DR. NICHOLAS J. AVDELLAS
PREPARED TESTIMONY
COMMITTEE ON ARMED SERVICES
SUBCOMMITTEE ON READINESS
THURSDAY, FEBRUARY 28, 2013

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Chairman Wittman, Ranking Member Bordallo, and Members of the Committee, thank you for the opportunity to provide testimony on assuring viability of the sustainment industrial base. The opinions and positions expressed by me today are my own and not those of LMI or the government.

This is an issue that is critically important for future force-projection capabilities. I sincerely appreciate the Committee's ongoing efforts to make sure that our troops are properly trained and their equipment is properly sustained so they can succeed in their missions, and that they have the facilities and services they will need when they return home.

As requested, I will address my sense of the immediate impacts of a Continuing Resolution and Sequestration on workload trends for depots and arsenals, forward-deployed logistics, new weapon system maintenance, and the Army's new Organic Industrial Base Strategy. I do not have visibility into all aspects of Department of Defense (DoD) or commercial provider activities in these areas, so some of my remarks are necessarily general in nature.

I would like to begin with a broad description of the sustainment situation that the Military Services, and particularly the ground forces, will face over the next few years, as American forces withdraw from Afghanistan and force structure adjustments occur. In addition to an ongoing troop reduction, the Services will also need to withdraw large amounts of combat and support equipment from Afghanistan. Much of this materiel has been in use in austere and often harsh environments for years, and will require refurbishment or overhaul before it can be re-issued to operating units. Our earlier research has shown that there is normally a two-year lag between withdraw of forces until their materiel is actually inducted into overhaul depots or commercial facilities for repair. This is a typical time interval, but the implication is that the depot maintenance repair sites will need to continue operating at some elevated level of effort after the troops come home if existing combat units are to recover their combat capabilities in the near term – assuming that a similar force structure is contemplated in the near-term.

The need for refurbishment of retrograde materiel implies a need for sustained funding levels at the very time we are discussing substantial resource reductions. This apparent contradiction serves as the backdrop for my testimony.

Given that backdrop, I would like to briefly address some key tenets about my sense of what assuring viability of the sustainment industrial base entails. While your subcommittee is now focusing on potentially damaging resource reductions, we must be cautious to examine these reductions in the context of readiness requirements and their related sustainment processes. There is no doubt that the DoD is faced with both

considerable and sudden resource decreases as well as longer term fiscal pressures. The looming, inflexible and "across the board" nature of these potential nearer term actions will undoubtedly cause some disruption in our sustainment industrial base. So the real issues relate to the extent of the impact, and the strategies necessary to cope with reductions while re-shaping what remains in that base to assure readiness capabilities for the future. DoD needs to define the right amount of sustainability to produce viable and responsive readiness. Ultimately, the process for doing so needs to be included in a new and forward-looking strategic planning effort that I will discuss further in these remarks.

I believe the situation must prompt Congress and the DoD to do some critical deliberating about the nature of the relationship of logistics, or sustainment, to our military strategy. Discussions about tooth or tail, readiness or sustainment, maintenance or operations, equipment or personnel must be approached from a wide-ranging, inclusive perspective. There is also a pressing need to discuss sustainment; it is expensive, accounting for as much as two thirds of weapon system life cycle costs.

The unity of sustainment and strategy must be stressed because this relationship is becoming more important, in fact it is necessary to view these two elements as critical aspects of U.S. military capability. I would propose that ***responsiveness*** is the link we must focus on and this is central to what sustainment viability means moving forward. In fact, in our system, the two (sustainment and strategy) must be mutually responsive. The sustainment industrial base is part of a larger set of activities that generates military capability, it underpins our fighting capability.

Viability of the industrial base, then, should be considered in the context of force structure and operational needs – and what workloads and capability requirements those needs drive. In general, multi-year sequestration effects will logically reduce force structure and operational capabilities, and the industrial base will react to those reductions – hopefully in a balanced way. By balance, we mean that what we must work towards is an industrial base that is efficiently structured and funded to deliver what the forces need, or require, or ask for in terms of readiness and capability. Workload reductions associated with the prospective end of overseas contingency operations, the budgetary effects of sequestration, and parallel efforts to reduce the Defense budget could have a significant combined effect on force structure itself, and the sustainment capabilities that support that force structure.

If Continuing Resolutions, budget reductions and Sequestration are focused disproportionately on one aspect of the equation – force structure, operations, an element of sustainment, or a particular part of the industrial base, imbalance will result. If we focus on the industrial base or sustainment without relation to force structure and/or operations, then readiness and capability cannot be delivered over time and deferred maintenance will result. This sort of imbalance was a contributing cause of the "hollow force" of the late 1970s.

In reality, decisions about potential hollow force issues may need to be shaped by logistics support realities, i.e., can or should logistics and sustainment affordability

influence force structure – in this case the question could become, should total life cycle costs and affordability shape the force? Is it better to have hardware that's not ready or capable or perhaps a smaller but balanced, ready capability? Or is there some alternative approach that can achieve both readiness and balanced hardware capability, albeit with lower resource expenditures?

Viability of the industrial base, then, should mean that it is responsive, capable, and efficient in the context of the future requirements for which it is established and maintained – not in reference to its past size, nature, strength or composition. Viability of our sustainment industrial base means to support a continuing state leading into the future – it is sustainment of a balanced set of force support requirements.

Overall, it appears that crafting this new balanced baseline is going to occur in an environment of continuously declining funding levels. Competition for available funding is going to increase. To the extent feasible, it will be essential to extract substantially improved productivity from a smaller and potentially shrinking sustainment base. For this reason, major management efforts must be tailored to improve productivity despite a declining workload. This is a daunting challenge; one that calls for effective strategic planning that starts with a comprehensive baseline of current capabilities. It also requires a considerable shift in thinking for a sustainment system that has not faced much in the way of declining resource levels over the past decade.

Impacts of a Continuing Resolution and Sequestration on Workload Trends for Depots and Arsenals

A Continuing Resolution and Sequestration will aggravate on-going actions that the depots and arsenals have underway to address Overseas Contingency Operations (OCO)-driven and related force structure adjustments. Overall organic workload is going to reduce after about two more years of catch-up with a concurrent reduction of overtime and non-career employees and contract workers, and a further reduction of career government hires towards a new baseline level comparable, in some respects, to 2003 levels. The actual level of costs should be somewhat higher than 2003, reflecting a decade of escalations for both labor and material.

There has already been a slight reduction in force structure, and related sustainment workload, which has been masked to some extent with modernization requirements for the remaining fleet. As this remaining fleet is modified, and the modification workload prospectively reduces, the declining workload associated with the remaining force structure will become more evident and public and private sector sustainment workloads will most likely decline again to some degree. That is, they will decline first for the return to a new baseline (less OCO) and again from programmed reductions in the peacetime workload. The potential replacement for that lost workload, defined as depot activations for new weapon system bed downs, is generally slipping to the right for most major systems, leaving a prospective "hole" in workload as we move towards the end of the decade. Both government and industry will be affected by this probable workload "hole," especially since the private sector has a substantial share of the modernization funding, which will be declining.

What is the nature of the DoD reaction going to be in the different force structure and related commodity areas? For example, will aviation see a lesser impact than, say, ground combat vehicles, especially in support of a new Pacific strategy? Given the potential for disproportionate force structure reductions, it is quite likely that depots, arsenals, and commercial providers responsible for supporting the declining portions of the force structure will also be drawn down more in relation to the overall sustainment base. It is reasonable to expect that there may be more serious issues for particular segments of the sustainment base as it accommodates these uneven force structure reductions. On the other hand, there will probably be other areas that can adjust workload mixes to maintain sustainment capabilities until the funding situation stabilizes (albeit at a new normal level) and new weapon systems are actually fielded.

Impacts of a Continuing Resolution and Sequestration on Workload Trends for Forward-Deployed Logistics

Operation Iraqi Freedom (OIF) required and benefitted from directed forward capabilities that were deployed from the sustainment maintenance establishment. It is not easy or quick to deploy a depot capability, because of the infrastructure and human resources required, and in that respect the length of OIF operations allowed establishment of longer-term capabilities. To the extent that forward deployment of sustainment capabilities offers a model for future engagements it will probably be evidenced in prepositioning of such capabilities at or near contingency locations. On the other hand, fiscal constraints will probably tend to constrain the amount of contingency infrastructure that can be built for the future.

It is interesting to note that there has been relatively less sustainment capability deployed into Afghanistan, reflecting the necessity of airlifting a great deal of day-to-day sustainment requirements at relatively higher cost; for that reason, forward deployment has not seemed to be as applicable in Afghanistan. Nevertheless, Iraq demonstrated that forward deployment can be both successfully done and beneficial, at least when related workload requirements are surging. It is a model we should consider as part of future viable sustainment and maintenance capabilities.

Impacts of a Continuing Resolution and Sequestration on New Weapon System Maintenance

New systems may not need as much maintenance as the systems they replace, especially if we achieve reliability and availability goals envisioned in system design. New systems also tend to be contract-supported while they are under development, and current trends indicate new systems may be in development status for protracted periods of time. A key example is the Marine Corps version of the Joint Strike Fighter, the F-35B, which now has a planned initial operational capability, or IOC, about fiscal year 2016. If depot maintenance capability must be established for that aircraft by IOC+4, then it will be established by fiscal year 2020 at the earliest. Since the Marine variant is the earliest planned IOC for the JSF, we can conclude that the JSF is not likely to replace other lost workload for the better part of the current decade. Further

slips in IOC may result from the funding impacts of continuing resolutions and sequestration, and could easily impact additional workload requirements.

Meanwhile, as already mentioned, planned retirements of existing force structure will inevitably change the workload requirements for the depots as older workloads decline and new technologies are introduced. To the extent the new capabilities reflect smaller force structures with higher reliability components; it is possible we will see the new requirements pushing workload trends down. In addition, to the extent that newer systems are being supported by an increasing proportion of Performance-Based Logistics (PBL) contracts, the majority of the logistics support requirement that has come back to the DoD thus far is the depot maintenance hands-on effort through partnerships. So far, we haven't seen much return of other logistics functions to the organic sustainment base, at least when compared to historical proportions that were largely organic. This is a matter under active review by Office of the Secretary of Defense (OSD) and the Military Services.

Impacts of a Continuing Resolution and Sequestration on the Army's Organic Industrial Base Strategy

The Army's recently released *Organic Industrial Base Strategy* includes some essential structure that could be applied analytically across the Military Services. It can have an impact on associated budget mechanisms by supporting holistic consideration of sustainment industrial base options and risks.

The Army's plan addresses the need to define future requirements, but only in terms of specific goals and objectives for core-supported Program Objective Memorandum (POM) funding levels. The POM focus could be extended to the end of the decade.

As outlined in the plan, new baseline workloads for certain weapon systems are projected to be as little as a third of peak OCO years; there is an implication that it could be time to single-up public sector organic sourcing (HWWMVs are a clear example). This implication requires thorough analysis and planning to make sure such workload shifts yield predictable consequences and cost-effective outcomes.

The Army's plan addresses the need for capital investment to establish repair capability for new technologies and workloads, and that investment is usually associated with the new weapon systems themselves as a part of the expense of establishing their capability. It suggests a second reason why the depots need modernization, and that relates to the existing infrastructure, worn from a decade of high-surge operations and now in need of productivity-enhancing investments that will lower the cost of their future operations.

Plans such as the Army's need to address sustained operational funding, modernization funding that can be offset through reduced cost of operations, and capital investment funding for new weapon system sustainment. The Military Services need to plan for what the related requirements will actually entail, and assess the impacts of a

lack of any category of the funding, in their long-term strategic planning. That kind of planning will give the Services better visibility into their long-term requirements, provide better justification for the funding itself, and provide a basis for exploring alternatives when funding constraints limit necessary capabilities.

Conclusions and Recommendations

Overall, the resource realities exacerbated by a Continuing Resolution and Sequestration suggest a smaller workload that must be effectively positioned within the sustainment industrial base. These realities may require innovative approaches in addition to sound strategic thinking. In that regard, I conclude that DoD and the Congress should consider moving to:

- Emphasize the need for detailed strategic planning for the future, characterizing current conditions, identifying requirements for new capabilities and modernization that extend through the decade, not just the Future Years Defense Program (FYDP). This should apply to both organic and contract providers and might include considerations for an integrated management arrangement.

- Contemplate longer-range proposals for sustainment concepts that embrace the broad programs with their many goals, agents, and stakeholders, including public and private sector actors. This kind of planning will require some resource investment and a rise in the level of visibility and comprehension for the areas in which the Services intend to improve. In this case, the Department could consider expanding on-going industrial base reviews to include greater sustainment understanding and scrutiny.

- Formulate and implement partnering approaches that could have some additional dimensions, including arrangements that leverage modernization that could be provided by the private sector. In general, we must support efforts in modernization and collaboration that achieve the best possible result from taxpayer investment, which should include both sectors. We must seek truly co-operative networks that increase responsiveness through flexibility.

- Review and potentially revise Centers of Industrial and Technical Excellence (CITE) designations in the midst of the draw-down. DoD may need to apply CITEs in a more structured manner to improve future depot capability.

- Apply the core capability determination process as a foundation for a new and powerful risk management process. Use the Army's plan as a baseline model to drive constructive public and private sector behavior and workload management. Devise more constructive OSD and Military Service relationships in this context and provide some degree of strategic

oversight.

- Consider experimental development of dual-use facilities that can economically support commercial workloads under public-private partnerships while also being able to quickly be converted to support contingency-driven requirements.

I recommend that DoD, industry and the Military Services establish strategic planning capabilities that can address the challenges of maintaining responsive sustainment capabilities in the face of declining resources, including the application of experiments or prototype arrangements that could substantially contribute to the objective.

That concludes my testimony, I would be pleased to respond to any questions you may have.