A Systems Approach to

USNS Pollux in Pusan for Foal Eagle '98.

55th Signal Company (Christina A. Horne)

Readiness Reporting

By JOHN C. F. TILLSON

There is general agreement that readiness reporting is flawed and does not accurately reflect operational requirements in the post-Cold War era. Readiness reporting has improved somewhat in recent years. Unit reports—known as the global status of resources and training system—have seen incremental changes that have increased the ease and precision of reporting by the services. Moreover, in response to the provisions of the Goldwater-Nichols Act, the Chairman has initiated a system that includes quarterly reports from CINCs, combat support agencies, and services. This report, the joint monthly readiness review, addresses overall readiness in two major areas—current day-to-day preparedness and readiness to execute a major theater war or other scenario envisioned in national security strategy. In 1993, the Secretary of Defense established the Office of the Under Secretary of Defense for Personnel and Readiness and the Office of the Deputy Under Secretary for Readiness to oversee preparedness. The Secretary

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U.S. Army (Raymond A. Barnard)

Mission rehearsal at Joint Readiness Training Center.

also formed the Senior Readiness Oversight Committee, chaired by the Deputy Secretary and with members from the Office of the Secretary, Joint Staff, and services, that meets monthly to review reports from the Chairman as well as other readiness indicators. At the direction of Congress, the Office of the Deputy Under Secretary of Defense for Matériel Readiness and Logistics was created in the Office of the Under Secretary for Acquisition and Technology. Institutionalizing readiness reporting and responsibilities has resulted in enhanced appreciation of readiness issues in the program review process.

Perhaps the most critical problem is that the current system does not measure the capability of the Armed Forces to accomplish the missions established in national security strategy. Instead it focuses on one or two major theater wars and a limited set of tasks associated with those missions, forcing CINCs, agencies, and services to focus their reporting on narrow functional areas that do not address the full range of operational tasks. For example, reports by CINCs and agencies cover eight functional areas that correspond to staff organization. These do not deal with readiness as it relates to performing specific tasks essential to accomplishing missions. Similarly, service reports focus on six enablers that do not correspond to congressionally mandated responsibilities (Title 10 functions) that represent key tasks for which all the services are responsible.

Essential elements are not being reported. For example, joint and service component headquarters, most joint units, and most large units such as corps, battle groups and fleets, air wings, and numbered air forces are omitted. Nor do reports cover critical support facilities such as seaports, supply depots, and training centers. Overall the system lacks comprehensiveness and is unable to indicate readiness to execute strategy.

On one hand, to address the lack of specificity, DOD should collect more data, and on the other, given the amount of the data already reported, perhaps it should be reduced. This dilemma will demand revamping the system to collect more information while reporting less.

Starting Over

Based on congressional requirements and the responsibilities of the Secretary of Defense as well as other DOD components, a readiness reporting system should be designed that:

- responds to congressional readiness concerns
- provides readiness information needed to assist the Secretary of Defense, CJCS, CINCs, agencies, and services in performing peacetime and warfighting missions
- revises reporting in the context of efforts to transform the defense establishment to meet the challenges of the 21st century.

To meet these criteria, modernized reporting must be based upon a systems or process approach. A system represents an organization or group of organizations with a common goal. For example, a basic operational unit (such as a ship or infantry battalion) is a system that has a common goal to perform a mission essential task assigned to that unit. A group of operational units (division, battle group, air wing) is a system with a common goal to perform essential tasks assigned to an organization. A facility (port, training center, hospital) is a system with a common goal to perform tasks assigned to an installation. Units and organizations with common goals but different chains of command should also be considered a system. The defense transportation system, for example, includes organizations under various components, but it has a common goal of transporting units and matériel. Readiness is a measure of the ability of systems to achieve goals—their actual output compared with required output.

The basic steps in a systems approach to readiness reporting are (1) identifying the systems whose readiness will be reported, (2) determining the output required of the system, (3) identifying the parts of each system and collecting the added data needed to determine their readiness in terms of output, and (4) requiring the responsible CINC, agency, or service to report on the readiness of their system. This method will provide an assessment for the entire force from individual units to the National Command Authorities.

Unloading C–5 at Sidi Slimane air base, Morocco.

31st Communications Squadron (Delia A. Castillo)

The Whole Picture

A systems approach gives participants in the system an opportunity they lack today—to see where they fit and how their actions affect that whole system. Given this capacity, participants can make decisions with a complete system in mind. They no longer must focus solely on bits and pieces of readiness over which they have visibility and control.

To conceptualize readiness, the goal must be measurable and the determination of readiness must be based on comparing the actual capability with objective goals. The defense transportation system—responsible for moving forces and matériel from a peacetime location to other venues tied to strategy—is a critical system and illustrates how a new approach to readiness can be developed. Readiness of the transportation system is reported in parts because no commanders are subordinate to the Secretary, who is responsible for reporting overall readiness. Instead, there are half a dozen CINCs and three service secretaries who have some responsibility for reporting on the readiness of components of the national strategic capability to move forces, supplies, and equipment. It remains for the Secretary and Chairman to make sense out of a diverse set of reports.

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Unfortunately, lacking a measure of how deficiencies contribute to readiness systems, the effort to eliminate a defect tends to lead to micromanagement or suboptimization in which resources intended to fix a problem may not promote improvement because both reporting organizations and the Pentagon are stovepiped. They simply lack a comprehensive view of how the problem under investigation contributes to readiness. For example, regardless of the capability of airlift forces, if bases en route or airports of debarkation are inadequate, the system can produce no more output than the maximum throughput of the facilities. If the goal is providing throughput, then the impact of each problem must be measured in terms of the influence on the throughput of the system. The fact that there is a problem as seen by one element of the system does not mean that it necessarily affects the overall throughput or readiness of the system. Nor should a deficiency be considered without a clear understanding of its relation to other systems that depend on its capabilities.

When participants attempt to either fix or optimize that part of an organization or system for which they are responsible or can see, they risk misusing marginal resources. Using a chain as an analogy, if they fix a link that is already strong in relation to others, they are unlikely to improve the capability of the system. Looking at the overall system and measuring its readiness in terms of its ability to achieve a goal—throughput in the case of the transportation system—leads to a search for the weak link that creates a bottleneck or constraint in the system. The marginal dollar should be spent on the weak link.

Ready for Tomorrow

The systems method helps resolve conflict between current and future readiness. If the Secretary, Chairman, CINCs, and services are able to see an entire system, they may be capable of identifying elements that can be improved in the near term to enhance current readiness. They may also be able to identify elements that can only be improved in the longer term with a modernization or force structure program. Visibility of the tradeoffs possible with the systems approach may also enable better choices about readiness today versus readiness tomorrow.

The concepts presented in *Joint Vision 2020*—dominant maneuver, precision engagement, and full dimensional protection—are best seen as operational level systems of systems. Current assessments cannot determine their readiness. Although CINC or service functional area reports may address parts of a system, they do not encompass the entire system to indicate its capability to provide the output required by CINCs.

Joint Mission Essential Tasks

Tasks that are essential to the ability to perform assigned missions are outlined in the joint mission essential task list (JMETL). This list results from mission analysis conducted in the requirements phase of the joint training systems cycle and provides documentation from which requirements are derived. Among the resources available to assist commanders in developing specific tasks are the universal joint task list, JMETLs from commands, master training guides, and joint doctrine. Common tasks are mission essential tasks drawn from the lists of two or more commands.

Sample JMET

JMET: Coordinate Theater-Wide Information Operations (IO)
Organization: J-3

Conditions
- flexibility of warfare style (flexible)
- theater intelligence organizations (mature)

Standards
- 90 percent of subordinate plans have integrated command and control warfare efforts
- 10 days to achieve information superiority

Supporting tasks—identify theater issues and threats
- Conditions
  —military style (predictable)
- Standards
  —10 hours or less to identify enemy center of gravity

Command-linked tasks—support national and joint task force surveillance and reconnaissance requirements
- Conditions
  —visibility (high)
- Standards
  —90 percent of joint operational area has surveillance coverage.

F–16s at Kunsan air base during readiness exercise.

U.S. Air Force (Jerry Morrison)

For example, although the precision engagement system of CINCs might include a command, control, and communications subsystem or a logistic subsystem that can be included in current functional area reports, an evaluation might be beyond the purview of CINCs. The command might be unable to determine overall readiness of precision engagement because it would not know the capability of operational units or capabilities associated with it and would not see how stovepipes fit in the system. Moreover, no subordinate who reports to CINCs on the basis of a functional area would be responsible for ensuring the successful operation of the precision engagement system. In sum, the Armed Forces have no adequate yardstick to evaluate their capacity to acquire future warfighting capabilities.

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By integrating future operational requirements in a systemic assessment program, DOD will gain a greater appreciation not only for its current capabilities but also for emerging competencies.

Integrated Approach

Understanding readiness to execute a task requires understanding the readiness of a system designed to execute that task. To provide a comprehensive account of readiness, CINCs report on readiness to execute items on the joint mission-essential task lists (JMETLs) developed for assigned missions. Supporting CINCs and agencies report on readiness to execute tasks on the mission essential task list associated with support missions. Services report on readiness to execute Title 10 functional tasks to meet the needs of supported CINCs. In each instance, understanding readiness to execute tasks requires understanding the readiness of systems that execute the tasks.

Knowing the readiness of large, complex systems is based on an appreciation of the readiness of entities that make up systems. They include operational units as well as supporting entities—depots, ports, prepositioned equipment, communications nodes, hospitals, training centers, and inventory control points—that are critical for readiness. Each must report its readiness to conduct mission-essential tasks associated with its role in the system whose readiness is being reported. For example, ports that are nodes in the defense transportation system are systems whose readiness can be measured. In this example ports report readiness to execute mission essential

Combat Camera, Atlantic (Martin Maddock)

***USS Arctic* with *USS Enterprise* off Florida.**

tasks, moving a certain amount of cargo daily. Moreover, other supporting entities are also systems: depots may have engine and radar repair systems, communications nodes are data transmission systems, hospitals are patient care systems, and training centers are unit systems.

Operational units can be treated as systems of systems. The Army, for example, evaluates training readiness in terms of battlefield operating systems, including fires, maneuver, command and control, intelligence, logistics, air defense, and mobility and countermobility. Each operational unit has a similar mix of systems collectively engaged in executing mission essential tasks. Ships report on the basis of primary mission areas that are essentially systems, such as antisubmarine warfare. The Air Force uses similar descriptors in its reporting.

Every readiness-related entity can report its status in terms of the ability to execute mission essential tasks based on an assessment of the ability of systems to provide output associated with essential tasks. An Army infantry battalion is a case in point. Its headquarters, including members of the staff and support capabilities, comprise a command and control system. The scout platoon provides an intelligence system. Three maneuver companies are a maneuver system. The battalion report would be based on a comparison of required levels of personnel, equipment, supplies, and training with the level of each battalion mission essential task.

More Is Less

This vision of reporting calls for collecting and manipulating more data than assessments of today. This is made possible by the expanded capabilities inherent in DOD information technology systems, which can capture large amounts of data from low-level functional activities and make it available automatically for readiness reports. For example, transactions put in personnel databases or entered in service maintenance databases can be captured and incorporated. Ultimately, all the status data included in readiness reporting must be based on this form of unit-level transaction data. Readiness will be based on each node of every system and automatically updated in near real time. This capability can reduce readiness reporting while the data actually collected increases.

Readiness reporting should eventually become virtually automatic. Databases will provide most data required by unit reports. Commanders will be responsible largely for reviewing data to ensure accuracy and reporting command assessments that differ from objective appraisals. There will be permanent web-based applications representing systems that CINCs, agencies, and services rely on to execute mission essential tasks. The applications will be updated automatically with unit data. Intelligent agents will sweep databases to find readiness problems and bottlenecks and even identify potential workarounds. Planners will identify tasks for deliberate and crisis response plans and select units by task and receive near real-time readiness assessments in response.

A system of systems approach to readiness reporting offers a coherent and comprehensive basis for discussing both operational capabilities and resource allocation. Such a method can increase the capacity to meet near-term requirements and assist the process of transformation. **JFQ**