Army Afloat Prepositioning Maintenance Operation

by Capt Stephen P. Richardson

Expanding operations at Blount Island into a joint-Service maintenance facility makes more sense than having the Army build its own facility from scratch.

Background

The maintenance operation is the most critical element of afloat prepositioning programs. Prepositioned (prepo) equipment and supplies must be maintained in a high state of readiness to give the personnel "falling in" on the equipment the best chance of accomplishing the mission. The maintenance operation includes a maintenance cycle where all equipment and supplies are downloaded and reworked, and a shipboard maintenance program where equipment receives preventive maintenance while underway.

During the maintenance cycle, principal end items (e.g., tanks, howitzers, trucks, radios, etc.) receive operational checks and annual inspections. Corrective and preventive maintenance is performed as required. All required modifications and special instructions are applied. Containers are unpacked, repaired, and recertified. Supplies are screened for serviceability and replaced as needed. Shelf-life items (e.g., ammunition, batteries, medical supplies, petroleum, oil, and lubricants, etc.) are tested and extended or replaced. Obsolete equipment and supplies are disposed of and new prepo requirements are obtained.

Discussion

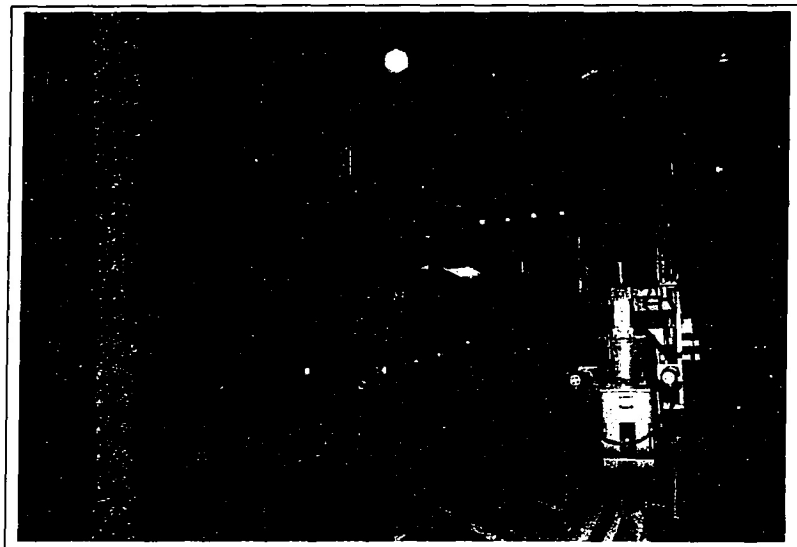
A congressionally mandated mobility requirement study (MRS) has recommended that the United States Army increase its afloat prepositioned program. The Army's pre-MRS program encompassed only four ships, three Lighter Aboard Ships (LASH) primarily loaded with ammunition, and one Float-on/Float-off (FLO/FLO) ship loaded with watercraft and materiel handling gear. The MRS recommendation will expand the Army's existing program by 13 ships, or 2 million square feet of storage. The increase will preposition a heavy brigade, 120-tank force, with associated theater logistics.

The Army does not possess a facility capable of performing all of the maintenance operation activities. The Army's existing prepo maintenance facility at Naval Weapons Station (NWS) Concord, CA, handles only ammunition rotation for the LASH and breakbulk ships. The Department of Defense (DoD) called for an independent study to, in part, recommend a maintenance site for the Army's expanded afloat prepo program. Site selection criteria included start-up and operating costs, explosive arc restrictions, existing port infrastructure, transportation network, waterway navigation restrictions, and environmental impact. The study, conducted by the Logistics Management Institute (LMI), recommended NWS Charleston, SC, as the maintenance site. LMI, a U.S. Army contractor, further recommended a joint maintenance program with the Marine Corps relocating its prepo maintenance operation from Blount Island, Jacksonville, FL, to Charleston. LMI identified operating cost as the principal determining factor in both of their recommendations.

LMI's recommendation for NWS Charleston as the site for the Army's afloat prepo maintenance program raises numerous concerns from both a cost and capabilities perspective. The study reports the Charleston start-up projects would require a capital investment of $42.6 million (since release of the study the estimate has continued to escalate, it's currently at $64 million). The projects include building renovations, pier improvements, dredging of the waterway basin, construction of concrete pad staging areas, and construction of a private road and bridge. The Army has planned to commence its maintenance cycle at Charleston in April of 1996. Even conceding the validity of the cost estimates, and assuming all funding will be provided, sufficient time is not available to complete these projects. The private road project alone is not scheduled to break ground until fiscal year 1997.

The LMI study's operating cost breakdown for Charleston is at best extremely optimistic. The Charleston site is collocated with the NWS. Stevedores receive premium rates (approximately 40 percent higher than standard) when they work within an explosive arc. Whenever a combatant ship is in port the stevedores will receive the premium rate regardless of what they are loading/offloading from the prepo ship. The alternative is to only load/offload ammo at the weapons-station pier and move the ship to the Military Traffic Management Command (MTMC) pier, which is outside the arc, for general load/offload. The extra ship moves are going to cost money (i.e., pilot, tug boats, ship crew, etc.), driving up operation costs. Valuable maintenance-cycle time will be lost to extended download/backload periods. Additionally, the MTMC pier is a greater distance from the maintenance site than the NWS pier. Transportation costs and transit time for the movement of equipment and supplies between the two locations will be higher. Track vehicles will require movement by commercial rail due to roadway restrictions.

The transportation network at the Charleston site is inadequate. Currently, transporting equipment from pier side to maintenance site requires the use of a public road. Operating oversized equipment with limited visibility on public roads is a grave concern from a safety standpoint. A great potential exists for accidents involving civilian vehicles. Insurance costs will be excessive for contractor



Blount Island operations continue around the clock.

operators (U.S. Government covers only DoD employees). The alternative is to build a private road from the pier to the maintenance site. The project will have to include construction of a bridge to cross the existing public road. As previously discussed, the project will not be completed in time to support the initial maintenance cycles.

Overall, the LMI study contains many inconsistencies and leaps of logic concerning the cost and capabilities analysis of the Charleston site. A new study needs to be conducted, but only after the Army develops a formal concept of operations for the entire maintenance cycle. A definitive scope of maintenance and supply operations needs to be identified in order to determine realistic operating costs and facility workforce requirements. Specifically, the Army needs to decide if their maintenance operation is going to emphasize on-site repair (turn-around) or replacement of principal end items. This basic decision will have a major impact on the size and scope of the maintenance operation and related supply support requirements. Turn-around operations require a larger mechanic workforce. Maintenance facilities must be outfitted with the necessary machines and tools to support up to 4th echelon capabilities. The supply-support effort will increase in number and type of repair parts managed and warehousing required.

Solution

The Marine Corps' MPF maintenance operation is capable of expanding to manage the Army's afloat prepositioning maintenance program. A joint-Service, prepositioned-equipment maintenance facility could be established at Blount Island. Blount Island Command estimates new construction to support the joint-Service facility at $18 million ($24 million savings compared to the Charleston site). New construction would consist of a 300,000-square foot warehouse (container operations), a 20,000-square foot warehouse (mobile-loading/ancillary equipment association process), a 20,000-square foot hazardous material storage building, a 26-acre concrete pad (equipment staging), and a 20-acre limerock hardstand pad (container staging). All new construction could be completed by the April 1996 maintenance-cycle deadline.

Operating costs at Blount Island would be considerably less than at Charleston. Blount Island offers an autonomous exclusive-use contiguous facility: Stevedores receive premium pay only when actually working ammunition; the ships are completely downloaded and backloaded at the same berth; the maintenance and supply facilities are within a quarter mile of the pier; the site has exclusive-use road and rail networks. Additionally, Marine Corps Logistics Base, Albany, GA, which provided 4th and 5th echelon maintenance support, is less than 200 miles away.

The advantages of a joint-Service facility at Blount Island transcend the start-up and operating costs savings. As important as cost is the quality of the product produced. The Marine Corps has been successfully conducting a prepo maintenance program at Blount Island since 1987. The maintenance operation is on-going with an experienced in-place contractor and government workforce. The contractor is established with a fully comprehensive operations plan. The maintenance division has motor transport, engineer, ordnance, and communication shops, which perform intermediate maintenance for prepo and organic equipment. Materiel management branch has a fully automated Sassy Management Unit (SMU) with a general account, which manages over 20,000 line items. An integrated shipboard maintenance program is supported as a deployed unit by the SMU. The bottom line is priceless experience in many specialized areas. MPF's track record for DESERT SHIELD/STORM, RESTORE HOPE, and numerous natural disaster relief missions is a direct reflection of the quality maintenance operation at Blount Island.

The Army needs a maintenance operation to support its afloat prepo program, which is already underway. The Charleston site has many drawbacks from both a cost and capabilities perspective. The facility requires major construction that cannot be completed in time to meet the 1996 maintenance-cycle deadline. The operation plan is undefined and the would-be workforce, untrained and inexperienced. These obstacles will be extremely difficult to overcome. The prepoed equipment and supplies, from a readiness posture, will be at best suspect. The Marine Corps experienced the same problem with the growing pains of the MPF program in the eighties. The difference now is DoD has a successful resident prepo program to draw from, and it should be used. Blount Island is on-line, managing a maintenance operation for over 7 years. The operation requires minimal new construction to support the Army's program. The greatest advantage is a guaranteed high-quality product, the result of a time-tested operation with a trained, experienced work force.

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