



The 15th International Scientific Conference
**“DEFENSE RESOURCES MANAGEMENT
IN THE 21st CENTURY”**
Braşov, November 12th-13th 2020



ASSESSING MILITARY READINESS -METHODS AND CHALLENGES

SERBAN Radu Mihai

Abstract:

The readiness as a term refers not only to operational units but also to the entire army. The readiness level as a percentage it may be transformed in a unit's capability to perform a mission in a matter of hours, days or months. For specific units of quick reaction alert it is measured in minutes. It is very important for decision makers to budget the personnel the training the equipment and to ensure a proper chain of supply in order to achieve a specific readiness that can meet the objectives and the goals of a nation. Readiness verification should be conducted at all levels periodically. The today's readiness is not the same with tomorrow's readiness.

Key words: readiness, military, challenges, assesment, effectiveness, decision

1. Introduction

The most basic element of understanding readiness is knowing what types of wars the military must be prepared to fight. This includes potential adversaries it could face, the capabilities these adversaries are likely to possess, the conditions under which conflict may occur, and how the military plans to fight or deter such wars.

Readiness also depends on the time interval in which the military must be prepared to respond. Near-term readiness depends in part on the peacetime force posture, such as the mix of forces in the active and reserve components and the stationing of forces at home or overseas. Some conflicts could begin with little or no warning, greatly compressing required response times. Long-term readiness depends more on the capabilities the military is investing in for the future and how these capabilities will address the future threat environment.

2. 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. [1]

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. Definitions for readiness have changed over time, and have varied in specificity.

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”).[2]

2.1 Definition of Readiness

DOD officially defines the term “readiness” in Joint Publication (JP 1) as “the ability of military forces to fight and meet the demands of assigned missions.” This intentionally broad



The 15th International Scientific Conference
“DEFENSE RESOURCES MANAGEMENT
IN THE 21st CENTURY”
Braşov, November 12th-13th 2020



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. [3]

3. The readiness production process

3.1 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. 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. [4]

3.2 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. Operational units integrate new personnel and provide them—along with existing unit personnel—unit-specific training that increases both individual and total unit readiness. Operational units will test their war fighters’ proficiency regularly (both as individuals and collectively) to ensure units are maintaining or increasing their readiness. 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. [5]

3.3 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.

4. Military readiness tenets

Military readiness tenets	Leading indicators	Strategic levers
Manning	Personnel Structure	Recruitment policy
	Acquire	
	Employ	Changes in force structure
	Retain	



**The 15th International Scientific Conference
“DEFENSE RESOURCES MANAGEMENT
IN THE 21st CENTURY”
Braşov, November 12th-13th 2020**



Equipping	Personal equipment	Aquisitions
	Technical equipment	
Training	Individual training	Doctrine
	Unit training	
	Exercises	Annual planning exercises
Leading	Qualification	
	Education	
	Experience	
Assesing	RV exercises	National programs
	Tactical evaluation	
Sustaining	Maintain army readiness	Repeating the cycle

Table 1 [6]

4. Readiness dependence

4.1 Logistics

Different units use different equipment which needs to be repaired or replaced. If the supply chain of equipment or of spare parts is altered then delays occurs and the readiness level can be heavily affected. An immediate solution to this problem would be - “cannibalization”. On the long term “cannibalization” will even deepen the problem due to over use of some parts of equipment.

4.2 Support

Deployed units have met a certain readiness level at a specific moment. In the new location that readiness level can be affected by the new displacement of buildings, hangars, ammunition shelters or the lack of those. This issue can be solved by prior sites surveys and by prior adjustments with provisionary buildings or shelters. For missions conducted over waters, airborne MEDEVAC is mandatory. If the weather conditions do not permit airborne helicopter then the mission will be postponed or canceled. Without specific support the readiness level will be diminished drastically.



The 15th International Scientific Conference
**“DEFENSE RESOURCES MANAGEMENT
IN THE 21st CENTURY”**
Braşov, November 12th-13th 2020



4.3 Training

“You train as you fight” is an active saying in the military. To be able to develop scenarios in accordance with a real operation you must know how your potential enemy fights. Unless the unit has already met its opponent all training will be conducted based on assumptions. Therefore you must train the personnel using a various number of scenarios which takes time and affects readiness as well.

4.4 Doctrine

The tactics the techniques and procedures must be updated in accordance with the potential threat development and with the evolving materials and equipment. A previous tactical approach towards a newly developed radar is for sure obsolete and the outcome can be disastrous for the entire operation. Today's level of readiness is not the same with tomorrow's level. All involved factors should be able to keep the same pace in order to acquire or to maintain a specific readiness level.

4.5 Weather

The weather even though is predictable it represent a huge factor for readiness. Phenomena like thunderstorms, sand storms, heavy rains, unfavorable wind direction can keep a squadron grounded for weeks. Also low temperatures can influence the potential of a unit not only at personnel level but also at equipment level.

4.6 Incalculable factors

There are some factors that cant be predicted. Volcanic ash can ground airplanes for weeks for instance. COVID 19 had a tremendous impact not only on our daily lives but also on the military. In 2020 all international military exercises were canceled. That means less training for troops at joint level. And one year later the situation continues, is nothing cleared out and the planning of new military exercises is still pending.

5. Assessing military readiness

5.1 Personnel readiness (P-level)

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

- The ratio of unit personnel available for deployment in comparison to the total number of personnel the unit is authorized to have.
- 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.
- 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.

In essence, units with a full or nearly full complement of warfighters by specialty and grade are



The 15th International Scientific Conference
**“DEFENSE RESOURCES MANAGEMENT
IN THE 21st CENTURY”**
Braşov, November 12th-13th 2020



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.

5.2 Equipment Availability readiness (S-level)

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

- 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 a Fighter Squadron would be an F16 MLU).¹
- 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, Transponders, and night vision devices).

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. S-levels are 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 policy makers chose to allocate equipment among units.

5.3 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.

5.4 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 tasks.

Commanders evaluate training proficiency for each task 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. The data on which the commander’s judgments are based can vary substantially. For example, variations may exist between units in the



**The 15th International Scientific Conference
“DEFENSE RESOURCES MANAGEMENT
IN THE 21st CENTURY”
Braşov, November 12th-13th 2020**



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.

5.5 Overall Resource Readiness (C-level)

Overall Resource Readiness (C-level) The C-level rating—or overall 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.

The C-level rating is meant to reflect the unit’s 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 Clevel is described in Table 2.

C1	C2	C3	C4
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 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.	
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	The status of resources and training	The status of resources and training	



**The 15th International Scientific Conference
“DEFENSE RESOURCES MANAGEMENT
IN THE 21st CENTURY”
Braşov, November 12th-13th 2020**



in the unit will not increase vulnerability of unit personnel and equipment.	in the unit will not increase the vulnerability of the unit under most envisioned operational scenarios.	in the unit will increase the vulnerability of the unit under many, but not all, envisioned operational scenarios.	
--	--	--	--

Table 2 [7]

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.

6. 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. 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). 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. [8]

6.1 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:” “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.

6.2 AA rate

This readiness metric applies to military aviation units 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.



***The 15th International Scientific Conference
“DEFENSE RESOURCES MANAGEMENT
IN THE 21st CENTURY”
Braşov, November 12th-13th 2020***



Conclusions

The readiness as a term refers not only to operational units but also to the entire army. The readiness level as a percentage it may be transformed in a unit's capability to perform a mission in a matter of hours, days or months. For specific units of quick reaction alert it is measured in minutes. It is very important for decision makers to budget the personnel the training the equipment and to ensure a proper chain of supply in order to achieve a specific readiness that can meet the objectives and the goals of a nation. Readiness verification should be conducted at all levels periodically. The today's readiness is not the same with tomorrow's readiness.

References

- [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
- [2] 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.
- [3] 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>.
- [4] 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/StrategicPerspectives-23.pdf>.
- [5] 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>
- [6] 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>.
- [7] 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.
- [8] Constantinescu, Maria, “Optimizing the use of defence resource in the context of the capabilities based planning implementation in the Romanian Armed Forces”, The 16th international scientific conference Knowledge-Based Organization 2010, Land Forces Academy, Sibiu, 2010, Conference proceedings 2 Economic, Social and Administrative Approaches to the Knowledge-Based



The 15th International Scientific Conference
“DEFENSE RESOURCES MANAGEMENT
IN THE 21st CENTURY”
Braşov, November 12th-13th 2020



Organization, ISSN 1843-6722

[9] Constantinescu, Maria, „Considerations regarding different approaches to measuring labour productivity”, *Journal of Defence Resources Management*, Brasov, nr 1 (2)/2011, ISSN 2068 – 9403

[10] 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.