpose of each QRRC is to help

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%202016.pdf?ver=2016-11-17-142718-243; and D.H. Gurney, "Validating the Total Force: Executive Summary," *Joint Forces Quarterly*, Issue 43, 4th Quarter 2006, at https://ndupress.ndu.edu/portals/68/Documents/jfq/jfq-43.pdf#page=16.

[121] 10 U.S.C. §482.

[122] Ibid.

[123] Occasionally, the phrase "Quarterly Readiness Review to Congress" has also been used by DOD as an alternate labeling of the "Quarterly Readiness Report to Congress." Neither expounded variation of the acronym QRRC has been established in statute, rather, they are terms of reference set by DOD. See for example Department of Defense, Office of the Under Secretary of Defense (Comptroller)/Chief Financial Officer, *Defense Budget Overview, United States Department of Defense, Fiscal Year 2021 Budget Request*, February 2020 (Revised May 13, 2020), p. 3-1, at https://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2021/fy2021_Budget_Request_Overview_Book.pdf#page=30; and also *Prepared Statement of the Honorable Jonathan*

Congress maintain proper oversight of DOD by tracking readiness levels to determine if the military is properly funded.[124]

The DASD(FR) describes the content of quarterly reports as follows:

> The January-March and July-September QRRCs will include the standard readiness format (e.g., mission assessments and top concerns) while the April-June and October-December QRRCs will focus on mitigation efforts being employed to generate improved readiness."[125]

The second and fourth quarterly reports are sometimes referred to as the semi-annual mitigation QRRC.[126] According to the Army, each QRRC is a comprehensive report that "consists of CCDR, Service, and Office of the Secretary of Defense (OSD) readiness assessments."[127] The QRRC can be hundreds of pages long and include several assessment summaries with multiple annexes containing both unit and joint force readiness outputs.[128] DOD also states that the QRRC "contains several unique subsections not found in other readiness assessments addressing the risk of dependence on contractor support and major exercises."[129] Many sections of the QRRC are formed from classified Service and joint force readiness data held on secure DOD networks, making the QRRC itself a largely classified report.[130] As an example of more Service-specific inputs to the QRRC, AR 525-30 states

> Army input to the QRRC includes the following readiness indicators: Personnel Strength; Personnel Turbulence; Other Personnel Matters (accessions and recruiting quality

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Woodson, M.D., Assistant Secretary of Defense (Health Affairs) and Surgeons General of the Military Departments, Before the House Armed Services Committee, Subcommittee on Military Personnel, June 11, 2015, p. 6, at https://www.airforcemag.com/PDF/testimony/Documents/2015/June%202015/061115ediger.pdf#page=6.

[124] Leon Panetta et al., *The Building Blocks of a Ready Military: People, Funding, Tempo*, Bipartisan Policy Center, January 2017, p. 8, at https://bipartisanpolicy.org/wp-content/uploads/2019/03/BPC-Defense-Military-Readiness.pdf.

[125] Deputy Assistant Secretary of Defense for Force Readiness, *Military Readiness*, DOD, February 2019, p. 4. Unclassified reference booklet provided directly to congressional offices, congressional committees, and the Congressional Research Service.

[126] DOD, *FY 2021 Annual Performance Plan FY 2019 Annual Performance Report*, Chief Management Officer (CMO), DOD, January 29, 2020, Appendix B, p. 7, at https://cmo.defense.gov/Portals/47/Documents/Publications/Annual%20Performance%20Plan/FY%202021%20Annual%20Perf%20Plan%20&%20FY%202019%20Annual%20Perf%20Report.pdf#page=188.

[127] AR 525-30, p. 5.

[128] "For example, the July through September 2012 Quarterly Readiness Report to Congress totaled 443 pages and the January through March 2013 report is 497 pages long." See GAO-13-678, p. 5.

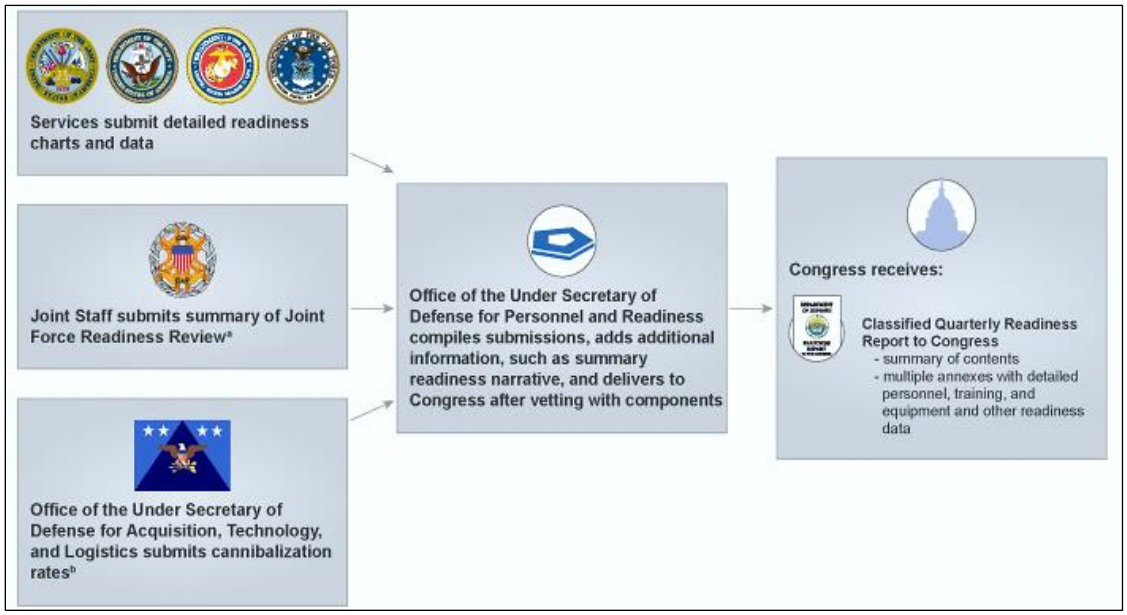
[129] Deputy Assistant Secretary of Defense for Force Readiness, *Military Readiness*, DOD, February 2019, p. 4. Unclassified reference booklet provided directly to congressional offices, congressional committees, and the Congressional Research Service.

[130] Note that 10 U.S.C. §482(e) states: "A report under this section shall be submitted in unclassified form. To the extent the Secretary of Defense determines necessary, the report may also be submitted in classified form." Since the statute's enactment in 1996, DOD has submitted increasingly classified QRRCs to Congress—beginning in May 1996 with an unclassified quarterly report that was less than 20 pages and included one classified appendix, to May 2013 where a report contained unclassified summaries with three classified annexes that provided more detailed readiness information, to September 2016 where GAO's review of the QRRC indicated most of the report was now classified. See Mark E. Gebicke, *Military Readiness: Reports to Congress Provide Few Details on Deficiencies and Solutions*, GAO/NSIAD-98-68, March 1998, p.17, at https://books.google.com/books?id=uQYNAAAAIAAJ&printsec=frontcover&source=gbs_ge_summary_r&cad=0#v=onepage&q=classified&f=false; and R. Derek Trunkey, *Implications of the Department of Defense Readiness Reporting System*, CBO, Working Paper 2013-03 (May 2013), p. 13, at https://www.cbo.gov/sites/default/files/cbofiles/attachments/44127_DefenseReadiness.pdf#page=16; and also GAO, *Military Readiness: DOD's Readiness Rebuilding Efforts May Be at Risk without a Comprehensive Plan*, GAO-16-841, September 2016, p. 4, at https://www.gao.gov/assets/680/679556.pdf#page=8.

> benchmarks); Training (to include Unit Readiness and Proficiency); Logistics (Equipment Fill, Equipment Maintenance, and Supply); and Readiness of National Guard to Perform Civil Support Missions.

Within OSD, the Office of the Under Secretary of Defense for Personnel and Readiness, or OUSD(P&R), assembles and produces the quarterly report to Congress.[131] To do so, OUSD(P&R) compiles information from the Joint Staff, the Services, and other DOD components and integrates its own collected information to prepare a draft report to Congress.[132] The office then sends a draft report out to relevant DOD components to review for accuracy, then coordinates and resolves any comments or edits, finalizes the report, and provides a finalized report to the congressional defense committees.[133] This process is illustrated in **Figure 6**.

Figure 6. Overview of the QRRC Process



Source: 2013 GAO Report (GAO-13-678).

Note: The "Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics" has been reformed into the "Office of the Under Secretary of Defense for Acquisition & Sustainment."

The Readiness Recovery Framework (R2F)

In addition to those elements of the QRRC previously mentioned, a DOD effort known as the "Readiness Recovery Framework," or R2F, forms the basis of the semi-annual mitigation QRRC.[134] The R2F is a DOD action plan that

> contributes to increasing the readiness of the Military Services and creating a more lethal Joint Force by improving the Department's ability to measure, assess, and understand

[131] GAO-13-678, p. 5.

[132] Ibid.

[133] Ibid.

[134] DOD, *FY 2021 Annual Performance Plan FY 2019 Annual Performance Report*, Chief Management Officer (CMO), DOD, January 29, 2020, p. 7.

> readiness. More specifically, this effort will refine and improve readiness metrics for each Military Service that will be used over time as a way to track readiness improvements.[135]

The R2F assesses and analyzes readiness metrics and measures on a semi-annual basis.[136] According to the FY2021 DOD Annual Performance Plan, the R2F is updated semi-annually and "will undergo continued validation as conditions and readiness levels evolve, to include expansion of Major Force Elements (MFE) and readiness metrics where required."[137] DOD further states: "Each Military Service is responsible for its readiness recovery goals and recovery dates per this initiative. The Under Secretary of Defense for Personnel and Readiness (USD(P&R)) shall ensure compliance with the R2F goals in order to align Military Service and Department efforts."[138]

QRRC Reform

Over the past decade congressional committees, CBO, GAO, and other defense community organizations have voiced concerns over the effectiveness of the QRRC in informing Congress of the state of military readiness. These concerns have largely revolved around the ability of Congress to correlate QRRC summaries and readiness data (such as DRRS outputs) with the necessary amount of defense funding required to address both specific and across-the-board readiness issues.

Selected Examples of Legislative Branch Concerns over QRRC Effectiveness

CBO statement from May 2013:

> The QRRC has many different users within the Congress, and so it must provide different levels and types of information.... Many new readiness metrics in DRRS are not included or even summarized in the QRRC, and the report does not give a quantitative overall view of readiness trends. Some charts aggregate all units within a service, but interpreting those charts can be difficult. Also, the QRRC simply does not systematically address many readiness questions, such as the pace of operations and its effect on readiness or morale and psychological well-being.[139]

GAO statement from July 2013:

> DOD has taken steps to improve its quarterly readiness reports to Congress, but additional contextual information would provide decision makers a more complete picture of DOD's readiness. Over time, based on its own initiative and congressional requests, DOD has added information to its reports, such as on operational plan

[135] James N. Stewart, PTDO Under Secretary of Defense for Personnel and Readiness, *Force Readiness: Improve the Department's ability to measure, assess, and understand readiness*, Fiscal Year 2019, Quarters 4, at https://www.performance.gov/defense/2019_dec_DOD_Force_Readiness.pdf.

[136] Ibid.

[137] DOD, *FY 2021 Annual Performance Plan FY 2019 Annual Performance Report*, Chief Management Officer (CMO), DOD, January 29, 2020, Appendix B, p. 7, at https://cmo.defense.gov/Portals/47/Documents/Publications/Annual%20Performance%20Plan/FY%202021%20Annual%20Perf%20Plan%20&%20FY%202019%20Annual%20Perf%20Report.pdf#page=188.

[138] James N. Stewart, PTDO Under Secretary of Defense for Personnel and Readiness, *Force Readiness: Improve the Department's ability to measure, assess, and understand readiness*, Fiscal Year 2019, Quarters 4, at https://www.performance.gov/defense/2019_dec_DOD_Force_Readiness.pdf.

[139] R. Derek Trunkey, *Implications of the Department of Defense Readiness Reporting System*, CBO, Working Paper 2013-03 (May 2013), p. 13, at https://www.cbo.gov/sites/default/files/cbofiles/attachments/44127_DefenseReadiness.pdf#page=16.

> assessments. In its most recent report, DOD added narrative information detailing the impact of readiness deficiencies on overall readiness and a discussion of how the services' budgets support their long-term readiness goals.[140]

Excerpt from the National Defense Authorization Act (NDAA) For Fiscal Year 2017 Report (S.Rept. 114-255):

> The committee remains very concerned that the QRRC's delivery to Congress lacks timeliness, remains hampered by parallel processes, and contains overlapping assessments which are then collectively hindered by unnecessarily prolonged approval processes within the Department of Defense.... The committee remains unsatisfied with the content reported in Annex F—Risk assessment of dependence on contractor support—as required by section 482(g) of title 10 United States Code. The committee strongly urges the Department to significantly improve the reporting quality in the next iteration of the QRRC.[141]

Although some of these concerns have been resolved to various degrees through subsequent iterations of the QRRC, a number of issues have persisted. In particular, those issues related to readiness metrics and the utility of DRRS-based assessments remain under continued evaluation. The aforementioned R2F is a DOD effort developed in part to address some of these QRRC shortcomings. Congress has also continued to revise statutory requirements related to the QRRC in order to improve readiness reporting.

For example, in a 2018 written response to Congress, then-nominee for Assistant Secretary of Defense for Readiness (ASD(R)), Veronica Daigle, stated

> Congress included several key reforms in the FY19 National Defense Authorization Act (NDAA) that will directly contribute to readiness, including provisions related to the Defense Readiness Reporting System (DRRS) and the Quarterly Readiness Report to Congress (QRRC). I know the Reform Management Group (RMG), which is co-chaired by the Department's Chief Management Officer (CMO) and the Director of Cost Assessment and Program Evaluation (CAPE), is exploring further reforms and the Department will work with Congress as those reforms mature.... The QRRC has evolved over time, and the way it displays readiness has changed.... However, the QRRC is a classified document, which limits its distribution.[142]

Former ASD(R) Daigle was also quoted in 2019 stating the following regarding the R2F:[143]

> Through the R2F, my office is looking to improve the quality and utility of our readiness data. We want to identify leading indicators to readiness improvements and increase our ability to accurately measure and track readiness recovery.... One of the challenges we have in the readiness community is how we measure readiness outcomes with the budget resources; readiness measures are often income based and the way we budget resources—

[140] See GAO-13-678.

[141] S.Rept. 114-255, *National Defense Authorization Act for Fiscal Year 2017 Report*, p. 81-82.

[142] Senate Armed Services Committee, "Advance Policy Questions for Veronica Daigle Nominee for Assistant Secretary of Defense (ASD) for Readiness," written response provided by Veronica Daigle, August 21, 2018, at https://www.armed-services.senate.gov/imo/media/doc/Daigle_APQs_08-21-18.pdf.

[143] Former ASD(R) Veronica Daigle resigned her position on January 31, 2020. Currently the position is held by Acting ASD(R) Mr. Thomas A. Constable. See https://prhome.defense.gov/Leadership/thomasConstable/.

> whether it be in a subactivity group or in a budget line item—does not always align with how we report readiness.[144]

Readiness Funding

In general, DOD makes its own determination as to what it considers "readiness funding" and Congress decides what appropriations will support readiness, or readiness-related activities, based on DOD officials' testimony, DOD budgetary categorizations, and current force concerns.[145] However, Congress and DOD officials both generally consider O&M appropriations as being *for readiness*.[146] These appropriations are provided through the annual defense appropriations act and are normally available for obligation for one fiscal year (FY).[147] According to DOD's Defense Acquisition University (DAU), O&M appropriations

> fund expenses such as maintenance services, civilian salaries, travel, minor construction projects, operating military forces, training and education, depot maintenance, working capital funds, and base operations support. O&M follows the Department's Annual Funding budget policy.[148]

In total, O&M appropriations account for approximately 41% of the defense budget request for FY2021.[149] **Table 2** shows a breakdown of the O&M appropriations request by military department, excluding emergency-related funding.

Table 2. O&M Appropriations by Military Department

In billions of discretionary dollars (Base + OCO)

Military Department	FY2020 Enacted	FY2021 Requested	Percentage Change
Army	$75.0	$73.0	-2.7%
Navy (includes Marine Corps)	$67.2	$70.6	+5.1%
Air Force (includes Space Force)	$63.7	$65.9	+3.5%

[144] Lauren C. Williams, "How DOD plans to link readiness needs to budgets," Federal Computer Week (FCW), November 21, 2019, at https://fcw.com/articles/2019/11/21/dod-links-readiness-to-budgets.aspx.

[145] See for example: House Committee on Appropriations, "Chairwoman Wasserman Schultz Statement at Hearing on the Impact of PFAS Exposure on Servicemembers," *Subcommittee on Military Construction, Veterans Affairs, and Related Agencies (116th Congress)*, March 11, 2020, at https://appropriations.house.gov/news/statements/chairwoman-wasserman-schultz-statement-at-hearing-on-the-impact-of-pfas-exposure-on.

[146] See for example Office of the Under Secretary of Defense (Comptroller) / Chief Financial Officer, *Operation and Maintenance Overview Fiscal Year 2020 Budget Estimates*, DOD (March 2019), p. 3, at https://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2020/fy2020_OM_Overview.pdf#page=6; and House Committee on Appropriations, "Appropriations Committee Releases Fiscal Year 2020 Defense Funding Bill," Press Release, May 14, 2019, https://appropriations.house.gov/news/press-releases/appropriations-committee-releases-fiscal-year-2020-defense-funding-bill.

[147] See DOD, *Defense Contingency Contracting Handbook*, Defense Procurement and Acquisition Policy, Version 5, April 2017, p. 52, at https://www.acq.osd.mil/dpap/ccap/cc/jcchb/DCC_Handbook_v.5_April2017.pdf#page=54.

[148] Defense Acquisition University, "Operations and Maintenance (O&M) Funds," DAU, accessed July 1, 2020, at https://www.dau.edu/acquipedia/pages/articledetails.aspx#!339.

[149] Department of Defense, Office of the Under Secretary of Defense (Comptroller)/Chief Financial Officer, *Defense Budget Overview, United States Department of Defense, Fiscal Year 2021 Budget Request*, February 2020, Table A-1, p. A-1, at https://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2021/fy2021_Budget_Request_Overview_Book.pdf#page=114.

Military Department	FY2020 Enacted	FY2021 Requested	Percentage Change
Defense-Wide	$82.7	$79.4	-4.0%
Total	$288.6	$288.9	-0.1%

Source: DOD, *Overview – FY2021 Defense Budget, Under Secretary of Defense (Comptroller)/Chief Financial Officer, February 2020 (Revised May 13, 2020), Appendix A: Resource Exhibits*.

Notes: Totals may not add due to rounding. OCO refers to "Overseas Contingency Operations" funds, which DOD has used for base budget O&M activities. FY2020 enacted amounts exclude emergency-related O&M funding such as supplemental appropriations to combat the spread of coronavirus disease 2019 (i.e., COVID-19).

For management purposes, DOD divides O&M appropriations into four budget activities (BAs) with associated budget codes and accounts.[150]

- BA-1 Operating Forces.
- BA-2 Mobilization.
- BA-3 Training and Recruiting.
- BA-4 Administrative and Service-wide Activities.

DOD further subdivides these BAs into activity groups within each Service and for Defense-Wide spending, and then in turn into several Subactivity Groups (SAGs), each of which have their own associated budget code (e.g., 011M is the SAG for "Depot Purchase Equipment Maintenance" in the Air Force).[151] SAGs are the lowest level budgeting categorization that DOD submits to Congress to provide insight into the use of O&M appropriations (see **Appendix C**),[152] and Congress authorizes and appropriates money for readiness within O&M appropriations at the SAG level.

O&M appropriations cover a wide range of DOD programs and activities, some of which are considered to have a direct impact on readiness. However, there are certain O&M-funded activities that may not directly affect readiness. Instead, these spending categories are seen as

[150] A "budget activity" is defined by DOD as "Categories within each appropriation and fund account which identify the purposes, projects, or types of activities financed by the appropriation or fund." See DOD Financial Management Regulation (7000.14-R), Volume 2A, Chapter 1, October 2008, p. 1-10, at https://comptroller.defense.gov/Portals/45/documents/fmr/Volume_02a.pdf#page=12; also see DAU, "Operations and Maintenance (O&M) Funds," DOD, accessed March 1, 2020, at https://www.dau.edu/acquipedia/pages/articledetails.aspx#!339.

[151] GAO reports "For some O&M accounts, the budget activities are then divided into activity groups. For example, the defense-wide budget justification materials for O&M are divided by activity group, which represent a defense agency. For other O&M accounts, the budget activities are further divided into subactivity groups." See GAO, Defense Budget: DOD Needs to Improve Reporting of Operation and Maintenance Base Obligations, GAO-16-537 (August 2016), p.5, https://www.gao.gov/assets/680/679081.pdf#page=9; also see DOD Financial Management Regulation (7000.14-R), Volume 2A, Chapter 3, *Operations and Maintenance Appropriations*, p. 3-22 – 3-249, at https://comptroller.defense.gov/Portals/45/documents/fmr/Volume_02a.pdf#page=370.

[152] DOD further breaks down SAGs into program element (PE) codes. A PE code is "a unique alphanumeric code that identifies functional or organizational entities and their related resources. PEs may have a narrow focus (such as Navy F/A-18 squadrons) or broad focus (such as Air Force long-range strategic planning)." See CRS In Focus IF10831, *Defense Primer: Future Years Defense Program (FYDP)*, by Brendan W. McGarry and Heidi M. Peters; also see Sharon A. Cekala, *DOD Budget: Budgeting for Operation and Maintenance Activities*, GAO/T-NSIAD-97-222, GAO Testimony Before the Subcommittee on Military Readiness, Committee on National Security, House of Representatives, July 22, 1997, pgs. 4-5, at https://www.govinfo.gov/content/pkg/GAOREPORTS-T-NSIAD-97-222/pdf/GAOREPORTS-T-NSIAD-97-222.pdf#page=6.

being "readiness-related" (i.e., indirectly supporting readiness).[153] Additionally, there are some O&M-funded activities that may not be associated with generating readiness at all.

For example, funding that supports Civilian Personnel (CIVPERS), which includes paying DOD civilian salaries, is part of annual O&M appropriations.[154] While some CIVPERS funding may go to activities that are considered readiness-related, or in direct support of producing and sustaining readiness (e.g., paying salaries for civilian depot-level maintenance personnel), other CIVPERS funding may be viewed by some as supporting activities completely unrelated to generating readiness (e.g., salaries for museum curators).[155] In regards to DOD civilian personnel, DOD states

> Civilians perform functions in intelligence, equipment maintenance, medical care, family support, base operating services, and other activities that directly support the military forces and readiness. The DOD civilian workforce possesses capabilities, expertise, and skills that directly impact DOD's operational warfighting capabilities, and employs those skills at depots and shipyards; child care centers and schools; at airfields, ranges, and armories, and in theater in direct support of military operations.[156]

As a result of this complexity in labelling, DOD continues to provide Congress its list of O&M SAGs that are considered direct funding for readiness, or otherwise "core" readiness SAGs (see **Appendix C**).[157] These lists change over time, and their titles and descriptions can be broadly written and can vary across the Services and DOD.[158] In addition, *readiness-related SAGs* that are sometimes designated as readiness "enablers" have also been provided to Congress (see **Appendix C**).[159]

Non-O&M Appropriations for Readiness

In addition to O&M appropriations, other DOD appropriations may also be used to fund readiness. This is because the task of producing and sustaining ready forces involves multiple stakeholders from across DOD, some of which may be involved in one or more programs or activities that are funded through non-O&M appropriations. Whatever the program or activity, if it provides inputs (see **Appendix A**) to the readiness production process (see section "Producing and Sustaining Ready Forces"), then funding for that program or activity could be considered "readiness funding." This has been acknowledged by both DOD and Congress when funding for

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[153] See GAO, Defense Budget DOD Needs to Improve Reporting of Operation and Maintenance Base Obligation, GAO-16-537, August 2016, p. 9, at https://www.gao.gov/assets/680/679081.pdf#page=13.

[154] CIVPERs is civilian personnel funding that includes compensation and benefits for DOD civilians. "Most DOD civilian salaries, including those of personnel supporting or managing acquisition programs, are funded with O&M" appropriations. DAU, "Operations and Maintenance (O&M) Funds," DAU, accessed March 1, 2020, at https://www.dau.edu/acquipedia/pages/articledetails.aspx#!339.

[155] The position of Museum Curator is a DOD civilian job in the OPM job family series 1015. For an example of O&M funding for Military Museums, see Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics, *Secretary's Report to Congress—DoD Operation and Financial Support for Military Museums—Fiscal Year 2013*, DOD, April 2014, p. B-2, at https://denix.osd.mil/cr/military-museums/unassigned/report-to-congress-on-department-of-defense-operation-and-financial-support-for-museums-for-fiscal-year-2013/#page=81.

[156] Office of the Under Secretary of Defense (Comptroller) / Chief Financial Officer, *Defense Budget Overview*, DOD (February 2020), p. 2-7, at https://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2021/fy2021_Budget_Request_Overview_Book.pdf#page=28.

[157] See GAO/T-NSIAD-00-98, p. 2.

[158] See **Appendix C**.

[159] Ibid.

certain programs or activities have been deemed essential to ensuring the United States has ready and capable military forces. Examples are provided below.

DOD readiness argument for MILCON appropriations.

> *FY2019 Statement of the Assistant Secretary Of Defense for Energy, Installations and Environment before the Senate*
>
> The continued support of Congress, and in particular, this subcommittee, allow us to use the resources provided to enhance the agility, resilience, readiness, and lethality of our forces around the world. With a clear understanding of the Secretary's intent.... We continue to advocate for adequate funding for installation and infrastructure accounts to meet mission requirements and to address risks to safety and readiness.[160]

Congressional readiness argument for MILCON appropriations.

> *FY2020 MILCON-VA Appropriations Act (Explanatory Statement)*
>
> The Committees recognize that other countries are utilizing infrastructure to enhance national interest at a higher rate of investment than the Department of Defense. Military construction is vital to current and future force readiness and can be a strategic asset to deter near-peer competitors, particularly in nations that support U.S. posture in the Indo-Asia-Pacific, such as Micronesia, the Marshall Islands, and Palau.[161]

Considerations for Congress

Standardization of Readiness SAGs

For decades, DOD and Congress have concurrently determined which SAGs within O&M appropriations are to be considered *for readiness.* Accordingly, both have presented lists of readiness SAGs through budget justification documents and other materials, and these lists have changed periodically.[162] This includes DOD designating certain SAGs within each Service as either "core" or "enabler" SAGs (see **Appendix C**) to differentiate between those that directly impact readiness, and those that indirectly impact readiness (see section "Readiness Funding"). This also includes Congress making determinations as to which SAGs should be considered for readiness, or even "high-priority" readiness (particularly with regard to enabler SAGs).[163] Differences in readiness SAG lists, including which types of programs and activities should be funded within each SAG, have resulted in some congressional oversight challenges, for example

- understanding the parameters for what is included in a readiness or readiness-related SAG;

[160] U.S. Congress, Senate, Committee on Appropriations, Subcommittee on Military Construction, Veterans Affairs, and Related Agencies, *Statement of Honorable Lucian Niemeyer Assistant Secretary Of Defense (Energy, Installations and Environment)*, 115th Cong., 2nd sess., April 26, 2018, p. 3, at https://www.appropriations.senate.gov/imo/media/doc/042618%20-%20Niemeyer%20Testimony.pdf.

[161] U.S. Congress, *Explanatory Statement Submitted by Mrs. Lowey, Chairwoman of the House Committee on Appropriations Regarding H.R. 1865, Division F Military Construction, Veterans Affairs, And Related Agencies Appropriations Act, 2020*, p. 4, at https://www.appropriations.senate.gov/imo/media/doc/HR%201865%20-%20SOM%20FY20.pdf#page=598.

[162] See GAO/T-NSIAD-00-98.

[163] Ibid.

- discerning what readiness or readiness-related activities are being funded within certain Service SAGs; and
- Comparing spending for readiness across the Services at a SAG level.

One possible way to improve oversight of readiness funding could be for Congress to legislate the standardization of readiness (including readiness-related) budget categories within O&M appropriations across the Services and for Defense-Wide spending. This might include (1) establishing a standardized list of readiness and readiness-related SAGs common to all Services and defense agencies; (2) defining the parameters of what can be included in a readiness or readiness-related SAG; and (3) regularly providing a report to Congress comparing spending for readiness across the Services at the SAG-level.[164] Once approved, this standardized list would not be changed unless directed by Congress. Alternatively, Congress could direct DOD to standardize its readiness budget SAGs internally, brief the congressional committees of jurisdiction, then come into agreement with Congress on the standardization of these SAGs for a set period of time.

The standardization of readiness SAGs could have several significant impacts to defense spending and to the overall framework for readiness. By setting in law what constitutes defense funding for readiness, future defense spending analyses could include more accurate and authoritative assessments of readiness spending. This could help to inform senior leaders of the return on investment for increased readiness funding, which may also lead to more spending accountability for DOD. Additionally, the standardization of readiness SAGs would require DOD and congressional leaders to determine and agree upon the specific parameters for what constitutes readiness funding. This could potentially have the inverse effect of defining what *does not* constitute readiness funding. Potentially, this may lead to a redefining of readiness for DOD (or perhaps a further scoping of the broad doctrinal definition of readiness).

Common Readiness Metrics

Across DOD, each Service, CCMD, and DOD agency use a variety of metrics and measures to assess the readiness of its forces. Depending on what is being assessed (people, equipment, processes, etc.), different metrics are used and different measurements taken.

As DOD readiness assessments gradually become more comprehensive through initiatives like R2F, new metrics and new ways of producing more accurate measurements of a unit's readiness are being developed and employed.[165] An issue that has been persistent, and may continue if not addressed, is the lack of commonality and uniformity of readiness metrics used across similar military units.

Using MC rates as an example, each Service has a different method for calculating the rate and also for interpreting the rate when used in larger maintenance assessments, dashboards, or other tools that inform DOD readiness reporting. This makes it difficult to compare similar unit types across different Services. The MC rate for an F-35A at an Air Force squadron might not be comparable to the MC rate of an F-35C at a Navy squadron, even though the aircraft are similar and the units' assigned missions may also be similar. Further, some Services may choose to abandon certain metrics in favor of newer ones. For example, the Air Force may choose to use

[164] For a historical example of this type of O&M budget category standardization, see CBO, *Paying for Military Readiness and Upkeep: Trends in Operations and Maintenance Spending*, CBO (September 1997), Appendix B, at https://www.cbo.gov/sites/default/files/105th-congress-1997-1998/reports/milready.pdf#page=87.

[165] For an example, see Megan Eckstein, "Mission Capable: How the Navy Harnessed Its Data to Achieve 80% Fighter Readiness," U.S. Naval Institute News, April 22, 2020, at https://news.usni.org/2020/04/22/mission-capable-how-the-navy-harnessed-its-data-to-achieve-80-fighter-readiness?mc_cid=4e88312171&mc_eid=b041440dc2.

AA rates while the Marine Corps decides to use MC rates for aviation units. The general purpose of these metrics remains the same—assess the operability of aircraft in the unit—however, the rates are calculated differently. As a consequence, the impact of certain metrics on readiness assessments may change. Commanders performing unit assessments may see one metric as being more effective or accurate than another, thus having an impact on the commander's final rating.

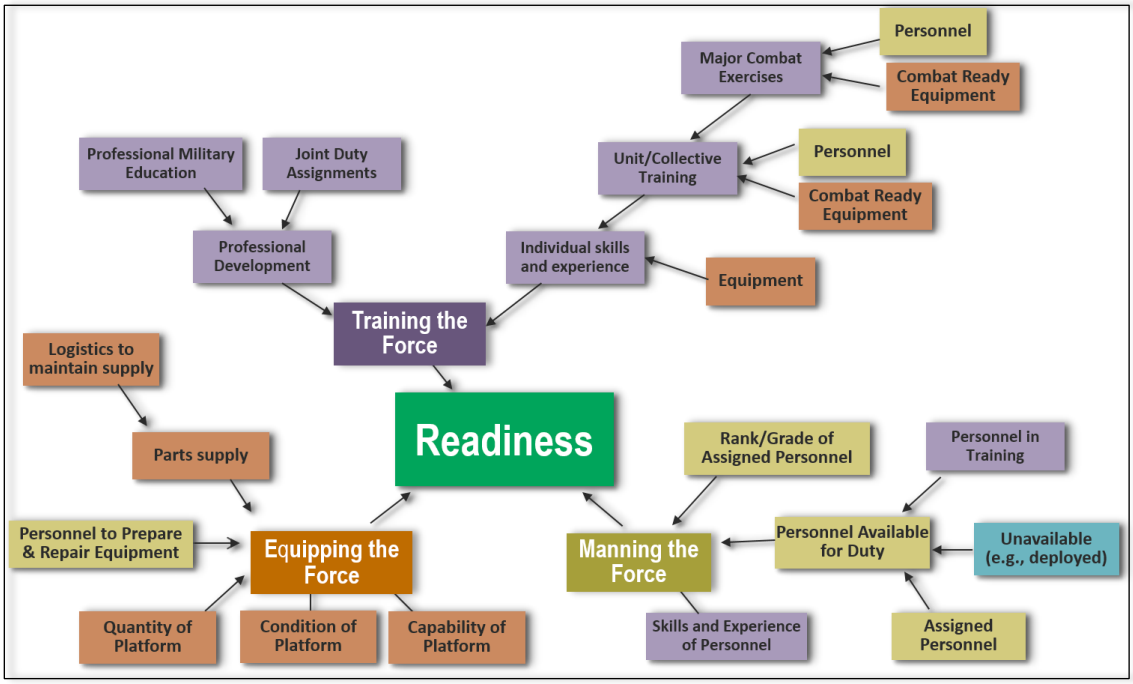
To aid DOD and Congress in understanding the overall readiness of military units, and to allow for a better comparison of similar unit types, Congress may consider directing DOD to implement common readiness metrics across all DOD components for those units that must report their readiness in DRRS. These would include readiness metrics that go beyond, or inform, those used in DRRS. These common readiness metrics would be calculated in only one way for all similar unit types, as determined by DOD and briefed to Congress. Additionally, these metrics would be applied in the same manner in readiness assessments used by official DOD reporting systems.

Though seemingly a minor requirement for Congress to direct, the impacts of requiring common readiness metrics across DOD are exponential. At each command level—from the smallest unit to the CCMD—commanders would be able to equally compare the readiness of their warfighters, major weapons systems, and other important inputs to readiness for similar types of units, and at parallel command levels. When aggregated, DRRS outputs and other stand-alone metrics provided to Congress would be more accurate and comparable, enabling Congress to make more informed funding decisions.

Inputs to Generating Readiness

The figure below provides an example of some of the many inputs and factors required to produce and sustain ready forces. For each input, there are numerous organizations across DOD that are involved. Note that there are other inputs that are not captured in this illustration, such as those associated with military construction, medical and dental health, or military housing. It is also important to acknowledge that any activity associated with an input must be harmonized within the constraints of the military's available time to perform all other required activities.

Figure 7. Inputs to Generating Readiness



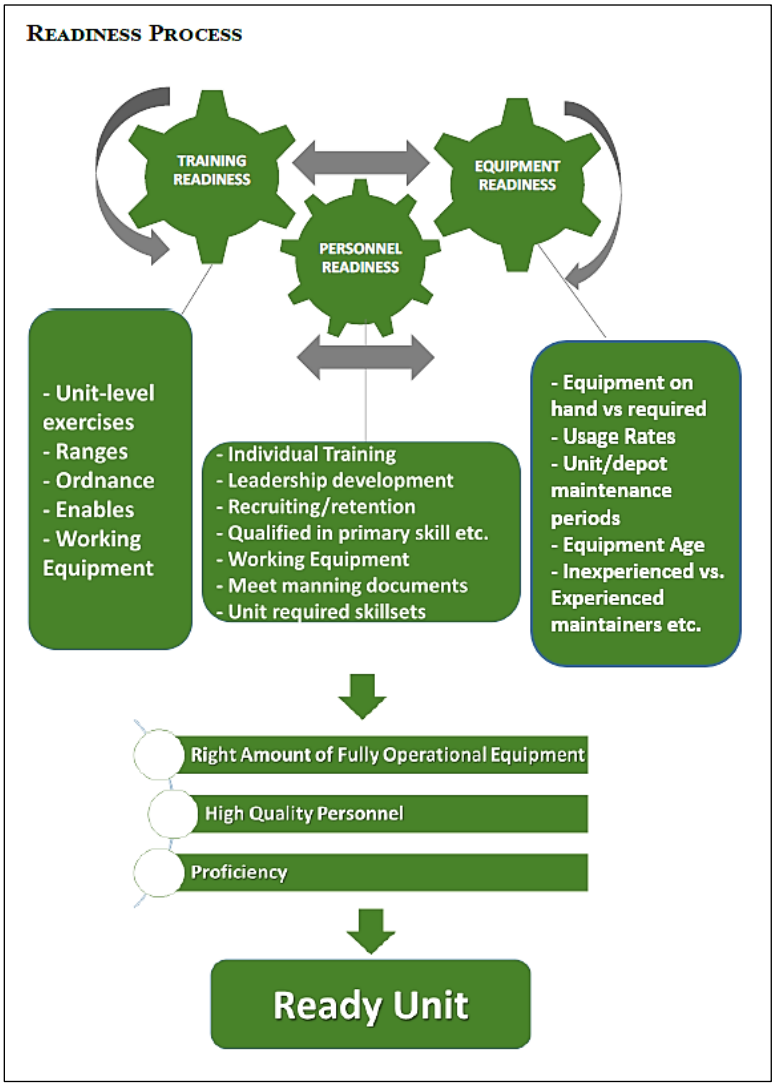
Source: CRS Graphics.

Note: Graphic produced by former CRS Specialist Lynn M. Williams.

Appendix A. DOD Illustration of the Readiness Process

The figure below provides one example of how DOD and other defense community experts attempt to explain the highly complex readiness process (i.e., the process by which ready units are produced and sustained).

Figure A-1. DASD(FR) Readiness Process Diagram



Source: Deputy Assistant Secretary of Defense for Force Readiness, *Military Readiness*, February 2019, p. 7. Unclassified reference booklet provided to congressional offices, congressional committees, and the Congressional Research Service.

Note: This illustration is one of many DOD has produced to help illustrate the complex process of generating ready military forces.

Appendix B. DOD's Readiness Subactivity Groups

The figures below display DOD's "core" and "enabler" readiness Subactivity Groups, or SAGs, within O&M budget activities for January 2018.[166] DOD has changed which SAGs are considered *for readiness* periodically, and Congress may also develop differing lists for certain purposes.[167]

Figure B-1. "Core" Readiness SAGs

Direct funding for readiness

Core Readiness Subactivity Groups: Baseline & Overseas Contingency Operations (OCO) Funds			
Account Title	Budget Activity	Subactivity	Subactivity Title
Department of Army			
Operation & Maintenance, Army	01	111	Maneuver Units
		112	Modular Support Brigades
		113	Echelons Above Brigade
		114	Theater Level Assets
		115	Land Forces Operations Support
		116	Aviation Assets
		123	Land Forces Depot Maintenance
Operation & Maintenance, Army Res	01	112	Modular Support Brigades
		113	Echelons Above Brigade
		114	Theater Level Assets
		115	Land Forces Operations Support
		116	Aviation Assets
		123	Land Forces Depot Maintenance
Operation & Maintenance, ARNG	01	111	Maneuver Units
		112	Modular Support Brigades
		113	Echelons Above Brigade
		114	Theater Level Assets
		115	Land Forces Operations Support
		116	Aviation Assets
		123	Land Forces Depot Maintenance
Department of Navy			
Operation & Maintenance, Navy	01	1A1A	Mission and Other Flight Operations
		1A2A	Fleet Air Training
		1A5A	Aircraft Depot Maintenance
		1A9A	Aviation Logistics
		1B1B	Mission and Other Ship Operations
		1B4B	Ship Depot Maintenance
Operation & Maintenance, Navy Res	01	1A1A	Mission and Other Flight Operations
		1A5A	Aircraft Depot Maintenance
		1A9A	Aviation Logistics
		1B1B	Mission and Other Ship Operations
		1B4B	Ship Depot Maintenance
Operation & Maintenance, Marine Corps	01	1A1A	Operational Forces
		1A2A	Field Logistics
		1A3A	Depot Maintenance
		1B1B	Maritime Prepositioning
Operation & Maintenance, MC Reserve	01	1A1A	Operating Forces
		1A3A	Depot Maintenance
Department of Air Force			
Operation & Maintenance, Air Force	01	011M	Depot Purchase Equipment Maintenance
		011W	Contractor Logistics Support and System Support
		011Y	Flying Hour Program
Operation & Maintenance, AF Reserve	01	011A	Primary Combat Forces
		011M	Depot Purchase Equipment Maintenance
		011W	Contractor Logistics Support and System Support
Operation & Maintenance, ANG	01	011F	Aircraft Operations
		011M	Depot Purchase Equipment Maintenance
		011W	Contractor Logistics Support and System Support
Defense-Wide			
Operation and Maintenance, Defense-Wide	01	1PL2	Special Operations Command/Operating Forces
	03	3EV7	Special Operations Command/Training and Recruiting

Source: DOD.

Note: SAGs are the lowest level O&M funding categorization submitted by DOD to Congress that provide insight into the use of O&M appropriations

[166] SAG information provided by DOD directly to CRS.

[167] For an example, see https://budget.dtic.mil/pdfs/FY2018_pdfs/APPROP/OM_Appr_Report_2018.pdf. Also, see GAO/T-NSIAD-00-98, p. 6, at https://www.gao.gov/archive/2000/ns00098t.pdf.

Figure B-2. "Enabler" Readiness SAGs

Readiness-related funding

Readiness Enablers Subactivity Groups: Baseline & Overseas Contingency Operations (OCO) Funds			
Account Title	Budget Activity	Subactivity	Subactivity Title
Department of Army			
Operation & Maintenance, Army	01	121	Force Readiness Operations Support
		122	Land Forces Systems Readiness
Operation & Maintenance, Army Res	01	121	Force Readiness Operations Support
		122	Land Forces Systems Readiness
Operation & Maintenance, ARNG	01	121	Force Readiness Operations Support
		122	Land Forces Systems Readiness
Department of Navy			
Operation & Maintenance, Navy	01	1A3A	Aviation Technical Data & Engineering Services
		1A4A	Air Operations and Safety Support
		1A4N	Air Systems Support
		1A6A	Aircraft Depot Operations Support
		1B2B	Ship Operations Support & Training
		1B5B	Ship Depot Operations Support
		1C1C	Combat Communications
		1C2C	Electronic Warfare
		1C3C	Space Systems and Surveillance
		1C4C	Warfare Tactics
		1C5C	Operational Meteorology and Oceanography
		1C6C	Combat Support Forces
		1C7C	Equipment Maintenance
		1C8C	Depot Operations Support
		1CCY	Cyber Operations
		1D1D	Cruise Missile
		1D2D	Fleet Ballistic Missile
		1D3D	In-Service Weapons Systems Support
		1D4D	Weapons Maintenance
		1D7D	Other Weapon Systems Support
Operation & Maintenance, Marine Corps	01	1CCY	Cyber Operations
Operation & Maintenance, Navy Res	01	1A3A	Intermediate Maintenance
		1A6A	Aircraft Depot Operations Support
		1B2B	Ship Operations Support & Training
		1C1C	Combat Communications
		1C6C	Combat Support Forces
		1D4D	Weapons Maintenance
Department of Air Force			
Operation & Maintenance, Air Force	01	011A	Primary Combat Forces
		011C	Combat Enhancement Forces
		011D	Air Operations Training (OJT, Maintain Skills)
		012A	Global C3I and Early Warning
		012C	Other Combat Ops Spt Programs
		012D	Cyber Operations
		013A	Launch Facilities
		013C	Space Control Systems
Operation & Maintenance, AF Reserve	01	011G	Mission Support Operations
Operation & Maintenance, ANG	01	011G	Mission Support Operations
Defense-Wide			
Operation and Maintenance, Defense-Wide	01	1GTN	Office of the Secretary of Defense
		1PL1	Joint Chiefs of Staff
		8PL1	Joint Chiefs of Staff - CE2T2
	04	4GT9	Defense Information Systems Agency
		4GTB	Defense Logistics Agency
		4GTO	Defense Contract Management Agency

Source: DOD.

Appendix C. DRRS Assessment Processes, Metrics, and Ratings

DRRS broadly employs two separate, but connected, readiness assessment processes that incorporate several discrete assessments, each of which employ different metrics and measures to determine overall unit readiness. There is also an overall mission capability assessment (otherwise called a "rating system") that unit commanders use to bridge the two assessment processes and to support OSD information requirements (see subsection "Three-Tiered Assessment").[168] Together these provide a multifaceted view of a unit's readiness status.[169]

DRRS/SORTS

The first assessment process is "input- or resourced-based" and resembles the older Status of Resources and Training System (SORTS) that DRRS was intended to replace.[170] SORTS, or otherwise Global SORTS (GSORTS) focused on unit resources and was to be fully incorporated into the newer DRRS. The current "DRRS/SORTS" process lets unit commanders determine the ability of their units to accomplish designed missions based on the unit's available resources. This assessment process evaluates resource deficiencies and reports overall unit readiness in the form of "C-level ratings" (see subsection "Assessing Resources").

DRRS/METs

The second assessment process is "output- or mission-/task-based."[171] It lets unit commanders assess the ability of their units to accomplish both designed and assigned missions based on the unit's ability to complete tasks.[172] The process centers on the *mission-essential task list* (METL) construct—where commanders assess a unit's ability to accomplish a list of METs that the unit was designed to complete (see subsection "Assessing Missions").[173] This "DRRS/METs" assessment process includes the conditions under which each task is to be executed, and a set of standards that reflect success.[174] The DRRS/METs process is generally the same for all DOD, but some Services do internally rate MET/METL outcomes separately prior to reporting in DRRS-S (e.g., the Army uses "A-level" ratings).[175] All MET/METL unit reporting is eventually incorporated into a single rating system used by the Services, OSD, and the Joint Staff (see subsection "Three-Tiered Assessment").

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[168] See Army Regulation 220-1, *Army Unit Status Reporting and Force Registration – Consolidated Policies*, AR 220-1, U.S. Army, April 15, 2010, at https://armypubs.army.mil/epubs/DR_pubs/DR_a/pdf/web/r220_1.pdf.

[169] Laura J. Junor, Managing Military Readiness, Institute for National Strategic Studies, National Defense University, February 2017, pgs. 31-33, at https://ndupress.ndu.edu/Portals/68/Documents/stratperspective/inss/Strategic-Perspectives-23.pdf.

[170] Ibid.

[171] Ibid.

[172] Ibid.

[173] METs can be assembled uniquely to assess assigned missions.

[174] Ibid.

[175] Army Regulation 220-1, *Army Unit Status Reporting and Force Registration – Consolidated Policies*, AR 220-1, U.S. Army, April 15, 2010, at https://armypubs.army.mil/epubs/DR_pubs/DR_a/pdf/web/r220_1.pdf.

Assessing Resources

The SORTS-derived process within DRRS revolves around four categories of resource inputs (called "resources areas" in DOD doctrine), each of which is first assessed separately, then collectively: personnel (P), equipment availability (S), equipment readiness (R), and training (T). The DRRS/SORTS evaluation process is led by unit commanders, who assess readiness levels within the parameters specified by Service regulations.[176] Sometimes the regulations require the commander to apply professional military judgment to a significant degree (most notably in the case of training assessments); in other areas the commander's discretion is much more limited.

Personnel (P-level)

The three principal metrics of personnel readiness for units are as follows:

1. The ratio of unit personnel available for deployment in comparison to the total number of personnel the unit is authorized to have.
2. The ratio of unit personnel who are both available for deployment and qualified in their assigned duty position in comparison to the total number of personnel the unit is authorized to have.
3. The ratio of available "senior personnel" in comparison to the total number of senior personnel the unit is authorized to have.

Ratios in each of these metrics generate a rating between one (highest) and four (lowest), and the lowest of these three ratings is used to determine the overall "P-rating" of the unit.[177] In essence, units with a full or nearly full complement of warfighters by specialty and grade are assessed as P-1, while those with substantial shortages in one or more of the measured areas are assessed as P-2, P-3, or P-4. This aspect of readiness is relatively objective and therefore requires limited application of a commander's professional judgment.

Equipment Availability (S-level)

The availability or supply of key equipment is called the "S-level," and it is based on two metrics:

1. The ratio of the number of designated critical equipment items (known as pacing items) currently in the unit's possession, under its control, or available within 72 hours to the number the unit is authorized to have (a pacing item for an Army armor unit would be an M1 Abrams Main Battle Tank).[178]
2. The ratio of the number of other mission essential equipment items currently in the unit's possession, under its control, or available within 72 hours to the number the unit is authorized to have (equipment might include radios, machine guns, and night vision devices).[179]

Like the P-level, ratios in each of these metrics generate a rating between one and four, and the lower of these two ratings is used to determine the overall "S-rating" of the unit.[180] S-levels are

[176] For an example, see Army Regulation 220-1, *Army Unit Status Reporting and Force Registration – Consolidated Policies*, AR 220-1, U.S. Army, April 15, 2010, at https://armypubs.army.mil/epubs/DR_pubs/DR_a/pdf/web/r220_1.pdf.

[177] That is, if the three personnel metrics are rated as 1, 1, and 2, respectively, the P-level will be P-2.

[178] Pacing items are designated as "Equipment Readiness Code P" or ERC P.

[179] Other mission essential equipment items are designated as "Equipment Readiness Code A" or ERC A.

[180] That is, if the two equipment metrics are rated as 1 and 3, respectively, the S-level will be S-3.

readily measured. Equipment availability is heavily influenced by whether there is sufficient funding to procure the required equipment for a given unit, and by how senior policymakers chose to allocate equipment among units.

Equipment Readiness (R-level)

The third assessed resource area for units is equipment readiness or "serviceability"—that is, whether the unit's equipment is fully functional or not. A unit could have all of its authorized equipment by type and numbers, but still suffer from poor equipment readiness if much of the equipment does not work. The "R-level" is determined by calculating the percentage of each pacing item that is fully mission capable, and the aggregate percentage of certain designated equipment ("maintenance reportable equipment") in the unit's possession that is fully mission capable. Each of these categories is rated between one and four according to a published scale and the lowest of these ratings becomes the overall R-level.

The R-level is heavily influenced by appropriations. If there is not enough funding for spare parts or to send a vehicle into depot level maintenance, equipment readiness can suffer. Unit manning can also affect equipment readiness. If there are not enough of the right skill level of trained mechanics and supply personnel, repairs can be delayed.

Training (T-level)

The final assessed resource area—training—allows for the most subjectivity. Training readiness does not lend itself to quantifiable evaluation as easily as personnel and equipment readiness; it relies more heavily on the commander's professional military judgment. In assessing training readiness as a resource area, unit commanders evaluate how well a unit performs certain METs. Commanders evaluate training proficiency in each MET as *trained* (T), *needs practice* (P), or *untrained* (U). Based on these ratings, a specified calculation methodology, and a published scale, the unit receives a T-level rating of between one and four.[181]

The data on which the commander's judgments are based can vary substantially. For example, variations may exist between units in the frequency of training, the ranges and resources available for the training, and the number and type of units represented in a training exercise. Operational deployments may also be used when evaluating a unit's training proficiency, so the commander of a recently deployed unit may be able to more accurately assess his or her unit's training status.

Overall Resource Readiness (C-level)

The C-level rating—or overall DRRS/SORTS readiness assessment—is derived from the ratings of the four resource areas previously discussed (P, S, R, & T), and is equivalent to the lowest of these four levels. However, commanders have some ability to upgrade or downgrade the rating based on their professional military judgment.[182] The C-level rating is meant to reflect the unit's

[181] The methodology assigns a weight of 3 to each "T," 2 to each "P," and "1" to each U. These figures are summed and then divided by the product of 3 multiplied by the number of METs. The resulting quotient is multiplied by 100 to produce a percentage, which is interpreted according to a published scale. As an example, if a unit had 5 METs, which the commander evaluated as T, P, T, U, and P this would be converted to 3, 2, 3, 1, and 2. The sum of these numbers (3+2+3+1+2=11) would then be divided by 3 times the number of METs (3x5=15). The resulting percentage would be 73.3% (11/15*100). If the unit had no untrained tasks (U), this percentage would result in a T-2 rating. However, since the unit has an untrained task, the result is a T-3 rating.

[182] That is, if the unit was evaluated as P-1, S-1, R-1, and T-3, it would receive a C-3 rating, subject to the possible upgrade or downgrade by the commander.

ability to accomplish its core functions, provide its designed capabilities, and complete its designed missions based on the cumulative assessment of resources.[183] The meaning of each C-level is described in **Table C-1**.

Table C-1. Understanding Readiness Ratings in DRRS

"C-Level" Ratings

C-1	C-2	C-3	C-4	C-5*
The unit possesses the required resources and is trained to undertake the **full wartime missions** for which it is organized or designed.	The unit possesses the required resources and is trained to undertake **most of the wartime missions** for which it is organized or designed.	The unit possesses the required resources and is trained to undertake **many, but not all, portions of the wartime missions** for which it is organized or designed.	The unit **requires additional resources or training to undertake its wartime missions**, but it may be directed to undertake portions of its wartime missions with resources on hand.	The unit is **undergoing** a Service, Combatant Commander, Defense Agency, or other **DOD-directed resource action** and is not prepared, at this time, to undertake the wartime missions for which it is organized or designed. However, the unit **may be capable of undertaking nontraditional, non-wartime related missions**
The status of resources and training in the unit **will not limit flexibility in methods** for mission accomplishment.	The status of resources and training in the unit **may cause isolated decreases in flexibility in methods** for mission accomplishment.	The status of resources and training in the unit **will result in significant decreases in flexibility** for mission accomplishment		
The status of resources and training in the unit **will not** increase vulnerability of unit personnel and equipment.	The status of resources and training in the unit **will not** increase the vulnerability of the unit **under most envisioned operational scenarios**	The status of resources and training in the unit **will** increase the vulnerability of the unit **under many, but not all, envisioned operational scenarios.**		
The unit **does not require any compensation** for deficiencies.	The unit **would require little, if any, compensation** for deficiencies.	The unit **would require significant compensation** for deficiencies.		

Source: CJCSI 3401.02B (May 31, 2011). Emphasis added to highlight the differences between ratings.

Note: *There are several C-5 unit restrictions listed within CJCSI 3401.02B.

Assessing Missions

Unlike DRRS/SORTS, which was built to assess designed missions, the DRRS/METs process helps commanders assess both designed and assigned missions. DRRS/METs is a two-stage assessment process that begins with individual MET assessments and ends with the assessment of a unit's METL.[184] METs form the basis for METL assessments reported monthly, or within 24

[183] AR 220-1, para4-4(a).

[184] At the joint level, a METL is called a "Joint Mission Essential Task List," or JMETL. A METL for a Combat Support Agency (CSA) is called an "Agency Mission Essential Task List," or AMETL. See CJCS Guide 3501, *The*

hours of a significant change in readiness status.[185] A 2017 report by the Institute for National Strategic Studies (INSS)—an institute within DOD's National Defense University—states

> A unit commander assesses missions in three categories. The first, core tasks, reflects the unit's designed missions. The second and third categories (named operations and top-priority level 4 plans) correspond to the assigned missions of the unit. Not every reporting unit will have missions in each of these categories. For those that do, reporting across the spectrum of assigned and designed missions allows force and readiness managers to understand those capabilities that are currently ready and those that have atrophied ... the capabilities corresponding to each mission are articulated according to its METL, complete with conditions and standards. The unit commander begins his or her assessment by individually depicting whether the unit met the conditions and standards for each task.[186]

Commanders use a three-tiered assessment to rate each MET and METL for inclusion in DRRS. Commanders may also use their Service's own established rating system to determine the readiness of a unit to perform its assigned mission(s), then use that system's rating in conjunction with other metrics and measures to determine an overall three-tiered readiness rating for input to DRRS (for an example, see "Determining and Reporting the Assigned Mission Level (A-level)" in AR 220-1).[187]

Three-Tiered Assessment

According to the Deputy Assistant Secretary of Defense for Force Readiness (DASD(FR))

> Combatant Commanders, Military Services, Combat Support Agencies, and the National Guard Bureau assess the ability of their organization to accomplish a task under conditions specified in the Joint Mission Essential Task List [JMETL]/Agency Mission Essential Task List [AMETL].[188]

Both designed and assigned missions are included in MET/METL assessments for DRRS.[189] The "three-tiered assessment" is used to first rate a unit's individual METs, and then subsequently the unit's METL, JMETL, or AMETL, depending on the position of the commander determining the rating and the type of unit/component being evaluated (see **Table C-2**).[190] Unit commanders give each MET a rating of "Yes" (Y), "Qualified Yes" (Q), or "No" (N), and then aggregate MET ratings to determine a single METL rating for a unit (see **Figure C-1**).

Joint Training System: A Guide for Senior Leaders, May 5, 2015, p. A-3, at https://www.jcs.mil/Portals/36/Documents/Library/Handbooks/g3501a.pdf?ver=2016-02-05-175743-020.

[185] DOD, *DRRS Primer for Senior Leaders*, OUSD(P&R), 2011, at http://www.highgroundconsulting.net/uploads/3/0/0/4/3004662/drrs_psl_final_-_4_mar_11.pdf.

[186] Laura J. Junor, Managing Military Readiness, Institute for National Strategic Studies, National Defense University, February 2017, pgs. 32, at https://ndupress.ndu.edu/Portals/68/Documents/stratperspective/inss/Strategic-Perspectives-23.pdf.

[187] See AR 220-1, Appendix C.

[188] Deputy Assistant Secretary of Defense for Force Readiness, *Military Readiness*, DOD, February 2019, p. 11. Unclassified reference booklet provided directly to congressional offices, congressional committees, and the Congressional Research Service.

[189] DOD, *DRRS Primer for Senior Leaders*, OUSD(P&R), 2011, at http://www.highgroundconsulting.net/uploads/3/0/0/4/3004662/drrs_psl_final_-_4_mar_11.pdf.

[190] These MET/METL ratings along with DRRS/SORTS readiness outputs are included in Unit Status Reports (USRs) submitted to DRRS by unit commanders (also called a "commander's unit status report" (CUSR) in the Army).

According to AR 220-1

> The Y/Q/N overall assessment for the unit's core functions/designed capabilities is based upon the Y/Q/N assessments for the associated METs, and the Y/Q/N overall assessment for the unit's assigned missions, if any, are based upon the Y/Q/N MET assessments associated with that specific assigned mission.... To meet OSD's reporting requirements assigned missions must be identified by plan number or operation name.[191]

Table C-2. DRRS Three-Tiered Readiness Assessment

Rating	Definition
Y	Unit can accomplish task to established standards and conditions.
Q	Unit can accomplish all or most of the task to standards under most conditions. The specific standards and conditions, as well as the shortfalls or issues impacting the unit's task, must be clearly detailed in the MET assessment.
N	Unit cannot accomplish the task to prescribed standards and conditions at this time.

Source: Deputy Assistant Secretary of Defense for Force Readiness, *Military Readiness*, DOD, February 2019. Unclassified reference booklet provided directly to congressional offices, congressional committees, and the Congressional Research Service.

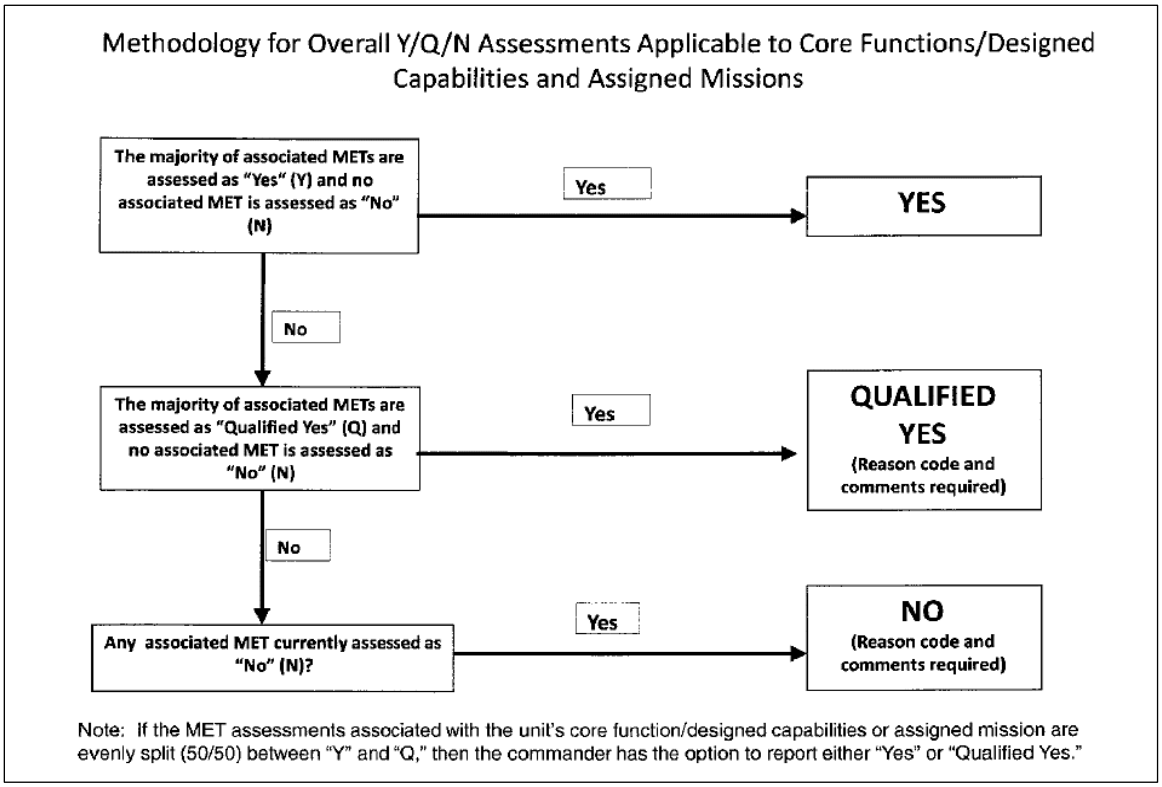
Note: This rating is considered a *measure* of unit readiness.

Rating determinations by unit commanders can be influenced by several factors, including C-Ratings, Service-specific MET assessments and ratings, new metrics or measures recently developed by a Service, or the deployment status of a unit. According to the INSS report: "There is no algorithmic rule that maps [mission essential] task assessments to mission assessments. This is up to the unit commander; however, the commander's assessment must be supported by qualitative data and be visible to higher headquarters."[192]

[191] AR 220-1, para4-4(c).

[192] Laura J. Junor, Managing Military Readiness, Institute for National Strategic Studies, National Defense University, February 2017, p. 33, at https://ndupress.ndu.edu/Portals/68/Documents/stratperspective/inss/Strategic-Perspectives-23.pdf.

Figure C-1. Determining METL Ratings



Source: Army Regulation 220-1.

To reconcile the two DRRS assessment processes discussed in this report, unit commanders generally abide by established Service regulations, policies and procedures when determining a unit's overall three-tiered readiness rating. The following examples of rating reconciliation are taken from AR 220-1 for the Army.[193]

Overall Y/Q/N assessment for designed missions.

> It would be inconsistent and illogical for a unit to report C4 due to resource or training constraints while concurrently reporting "Yes" or "Qualified Yes" for this overall assessment since the C4 assessment indicates that necessary resources are not available to the unit for its core functions/designed capabilities. Commanders who report both C4 and "Yes" for this overall assessment are required to explain why the resource or training shortfalls indicated by the C4 assessment do not impede the ability of the unit to accomplish its core functions/designed capabilities.[194]

Overall Y/Q/N assessment for one assigned mission.

> It would be inconsistent and illogical for a unit to report A-level 4 due to resource or training constraints while concurrently reporting "Yes" or "Qualified Yes" for this overall assessment, since the A-level 4 assessment indicates that necessary resources are not available to the unit for the assigned mission. Commanders who report both A-level 4 and

[193] For another example of a Service-specific policy related to rating reconciliation—in this case the assessment of more than one assigned mission—see Marine Corps Order 3000.13A, *Marine Corps Readiness Reporting*, July 18, 2017, p. 1-3 to 1-4, at https://www.marines.mil/portals/1/Publications/MCO_3000.13A.pdf?ver=2017-07-19-090232-970.

[194] AR 220-1, para4-4(c).

"Yes" for the assigned mission assessment are required to specifically explain why the resource or training shortfalls indicated by the A-level 4 assessment do not impede the ability of the unit to accomplish the assigned mission. Note that an A-level is determined and reported only for one assigned mission.

Overall Y/Q/N assessment for more than one assigned mission.

When exceptional circumstances require that units determine and report overall capability status for more than the one assigned mission, the units will determine and report an overall Y/Q/N assessment based on the Y/Q/N assessments of the METs that are specifically associated with each additional assigned mission. Only overall Y/Q/N assessments (three tier metrics) are available for use to assess unit capability for any additional assigned missions.

Other Inputs to DRRS

Beyond those metrics and measures integrated into DRRS, commanders can use other metrics and measures to inform their readiness ratings. For example, Service databases may provide information on personnel turnover rates, additional skill qualifications, language qualifications, and professional military education completion. Other measures of readiness—for example, discipline, morale, and certain aspects of leadership and experience—while typically considered important aspects of unit readiness, are not formally integrated into the readiness assessment process. However, commanders may take these factors into account in their readiness assessment upgrade or downgrade decisions.

Author Information

G. James Herrera
Analyst in U.S. Defense Readiness and Infrastructure

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