RECAPITALIZATION AND ARMY TRANSFORMATION: THE ROLE OF DEPOTS, ARSENALS, AND THE NATIONAL MAINTENANCE PROGRAM

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Introduction

In the past, the Army's maintenance depots, arsenals, and its multi-echelon maintenance structure were legacies of World Wars, the Cold War, and extended police actions. The arsenals were set up to do heavy manufacturing of things peculiar to the military and sized to do continuous production of these things in quantities that could support a large Army in a drawn-out war. Depots, similarly, were there for a continuous rotation of worn ground vehicles, aircraft, artillery, missiles, and electronic equipment going in and churning out new equipment after extensive overhaul and repair. Efficiency came from constant work—and that constancy came from a large, heavy Army engaged in extended conflicts much of the time from World War II through Vietnam.

Thirty years have brought a new environment of short-duration contingency operations that are much less damaging to the Army's equipment. And modernization and transformation of the Army brings lighter, more reliable equipment, which in turn requires less maintenance and less of the "heavy-iron" manufacturing that our arsenals do best. And yet these short-notice, short-duration conflicts bring new challenges to our ability to support and sustain. The need for restoration of damaged and worn equipment remains, but at a reduced level. Readiness, and the ability to surge production of specific items, put new emphasis on modern, responsive industrial facilities under the immediate control of the Army. We are already seeing influences that will force a transformation of depots and arsenals. Our job now is to complete the transformation of these facilities to ones that efficiently produce the equipment and components that keep the Army ready for war, can quickly increase production of any item or component that is needed to meet a contingency, and can just as quickly repair the damage and wear of a war to be ready for the next one. If we had not begun this transformation, and had left the depots and arsenals as they were, they would be only historically interesting relics rather than the relevant facilities they will be for the future Army.

Army Transformation

The Army continues to change itself to a more balanced force that is lighter, more responsive, and modern. This force will rely much more on control of the battlefield through electronics than on just the brute force of a 70-ton tank. The transformation will take place in phases and include new units—complete with modernized equipment—being fielded one by one until the Objective Force Army emerges. This is a decades-long process and involves supporting two Armies, the "legacy" and the modernized Armies.

As the Army reorganizes itself by forming new units and transforming old ones, there will be three distinct areas where the government-owned maintenance and manufacturing base will be involved. First, new and modernized equipment will be produced and fielded. Expertise at the government facilities allows their involvement with new manufacturing processes, or, even more so, with the modification and upgrade of existing equipment to a new configuration. Second, there are legacy systems that will remain in the inventory for some time, in some cases even becoming part of the Objective Force. Selected systems will be recapitalized—essentially returned to an as-new condition with newer technology inserted where the opportunity allows (such as using the latest microprocessors or the newest version of an aircraft engine that still fits the old configuration). Finally, while we are modernizing and creating the Objective Force Army, we and our allies continue to operate older systems that must be maintained in a ready-to-fight condition.

Maintenance And Manufacturing

While supporting Army transformation, depots and arsenals each have bedrock missions that are their reasons for existing. For depots, it is the restoration of Army equipment and major components to like-new condition. Arsenals exist to manufacture items that are entirely unique to the military. These missions are also the only reasons for the Army owning and operating the facilities themselves; we keep them to be absolutely assured of their capabilities in times of emergency. Other work performed in depots

and arsenals is done to ensure economical operation of the facilities or to substitute for core work that is not always available in peacetime. Work beyond core is still important; however, if not for the core mission and the military necessity of keeping it in-house, it likely would be economical to divest of the property and competitively contract for maintenance and manufacturing work as needed. The basic mission will be performed for legacy, recapitalized, and new or modernized systems during and after Army transformation.

Beyond or combined with their basic missions, arsenals, depots, and national maintenance sites that perform some depot-level component overhaul contribute to Army transformation. One large contribution that depots will make over the years is recapitalization of selected equipment. Recapitalization is a complete overhaul of a system, making it as near "zero-time, zero-miles" as is economically feasible. Depots are big players in this effort, and because most of what they do in recapitalization is identical work to their basic missions, they are major contributors to maintaining their core capabilities and to making them economically viable. Both depots and national maintenance sites repair components to a national maintenance standard in companion to recapitalization. Repaired components (engines, transmissions, rotor blades, electronic components, etc.) are available in the supply system to replace worn or damaged components. The depots and national maintenance sites repair all of these to the same standard—all worn parts replaced and the component restored to a known useful life. This effort is essential to successful recapitalization. Without the availability of completely restored components, the first component replacement in the field begins the "decapitalization" process.

Arsenals play a much smaller role in recapitalization. Watervliet and Rock Island Arsenals will likely get some restoration or replacement work on the gun tube and hard-metal parts of combat vehicles and artillery, but not a substantial amount because these items don't commonly wear out. Pine Bluff Arsenal, with its unique dual mission in specialty munitions and chemical protective equipment, will be involved to the degree their equipment is embedded in systems currently selected for recapitalization, or if the equipment itself is ever selected.

The modernization component of Army transformation—new systems and major upgrades to existing systems—is the part that is in some ways most difficult to involve Army-owned industrial facilities. Yet this may be the best place to ensure the economic viability and modernization of depots and arsenals themselves. By involving Army facilities, even in a small way while a new or improved weapon system is being produced, we gain expertise that will be invaluable in the long-term sustainment of the system. This is particularly valuable for maintenance depots. In depots, we have often used both the private sector and the depot to achieve major upgrades. Since most upgrades involve a combination of overhaul of the basic equipment and manufacturing and installation of new components, it makes sense to use depots for much of the overhaul and the private sector for new manufacturing. Arsenals can also be involved if the upgrade involves manufactured items within their core capabilities. For completely new systems, it is still valuable to involve both depots and arsenals wherever they can be used to establish their related core capabilities early in the system's life.

Conclusion

If we are to maintain the viability of the Army-owned maintenance and manufacturing base, preserve the core capability essential to the national defense, and continue to support Army transformation objectives, then depots and arsenals must transform in a particular way. First and foremost, all maintenance and manufacturing processes must become as lean and flexible as possible. Flexibility has always been a strength of in-house industrial capability, but lean processes will contribute to higher productivity and affordability. Second, we will continue to operate as partners, not competitors, with the private sector.

Public-private partnerships have emerged as the best way to smooth the transition from the production of a new or improved weapon system to its long-term sustainment, as well as an innovative way to modernize our facilities. Long ago we proved the value of partnerships in overhaul and upgrade—witness the Paladin and Abrams programs. The next step, beginning with the Stryker Program, is to partner in manufacturing. This has benefits on both sides of the partnership, perhaps even more than in overhaul and upgrade. The private-sector partner can set up manufacturing at the government site, avoiding the need to obtain a facility elsewhere. The depot gets some work during the manufacture, lease income from the facility, and eventually has the use of an upgraded facility for future maintenance. As we extend the partnering concept to more maintenance facilities and arsenals, these benefits will accrue, lowering the cost and increasing the efficiency. We can complete the transformation by establishing national maintenance standards for components overhauled by depots and other Army sites, ensuring that a steady supply of overhaul, recapitalization, and upgrade projects are performed by our depots and their private-sector partners.

In a nutshell, transformation will give us lean, flexible production in partnership with the private sector, and provide a seamless transition from design to manufacturing to lifetime sustainment.

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