

ASB White Paper: Unit Managed Acquisition (13 Mar05)

1. The GWOT has thrust upon the Army the responsibility to adapt its accustomed ways of doing business to unprecedented circumstances. In the summer of 2002 the ASB recommended a number of changes designed to render the Army not only more effective, but also more resource-efficient. Among other measures, the ASB advised replacing personnel policies that occasioned myriad annual moves of individuals, substituting for these **“Unit Managed Readiness.”** The ASB has not always been right, but in this case it had advanced an idea thoroughly compatible with the current force generation plan.

2. This year, the Army G-8 has asked the ASB to reprise its 2002 study. Among other economies and efficiencies **the Board will consider a proposal from one of its panels that the Army adopt “Unit Managed Acquisition” keyed to force generation.** Army acquisition polices and practices are arcane, slow, and inept for using advances in technology, particularly technology related to C4ISR, to foil wily terrorists seeking to punish us for our ponderous and predictable ways of operating in a theater of war ---e.g., the IEDs that account for better than half of American loss of life and limb. The bad news is that so far the terrorists have stayed ahead of the Army; the good news is that Unit Managed Readiness and the force generation cycles provide stable, cohesive units capable of capitalizing on transformational technologies provided the latter are inserted into a BCT sufficiently far enough in advance of deployment for the unit to devise effective TTPs.

4. One good news story is **Command Post of the Future.** CPOF, a DARPA program, had emerged from its initial trials, but the Army announced that it had neither a requirement for such a system, nor money to develop it further. However, the system came to the attention of the CG of the 1st Cavalry Division, then preparing for an assignment in OIF, and at his request the G-3, Hq, DA, funded the fielding of enough CPOF equipment for the headquarters of the division and its brigades in time for practice with at Fort Hood. A DARPA-funded team of technicians and SMEs overwatched the initial trials there, and changed software and hardware from day to day to customize the system for its users. When the division left for Iraq, that team went with them, and the process of ameliorative change continued. By all accounts, that innovation was a major step forward in Army command and control, obviating assembling for briefings, and building SA extensive in time as well as place.

5. Next fall the 4th Infantry Division will deploy from Fort Hood to Iraq. It will also receive CPOF, but in its case, secure tactical internet will be extended to its battalions, and its soldiers will be equipped with newly acquired individual PDAs both to improve their SA, and to convey in real time their observations to commanders. DARPA has launched an extensive program [**POSSE. Persistent Operational Surface Surveillance and Engagement**] to upgrade the ISR of 4ID, and is coordinating trials of new sensors and platforms that will take place at the NTC when the BCTs of 4ID conduct their capstone pre-deployment exercises there this summer. DARPA’s CPOF team will extend its purview to encompass the division’s entire C4ISR structure, and will catalyze infusion of selected C4ISR much as they did with CPOF in the 1st Cavalry Division.

6. The ASB panel supports POSSE as a sensible paradigm for an adaptive and learning Army. **Acquisition ought to have a battle rhythm** timed to each BCT's deployment schedule so that the troops can master what is new before they enter theater. There are numerous stories of expensive failures occasioned by delivering newly acquired equipment overseas amid combat stress; now matter how well designed the materiel, the commanders who must fit it into their plans, and the troops who must man it, will ultimately determine its effectiveness. The acquisition process seems to have forgotten the importance of the man-machine interface, and the criticality of CONOPS.

7. **Technology is moving faster than the Acquisition Corps.** The Acquisition Corps too often relies on elaborate Operational Requirement Documents (ORD) that take years to produce, and defends vigorously Programs of Record long after the circumstances that prompted their inception have changed. Many a concept that might have helped the Army in meeting the threat in Iraq has been rejected by this system.

Example: ER/MP. Four years ago the Army initiated a requirement for an Extended Range Multipurpose UAV. After cancellation of Comanche the Acquisition Corps went after ER/MP with renewed vigor, and is now conducting a "fly-off" competition between two designs, one from Northrup Grumman, and one from General Atomics, to ascertain which of the two best meets the requirement. But the requirement postulates a platform less capable than that of the Predator B now in production for the USAF, a UAV that CSAF intends to acquire in significantly large numbers -- certainly in greater numbers than the Army can afford. The ASB points out that the requirement document did not anticipate either the capabilities of the sensors planned for integration into Predator B, or the potential of these for a direct role in BCT IED-defeat operations in Iraq. **The Army could forego the further development of ER/MP, and strike a deal with USAF for Predator support as a form of CAS, substituting that joint interdependence for a costly, time-consuming development program with a major personnel and training implications.**

Example: LONG GUN. The Navy has in limited production a long range, long endurance cruise missile called AWS (Affordable Missile System), capable of loitering over a battlefield for a day or more, and delivering up to 200 lbs. of precision munitions. DARPA has funded a longer-endurance version of AWS called LONG GUN, but TRADOC has stoutly maintained that the Army has no requirement for either cruise missile. The ASB study panel points to the smaller, lighter, mobile gun vehicles being purchased per the Stryker and FCS ORDs, notes that a sizeable portion of stowed ammo has been transferred to trucks, and opines that **a stack of loitering missiles linked to each mobile gun platform might suffice for long range engagements, conserving the sparse stowed load for close-in, and decreasing the vulnerability of ammo trains of soft vehicles on a non-contiguous battlefield.** Again, joint interdependence seems indicated.

Example: RAILCAR [Robotic Augmentation Initiative for Logistic Convoys — Accelerated Response] is another DARPA initiative. Between 1996 and 2003,

Daimler-Chrysler led a \$15M program in Europe for electronic tow-bars that produced 3-truck platoons at 8 meters spacing, follower trucks networked via IR/radar coupling, and steering and braking in the followers cued by the crew of two in the lead vehicle. DARPA would spend \$10M over three years if the Army would put up \$6.4M; in return, **the Army would be able to reduce the numbers of soldiers at hazard from IED.** The cognizant Army PEO held that there was no validated requirement for such a system.

Example: JPADS. The Joint Precision Airdrop System has demonstrated ability to drop 15 ton containers with a CEP less than 100 meters, but the program is proceeding very slowly. **JAPDS could relieve the urgency of conducting over-the-highway resupply, and further reduce vulnerability to IED.** The Army, which has the most to gain from dependable air LOCs, both short term and long term, has not pursued these aggressively, reserving air delivery for small items of high priority.

Example: XOS. More than four years ago, DARPA initiated a program to build a man-wearable machine, a powered exoskeleton. The Army joined with DARPA in its S&T exploration for the future infantryman. Over subsequent years, the most difficult technical challenges have been solved, and in April there will be a demonstration of a functional prototype, a lower-extremity XOS, to be followed next December with a full-body prototype. Tests to date have led to reasonable expectation that even these will enable a soldier to lift or carry more than a hundred pounds virtually effortlessly. However, the cognizant PEO holds that the Army requires an integrated armored and armed XOS of long endurance and extensive MTBF, and he and DARPA have ruled out any version dependent on power from an outside source. Hence, any fielding will be delayed until all development to meet these strictures is finished, circa 2009. The ASB panel points out that there are needs for human strength augmentation in circumstances other than close combat (such as carrying stretchers, reloading of tanks or mobile gun systems, stacking and moving boxed goods, or performing heavy maintenance tasks). These “requirements” could be met much earlier. **Even an XOS tethered to its power supply could have potential for increasing unit performance with fewer soldiers.** Again, however, there is no “validated requirement” for an externally powered XOS, so ruled out is a logical, evolutionary — spiral — development of a product in the hands of troops. As the ASB panel sees it, there ought to be at least three spirals of XOS to bring it bear expeditiously:

Spiral	XOS Capability	Estimated IOC
1	Strength augmentation only; externally powered	2006
2	Above, w/on-XOS fuel/power for limited endurance (~1 hr)	2007
3	Above, plus weapon(s) and armor, 48 to 72 hours autonomy	2009