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"Re-Engineering Defense Logistics"

**Keynote Address of
The Under Secretary of Defense for Acquisition and Technology
Honorable Paul G. Kaminski**

**to the
DOD Logistics Offsite Conference
Xerox Center, Leesburg, VA**

October 24, 1996

Let me add my personal welcome to this year's logistics offsite. It is truly a great pleasure to be with you this morning. Especially so, I think, because we together have a tremendous opportunity to profoundly influence the future and to make a real difference in how US forces will be supported in the next century. Forty years from now, our grandchildren will look back upon these times as the era when so many of the key decisions were made that shaped the world security structure for the first half of the 21st century.

For the next two days, we together will be helping to frame and address some of the key issues facing the Department and the nation. The absolutely pivotal role logistics has played -- and will increasingly play -- in sustaining America's combat effectiveness has caused the subject of logistics to be of growing interest to both our warfighters and the Department's senior civilian leadership. It is my sense that logistics -- logistics re-engineering to be more precise -- will become a key area of focus during the upcoming Quadrennial Defense Review, and this offsite will establish the foundation for that review.

I would like to set the stage for this year's offsite by sharing some of my thoughts on what I see as the key underlying principles for re-engineering our logistics system.

SUPPORTING THE WARFIGHTER

First and foremost, I cannot over emphasize the need for logisticians, of every Service and Defense Agency, to establish and maintain a seamless partnership with the Department's warfighters. Re-engineering logistics support for the warfighter in the absence of this seamless partnership is a formula for failure.

The logistics systems, processes, organic capabilities, and inventories that developed over time to support our cold war strategy reflected our warfighting strategy and -- largely -- the technology of the 50's, 60's, and 70's. At the conclusion of the cold war we found ourselves with too much of not the right stuff, outdated information

management tools, and organic capabilities that didn't any reflect real need. The passing of the cold war and the strategy we embraced to fight it – if nothing else – demands a fundamental rethinking of our supporting logistics strategy and reengineering of our logistics systems, processes, capabilities and inventories.

The responsiveness of our logistics systems will need to be better matched to support the rapid and flexible operations crucial to modern warfare. More importantly however, the next several decades ahead promise a quantum shift in the evolution of armed conflict. Our forces are being designed to achieve dominant battlefield awareness and combat superiority through the deployment of fully integrated intelligence systems and technologically superior weapons systems.

In the 21st century, we will continue to need robust Army and Marine Corps ground forces to occupy hostile territory. However, precision strike weapons, improved mission planning systems and superior C4ISR will allow us to deploy small, more lethal, and dispersed units to accomplish missions performed today by much larger forces. We are examining such new warfare concepts in ACTDs such as SEA DRAGON. The key to the effectiveness of these small units will be the possession of superior dynamic situational awareness and communications. Offensively, these small units will be able to concentrate direct and accurate remote fires on a massed enemy force. Defensively, they will enjoy the advantage of being dispersed. Small unit operations is just one of the new emerging warfighting concepts enabled by dominant C4ISR capabilities. But what is the enabling logistics support concept for small unit operations? And are our logistics systems capable of meeting this support concept?

America's Navy is evolving from a force that has focused very heavily on its "blue water," or open ocean mission to one that recognizes the reality that warfare in the early part of the 21st century will, in all probability, take place in the littorals. To meet this "brown water" threat, the Navy is reengineering to concentrate on support for the amphibious battle space. Small, highly skilled Special Warfare units, "Arsenal" ships, "Smart" ships, over-the-horizon surveillance by Unmanned Aerial Vehicles, or UAVs, and a highly developed Joint warfighting capability that includes not only mutual support for the Marine Corps, but the Army and Air Force as well, could characterize the Navy of the 21st century.

The reengineering in the Air Force will be no less profound. You will see a shift in emphasis away from endowing delivery platforms with "stand alone" capabilities and towards enhancing those platforms with off board information and highly lethal, extremely accurate weapons. The Joint Strike Fighter will be highly leveraged by off-board sensors and C4ISR systems. By piping information into the cockpit from Joint STARS, AWACS, unmanned aerial vehicles like Predator, and overhead satellites, the aircraft can be built to provide superb situation awareness without developing an expensive on-board sensor suite. The Air Force is experimenting with the Air

Expeditionary Force concept and the notion of “swinging” long range heavy bombers from one MRC to the next on very short timelines. In either case, we know the aircraft can get to the fight. Do we have a logistics system that is responsive enough to support these operational concepts?

These questions, in the context of a fully integrated system-of-systems architecture, need to be addressed if logistics is to become a force multiplier in the 21st century battlespace. My sense is that the logical outcome of a seamless warfighter – logistician partnership will lead to three guiding principles for battlespace logistics. They are: one, reduce the logistics response time; two, reduce the logistics footprint; and three, reduce the logistics infrastructure.

REDUCING LOGISTICS RESPONSE TIME

There is a large opportunity for improving logistics response times in the department today. We need to think in terms of substituting fast transportation and real time information for layered inventory as a strategy for improving logistics response times.

Fast Transportation

We clearly need to move more aggressively to substitute the ability to rapidly transport material for our very costly practice of maintaining layers of redundant material stocked around the country and the world “just in case” we need it at some specific locale quickly.

Our “just in case” system has evolved over the years in response to a cumbersome acquisition system, little or no in-transit asset visibility, and lack of a fast and responsive transportation system. This is where the commercial sector was in the 1950s. This system is in stark contrast to the “just in time” material management systems being implemented by commercial enterprises. Boeing and Caterpillar are two companies that substitute fast, cheap transport for costly inventory. As a result, they have a world wide guarantee of parts delivery in 24 hours, and in some cases no charge if the delivery timeline exceeds 48 hours. Federal Express has implemented the kind of transport system that allows other companies to reduce their inventories as well.

Neither the “just in case” or “the just in time” system are right for the Defense Department. A tailored approach is needed. Right now, the pendulum is too close to “just in case.” It needs to swing more to a “just in time” position. But “just in time” means that the wartime transportation system must work when fully stressed in war. It means we need to routinely exercise this system under stressful conditions.

The Air Force is taking the lead in adopting a DOD model of the private sector substitution of fast transportation for logistics infrastructure. Known as "lean logistics," the Air Force program uses improved transportation to achieve a new emphasis on user requirements as the focus of the logistics system. Fast transportation enables the Air Force to replace the traditional caches of "just in case" inventory scattered throughout the supply system with a "just-in-time" approach to materiel acquisition and delivery -- one geared to satisfying actual customer requirements when the requirements arise.

The end result of this "lean logistics" approach is consolidation of wholesale inventories, a drastic reduction of base level inventory, and a new focus on customer mission requirements. As this approach is adopted throughout the Department, its focus on substituting fast transportation for multiple levels of substantial amounts of inventory will allow us to reach the ultimate goal of lean logistics--better, faster, cheaper.

I believe we have established a high level of confidence among the Department's leadership that transportation can often be a sound substitute for layered inventories. Again, the immediate challenge we face is getting on with the business of deploying a broad based transportation initiative in order to free up billions of dollars we must now commit to inventory investment -- investment that will be unnecessary in a lean logistics environment.

Real-Time Information

Much like the transportation issue I just spoke about, we must substitute valid real time information regarding the complete status of all our resources. . . personnel, weapons, equipment, and supplies and so forth. . . for our current practice of maintaining redundant capabilities. Here I am talking about getting on with the business of deploying a true total asset visibility program.

Commanders and logisticians will need to know the combat readiness status or "state vector" for each force element. This includes knowing the logistics posture of friendly and enemy forces as well as having a prediction of the resupply needs of each force element. To complete the logistics picture, available support and the need for future support must be propagated from each force element in the field through the whole support system. This is "total asset visibility." There is a strong linkage between dominant battlefield cycle time and total asset visibility -- without the latter, the former is seriously degraded.

A major system integration effort is needed to implement this logistics concept. It is my sense that most of the enabling technologies have been developed. Some of the information technologies that could immediately be brought to bear include: bar code tagging technology; RF smart response tags; relational data base systems; miniature

global positioning system receivers and position reporting transmitters; satellite and fiber command & control communications links; and predictive planning tools.

The immediate goal of the Joint Total Asset Visibility, or J-TAV, logistics re-engineering initiative is having access to real time information regarding the quantity, location, and condition of virtually all DOD assets anywhere, at any time. And as we recognize the coalition nature of present and future conflicts, it also becomes obvious that there is significant potential associated with the integration of our Asset Visibility system with that of our allies.

The alternative to a robust Asset Visibility capability is the ongoing requirement to procure, receive, stow, maintain, issue and dispose of mountains of "just-in-case" inventory and other resources. In the absence of rock solid information regarding the availability of materiel, the warfighter will always buy readiness insurance in the form of excess local stocks.

More importantly, the warfighter will be required to divert his precious airlift and sealift resources to transport excess inventory to the battlespace, it will delay build up of combat power, impede deterrence and unnecessarily prolong military action, with the attendant high casualties and other costs. And once the materiel is in-theater, America will need to divert combat power to defend inventory storage sites. During Desert Shield, large amounts of dockside inventory were a gold lettered invitation to an adversary to hit us.

As I said earlier, the technology needed to attain real-time logistics information exists today. Technology is not the hurdle we must overcome. The challenge is building a high powered cross-service team that focuses our energies to the task of developing and deploying a broad based system. It would need to function like a DOD-wide intranet where everyone has access to the same information base. To do this, the real issue is having the right incentives in place to make it happen.

The Department is planning to operationally deploy a pilot asset visibility program this coming January. It will provide the field commander with the ability to "see" -- real time, -- virtually all materiel stocked by any Service or Defense Agency. Following requisitioning, the field commander will be able to track the real time movement of his materiel from the moment it leaves its point of origin until receipt at its ultimate destination.

The capability I just described is a good start down the road toward a robust Asset Visibility program -- but it is not the end game. We need to once again stretch the edge of the envelope of our vision for Asset Visibility.

Today, your partners in the warfighting communities are seeking to look over the time horizon, into the future battlespace to play out myriad combat scenarios in a virtual environment. In the future, when the operators are confronted with a specific near term threat, they will be able to rapidly model the situation, test a host of alternative solutions, calculate weaknesses, make corrections to strategies and tactics, and alter the outcome.

The logistics community needs to craft a companion capability. To that end, Admiral Ray Archer, my logistics Technology Development lead, recently demonstrated a logistics business process in a simulated environment. This demonstration focused on simulating the deployment of a Marine Regiment from two separate locations within the United States to marshaling and staging positions in Western Europe. The simulation factored in known aircraft capabilities and graphically displayed the entire process. It also provided metrics on resource movement. The model allows the user to "what if" various events and constraints.

The model Admiral Archer is testing is still immature. However, adoption of this expanded vision of Asset Visibility -- to include looking into the future through the use of sophisticated modeling -- represents a quantum step forward. It breaths life into J-TAV, transforming it from an accessible data library to a high powered tool for maximizing weapon system readiness on the battlefield of the 21st century.

The business implications of deploying an expanded Asset Visibility capability are equally enormous. I firmly believe that many of the more cumbersome inventory management and ownership principles we now embrace will be fundamentally altered.

As the warrior becomes comfortable that he knows the full range of his materiel requirements -- where the materiel he needs is -- at all times, -- and how long it will take to get to him, -- the requirement to own and hold stock will be dramatically reduced. After all, the warrior's real objective is assured availability, not full time possession of mountains of "just-in-case" inventory.

In combination with the world class transportation system we are working toward, Asset Visibility will serve to improve readiness, drive down the total value of the Department's stocked materiel, largely eliminate the issue of what entity owns it while it is in inventory and mitigate the requirement to position it at every site around the world where there is an anticipated demand ... and, again, it will improve our ability to prevail in combat.

REDUCING LOGISTICS FOOTPRINT

The second major guiding principal is to reduce the logistics footprint. There is a tremendous leveraging effect associated with reducing the amount of support

equipment and consumables we must take with us when we go to war. This is especially important in the early stages of a conflict when airlift resources are scarce and before a sealift bridge can be closed.

On new systems, it means paying attention to life cycle costs early in the design of a new system. The message here is that "back end" sustainment costs are receiving more "up front" design attention. The Joint Strike Fighter Program, for example is committed to this approach. There is a sizable technology maturation effort underway on the JSF program. Each technology effort must "buy it's way onto the program" in terms of reducing life cycle cost and program risk.

To support these investment decisions, there is a fairly well developed life cycle cost model that includes estimates for operational and support elements like unit level consumables, training, expendables, depot maintenance and mission personnel.

However, given the speed with which we are introducing new systems to replace those already in the field, we simply cannot wait on the new weapon system development process to solve our logistics footprint problem. We need to create the proper incentives to insert new technologies in our legacy systems to improve their reliability, maintainability, and sustainability.

During the last budget cycle, I personally supported the establishment of a revolving set of seed funds—known as PBD 714—for a Reliability, Maintainability, and Supportability Program, or RMS. In addition to improving readiness, the bottom line is reducing the cost of ownership for our legacy systems.

The RMS problem is further compounded by the fact that the operational life of many of our weapon systems will be extended beyond their originally intended design life spans. I suspect we may begin to see more unanticipated geriatric failures as the age of our tanks, ships, and aircraft increases.

The Army, Navy and Air Force all have pilot PBD 714 programs underway that invest in the replacement of high failure rate parts and equipment with technically superior, high reliability materiel. These pilot programs are investing money up front to improve weapon system availability and to reduce the logistics footprint—we are realizing the added benefit of long term savings through reduced support costs.

A recent study by LMI documented long term return-on-investments averaging over 10-to-1 for the nine pilot projects being reviewed. I am confident this ROI estimate is conservative, given the savings potential hidden in long term infrastructure reduction. And there is a long list of RMS candidates, with equally impressive ROIs awaiting our action.

REDUCING LOGISTICS INFRASTRUCTURE

And our third guiding principal must be to reduce unnecessary logistics infrastructure. Within the department, the warfighters have come to clearly realize that it is a zero-sum game, that every logistics dollar expended on outdated systems, inefficient or excess organic capability and unneeded inventory is a dollar not available to build warfighting capability. They also realize that the logistics slice of the defense budget is large by any measure -- consuming over \$43 billion or about 17 percent of the DOD top line each year. It is roughly the same amount we spend on procurement or research and development.

There is no question in my mind that there are many more areas where private sector logistics support can be substituted for DOD organic capabilities with greater effectiveness, at less cost, and with no added risk. I also believe it is equally important to avoid privatization for the sake of privatization. I believe it is absolutely essential for the Department to strike the proper balance between efficiency, effectiveness and risk.

The Department has made substantial progress in reducing our inventories at all levels. Critical to these projected inventory reductions are increased use of commercial support alternatives to meet the Department's materiel requirements.

For example, the Defense Logistics Agency has reduced its wholesale medical inventory by 60 percent -- 380 million dollars -- since 1992 by using commercial distribution methods rather than DOD warehouses to distribute medical supplies. They also achieved the shorter response times that are available through local commercial distributors

Since more than 22 billion dollars of the total DOD inventory -- nearly 30 percent -- is comprised of consumable items such as medical supplies, these initiatives are obviously critical to achievement of continuing inventory reductions. Pilot programs are not enough, we need to proceed quickly -- but prudently -- to broadly apply the lessons learned in these pilot programs across the department.

Other initiatives have expanded the use of commercial logistics support capabilities to meet the Department's materiel requirements. We have revised DOD regulations to grant greater authority to field activities to make purchases from local commercial suppliers, via credit card, rather than through the central supply system. This added authority is increasing the ability of our activities to use the source of supply offering them the best value and remove slow buying as a motivation for "just-in-case" inventory practices. It will also contribute to our initiative to reduce infrastructure by helping to limit the role of our central supply system to those cases where it really adds value.

In the area of depot maintenance operations area, for example, our evidence indicates that industry support can substitute for much of the traditional organic capabilities within the Department and perform these functions better, quicker, and cheaper. There are significant opportunities to save tax dollars and reduce government investment in the logistics infrastructure by increasing our use of these private sector capabilities. We must also pursue widespread private sector participation in disposal and distribution to the maximum extent consistent with readiness and cost-effectiveness.

The time for testing the concept with pilot programs at the margin of our logistics infrastructure is past. The big payoffs of outsourcing and privatization are yet to be realized. To do so, we must think more broadly of privatization and outsourcing. In particular, we need to pay more careful attention to incentives for implementing privatization and outsourcing initiatives. We have sufficient incentives at the top. The incentives need to be pushed down. This occurs when organizations gain ownership by sharing the savings.

I believe we are truly moving beyond adherence to the old conventional wisdom that dictated that we own all capabilities tied to support for the warfighter. We have selectively tested the effectiveness and efficiency of outsourcing various logistics support functions and they have been successful. Our immediate challenge now is to move forward with widespread deployment of similar outsourcing privatization efforts across a broad front.

SUMMARY

In summary, you have an opportunity to lay the framework for a re-engineered logistics system. One that is better matched to the warfighting concepts of the 21st century. It will involve reducing our logistics response times; reducing our logistics footprint; and reducing logistics infrastructure.

There is no single "instant fix" that the DOD can rely on to meet our national security needs. Omar Bradley once said that "Drawing a plan is 10 percent of the job; seeing that plan through is the other 90 percent." So too with logistics re-engineering, we need to see our plans through—over the long haul. It is easy to talk about why; harder to talk about how; even harder to do—it's impossible "to do" without incentives and ownership being passed down to the stakeholders.

It means your plans will need to contain the right incentives—ones designed so organizations will have the motivation to implement your plans.

Thank you all.