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... limited support, rapid deployment forces
... strategy ...

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**REVITALIZING OUR GUARD DIVISIONS:
A BARGAIN BY ANY STANDARD**

An Individual Study Project
Intended for Publication

by

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Increasingly responsible missions are being assigned to Reserve Component (RC) units, while future budget constraints will create pressure for additional mission transfers. A growing share of Army combat power is vested in the RC, particularly the Army National Guard. Yet the 10 National Guard divisions possess neither the structure nor the modern equipment necessary to totally fulfill their intended battlefield roles. The Army's hodgepodge of forces, AC and RC, uses seven different division structures, yet lacks a clear focus. Since the nation cannot afford to modernize the Army National Guard divisions using the current heavy division model, an affordable alternative, based upon the requirements of likely battlefield utilization, is needed. Bringing the force to bear upon the battlefield is yet another dimension of this problem, for the Army possesses more forces than can be provided timely strategic lift. The ability to provide an initial combat load and sustain these forces in a theater of commitment for a reasonable period is also questioned. This paper analyzes these problems and offers solutions, recommending the restructuring of Guard divisions into incremental packages, or GUARDIVs. It is recommended that modernization of these divisions be viewed from a Joint perspective, so that not just equipment modernization, but also the strategic sealift and logistical sustainment issues, are addressed. It is maintained that six national Guard infantry divisions could be reequipped, six thirty-day sustainment packages purchased, and a fleet of 12 fast sealift ships built within the FY 90-94 POM period for a sum considerably less than that now earmarked for Reserve Component modernization.

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As the cost of maintaining standing forces continues to escalate, the vitality of our Reserve Components (RC) and their ability to perform increasingly responsible missions becomes ever more critical. A growing share of Army combat power is vested in the RC, particularly the Army National Guard. Future budget constraints will undoubtedly create pressure for further mission transfers to the Guard and Reserve. How relevant, then, is our National Guard to the realities of these missions? Is the Guard structured and equipped to fulfill its mandated federal mission within the Total Force? Unfortunately, the answer is a resounding "No"!

Within the National Guard, the Army maintains 10 full divisions, 16 separate brigades, 4 divisional roundout brigades, 2 armored cavalry regiments, 2 special forces groups, and 105 field artillery battalions of various types -- fully 43% of the Army's total combat power.¹ Although the Guard is principally a combat force (70%), it also maintains a sizable slice of combat support and combat service support forces. This equates to slightly over 20% of the Army's support structure assigned to the National Guard.² Superficially, this certainly appears formidable. Furthermore, most of these units are habitually maintained at close to full strength, ranging in the 90-100% bracket. Levels of training are generally high, in some cases superb. So what's wrong?

The problem is actually three tiered, touching the critical issues of strategic mobility, sustainability, and combat power.

Forces which cannot be brought to bear when and where needed -- synchronized on the battlefield -- are of but academic value. What practical use are ten Guard divisions, then, if we do not possess the strategic mobility to transport them to the warfighting CINCs in time to influence the outcome of

fast-paced modern warfare?

One problem leads to another. Even if deliverable in-theater, of what purpose are major combat units when the logistics system cannot provide even an initial basic load of ammunition, POL, or spare parts -- nor sustain them for subsequent combat operations?

On the third tier, although a great deal of force modernization equipment has been fielded in recent years, the tremendous costs involved have precluded across-the-board modernization. Most National Guard units (and even some Active forces) are woefully under-gunned in terms of the combat power required to successfully carry out wartime missions, or even interoperate with their force modernized colleagues.

This is not really a Guard problem at all, but one manifested throughout the Army, an Army which seems to engage in an endless quest for the Holy Grail of ultimate division structure. The Army now fields seven distinctly different types of divisions: Armor, Mechanized, Motorized, Infantry, Airborne, Airassault, and Light Infantry. Several of these, most notably the "heavy" divisions (armor and mechanized), along with the specialized airborne and airassault divisions, were clearly designed against specific mission requirements. Others, such as the Light Infantry and Motorized divisions, seem to have been organized in an almost trial balloon manner. Yet others -- namely the Guard straight Infantry divisions -- are a virtual specter of times long past: slow moving, lightly armed forces whose structure and equipment no longer relate to mission reality. The Army's hodgepodge of forces, both Active and Reserve Components (AC & RC), lacks a clear focus -- the focus which must be generated within a joint arena, where the essentials of wartime mission, required combat power, strategic mobility, and theater sustainability are balanced and priori-

tized within the Total Force.

This surely is no inditement of National Guard forces. Quite the contrary. The capabilities, professionalism, cohesiveness, and esprit of most Guard units exceed any reasonable expectations. Where Guard unit readiness suffers, it is more often attributable to equipment shortages, than to training or personnel readiness factors. To make matters worse, our long overdue efforts to force modernize the Active Army have but widened the capabilities gap and highlighted the shortfalls of RC structure, equipment, and interoperability. Although a few RC units -- most notably Roundouts -- possess state-of-the-art equipment, the preponderance of units still rely upon Active Army hand-me-downs and are forced to operate at a level which is technologically one, or even two generations behind their AC counterparts.

Equipment shortfalls are further amplified by the Army's insistence upon a single set of design standards across the entire force spectrum. Quality, technology, and capabilities are the hallmarks of American design requirements. We opt for the very best possible. On the surface, this seems logical. Unfortunately, our nation possesses neither the wealth nor the industrial capacity to totally meet this requirement within the lifecycle of many combat systems. This results in Guard units fielding the hand-me-downs, such as thirty year old howitzers and ancient helicopter gunships, which simply do not provide the required degree of combat power. Fight outnumbered and win?.... Most Guard divisions could not even survive, let alone win, in a face-to-face encounter with Soviet first echelon forces.

There are, I feel, solid alternatives to this situation. It is indeed possible to structure, deploy, and sustain Guard combat forces to successfully carry out their wartime missions, while providing our warfighting CINCs with additional combat power so desperately needed in the early days of any future

war. It is well within our capabilities, I maintain, to redesign the Guard in an affordable manner to provide at least three additional divisions, perhaps an entire Corps, to SACEUR within the first fifteen days of conflict, while simultaneously and independently meeting our "ten divisions in ten days" commitment to NATO. The operational implications of this much additional combat power early-on are enormous.

There are, of course, a whole host of constraints and conditions which bear upon the redesign of Guard divisions. The end product force must address the realities of mission, equipment, size, cost, transportability, and sustainability. If our nation possessed the ability to build and transport additional heavy forces, the redesign process would be simple. Obviously, that is not the case. The United States cannot afford significant additional POMCUS equipment; we currently lack dedicated shipping for timely sealift of additional heavy forces; the budget certainly will not support force modernization of the Guard using our current heavy division model; we have insufficient airlift capability, and our in-theater war reserve stockpiles are not even adequate for the existing forward-deployed force. Any practical recommendations, then, must certainly recognize these realities. The whole process is futile if we cannot build an affordable force-modernized National Guard capable of nose-to-nose combat with the Warsaw Pact. The first hurdle to be crossed in achieving relevancy is that of force structure.

FORCE STRUCTURE

Assuming it is desirable to retain the two armor and two mechanized divisions which currently exist within ARNG structure (perhaps for later follow-on reinforcement of Europe or for other worldwide contingencies), there are still six remaining divisions. Five are straight "Infantry" divisions

(26th, 28th, 38th, 42d, & 47th), while the sixth (the 29th) is a "Light Infantry" division. Since it seems evident that the nation cannot afford to modernize these units according to the current heavy force model, and that neither "Infantry" nor "Light Infantry" divisions possess the mobility, throw weight or staying power required to successfully slug it out in high intensity combat with the Soviets, some other alternative is required. If the Guard structure is to become viable, a new type division -- designed and tailored against the principal wartime mission -- must be created to replace the "Light Infantry", "Infantry" and "Motorized" divisions. This new type division must be designed to perform most of the functions of "Armor" or "Mechanized" divisions as well, certainly in terms of direct fire and mounted combat, and could conceivably replace all types of divisions within the Guard structure. The advantages to a single type Guard division are obvious and enticing. For ease of reference, the term "Redesigned Guard Division" -- or "GUARDIV" -- will be used.

At a minimum, GUARDIV must meet these design requirements:

- First and foremost: Firepower. GUARDIV must be designed to kill Russian tanks, infantry and aircraft in Europe. Yet flexible enough for worldwide use.
- Reduced bulk -- volume, not weight, is the issue. GUARDIV is not a light force.
- Reduced manpower (a ceiling of 9-10,000, in comparison with current Guard Inf Div's 16,556).³
- Low cost/off-the-shelf equipment from American manufacturers. Little or no R&D or tool-up costs.
- Self-contained overland mobility.
- A fighting force -- CS/CSS pushed to Corps where possible.
- Fully interoperable with AC divisions in terms of C³I, armament, fire control, ammunition and PDL. As much PLL compatibility as possible.
- Fully C-130/141/17 transportable.
- Configured and equipped to perform non-federal missions in support of civil authority.

- Non-competitive with AC in terms of TPFDL air space.

Obviously, if these criteria are to be met, some capabilities inherent in AC heavy divisions will fall out or suffer. Among these are:

- Armor protection and hardened vehicles.
- Shock action.
- Vehicular NBC systems.
- Sophistication in direct support artillery.
- Air defense capability (beyond Stinger).

Instead, design must focus on combat essentials -- a no frills force with few add-ons. A low cost, "saleable in Congress" alternative to the heavy force-modernized division.

In a departure from the current Army model, which generally uses the maneuver battalion as the basic building block of the division, BUARDIV would utilize the self-contained brigade. Each Brigade would consist of three Combined Arms Battalions -- neither armor nor infantry, but instead a lightly armored, highly mobile force with the required firepower to successfully engage tanks, other armored vehicles, infantry, and aircraft.

It is envisioned that BUARDIV units would be organized on the Combined Arms model down to and including platoon-level; in other words, battlefield cross-attachment to achieve combined arms capabilities would not be required. Units would be structured, equipped, and trained as Combined Arms elements down to the lowest practical level. This is particularly significant for Reserve Component units, which must recognize the realities of geography when training. It is not always possible or practical to combine units, often located in different communities, for combined arms training. Were units

organized initially as combined arms elements, training would be greatly facilitated. Likewise, recruitment might prove somewhat easier, in that a wider variety of specialties would be available in each location.

Although the specific structure of such units would need detailed review prior to implementation, a platoon mix of two rifle squads and two tank-equivalents, with a platoon command element -- a total of five vehicles -- is assumed here. Three platoons constitute a company; three companies a battalion.

In addition to three maneuver battalions, each Brigade would possess a dedicated DS Field Artillery Battalion, an organic Engineer Combat Company, a light but potent ground Reconnaissance (cavalry) Troop, and a Forward Support Battalion. Normally, three maneuver Brigades would constitute a BUARDIV, but the incremental nature of brigade structure would allow for use of four, or even five brigades where required.

BUARDIV would also possess an organic Aviation Brigade structured with two Attack Helicopter (Cobra) Battalions.

Other divisional elements would be as austere as possible. Division Support Command would be pared down to an HHC & MMC, Medical Clearing Company, Aviation Maintenance Company, and a Main Support Battalion.

Division Artillery would consist of an HHB, a single MLRS Battery, the DS 155-towed battalions supporting the maneuver brigades, and a Target Acquisition Battery.

Division base would include the Division HHC, a divisional Cavalry Squadron, a single Engineer Combat Company (in addition to the organic company of each brigade), a CEWI Battalion, a Signal Battalion, a Chemical Company, an

ADA Battalion equipped with pedestal-mounted Stingers, and a HMMWV-mounted MP Company.

In all, no more than 9-10,000 soldiers. The 6,000 or so personnel left over once we had reorganized our existing 16,000-man Guard Infantry Divisions would be organized into Corps-level support and service support units.

Stirring the pot even more vigorously, there is a powerful argument which must be made for inclusion of dedicated close air support within a force tailored to kill Soviet tanks. The A-10 is scheduled to be phased out of the active inventory by the end of Fiscal Year 1992,⁴ being replaced most probably by two different aircraft: the A-16 in the active Air Force and the YA-7F (a highly modified A-7D)⁵ in the Air National Guard. Both are intended to be fully interoperable in the close air support and battlefield air interdiction (CAS/BAI) roles. Since the A-10, initially (followed in a few years by the YA-7F), will be unique to the Air National Guard, the dedication of these assets to specific GUARDIVs, or perhaps to a GUARDIV-heavy Corps, would tremendously enhance the ground component's battlefield punch and anti-armor capabilities, while providing an outstanding vehicle for peacetime joint service training. The Wing Commander, acting as a blue-suited Air Component Commander of the Division Task Force, would integrate a critical dimension of the Air Land Battle and serve as an invaluable channel to other theater tactical air assets. Of the Air Force's 37 tactical fighter wings, 11 are organized within the Air National Guard.⁶ Of these, seven wings share a common home state with potential GUARDIVs, while another three wings and divisions are stationed in adjacent states.⁷ Since both Air and Army National Guard units share a common commander and chain of command in peacetime, CAPSTONE aligning one of these tactical fighter wings with each GUARDIV would prove both practical and devastatingly effective. The habitual dedication of a specific wing of

A-10s/YA-7Fs to each GUARDIV within the context of a joint task force is a notion with tremendous appeal to ground commanders and one with significant potential impact upon future air/land battle application.

EQUIPMENT

The watchwords are LOW COST and OFF-THE-SHELF: There are many viable alternatives to the current array of combat vehicles and systems found within force modernized divisions ...alternatives which our nation can afford within the foreseeable future. Naturally, a vehicle with the same capabilities as the M1 tank or M2 Bradley would cost fully as much. But all the capabilities of those systems, though desirable to be sure, are not absolutely essential. What is obligatory is a system offering reasonable survivability and the capability to kill Soviet tanks, APCs, aircraft, and infantry on the high-tech European battlefield, both by day and especially at night.

Modern high-tech, armored wheeled-vehicles offer an attractive and economical alternative to their more traditional tracked counterparts. There are numerous systems currently available which appear to possess the desired attributes, including a combination of products from four principal American manufacturers: FMC Corporation, Teledyne Continental Motors, General Motors, and Cadillac Gage/Textron.⁸ Of these, information was most readily available on Cadillac Gage products.

Although there may well be other equally worthy systems, the Cadillac Gage V-600 Armored Car (Figure 1) appears to be an outstanding option. With Cadillac's 105mm Low Recoil Force Turret firing the Army's improved 105mm ammunition, it will defeat any known Soviet armored vehicle.⁹ Three V-600s can be purchased for the cost of a single M1 tank.¹⁰

The Cadillac Gage V-300 APC (Figure 2) is an interesting alternative to the IFV and will carry an infantry squad, while allowing combat on the move; it can be equipped with FMC's TBAT-II turret, which is exactly the same turret mounted on the M2/3.¹¹ At least two, perhaps three, of these vehicles could be purchased for the cost of one Bradley.¹² To even further reduce costs, a hefty percentage of APCs could be replaced with TOW-2 equipped V-150s, a smaller and less costly version of the V-300, at a substantial saving.

Together, the V-600 and V-300 with TBAT-II turret offer an outstanding combination of kinetic and shaped charge anti-tank capabilities, supplemented by the impressive firepower and light armor penetration qualities of the 25mm chaingun.

Other affordable options include: The awesome MLRS system, which can be mounted on the US M813A1 or the German MAN truck chassis at a substantially lower cost than the current US tracked version.¹³ Hand-held Stingers carried in HMMWVs or V150s offer a fair degree of air defense capability.

Of course, none of these systems is as good as the force-modernization equipment for which substituted. Yet, all of these wheeled systems are fast, reasonably survivable, currently in production by American manufacturers, and, most importantly, are AFFORDABLE -- little or no R&D costs or tool-up time required.

Figure 3 compares the cost of modernizing National Guard divisions using three different models: the current Armor and Mechanized models, and the proposed GUARDIV structure. GUARDIV is, to be sure, a leaner force, with but nine maneuver battalions and less combat support/combat service support. For the sake of simplicity, only the cost of the primary combat vehicle systems of the maneuver forces has been included; it is these vehicles, after all, which

represent the principle cost of modernization. With the exception of MLRS, an improved direct support 155mm howitzer, such as the M119, and up-graded communications, the remainder of GUARDIV's required equipment is already on hand in most of the existing divisions. Although much of this represents substituted older items in need of eventual modernization (rolling stock and engineer equipment, for example), most is substantially combat capable. The costs associated with modernization of these items are common to all division models, including the current one, and therefore have not been included in Figure 3 comparisons.

V-600

Figure 1

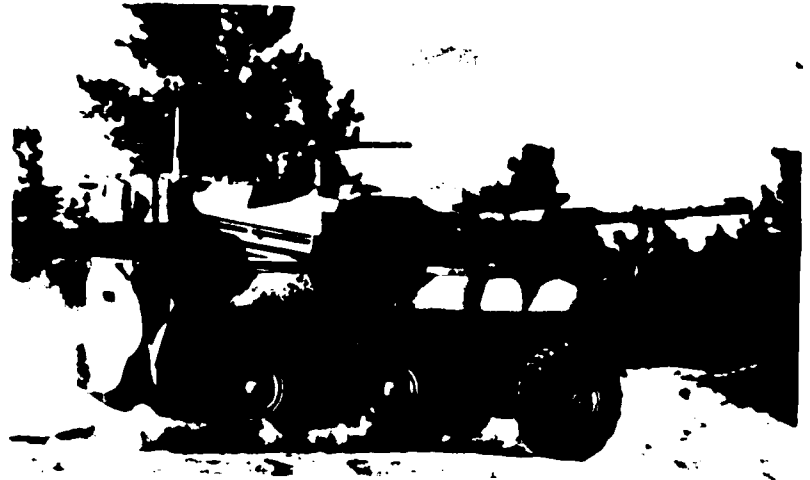
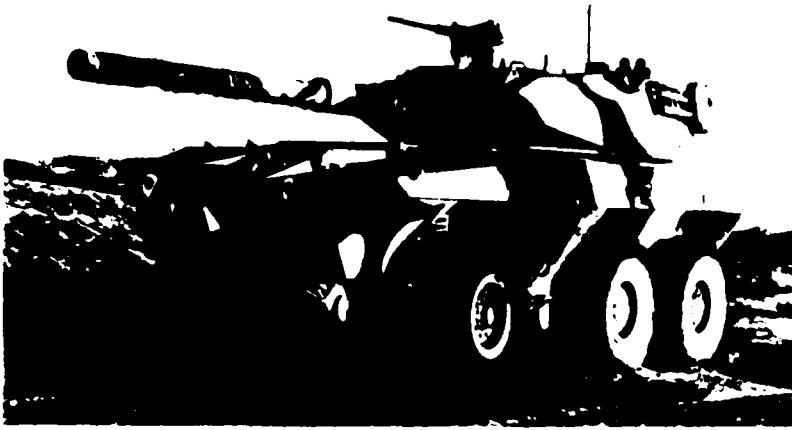
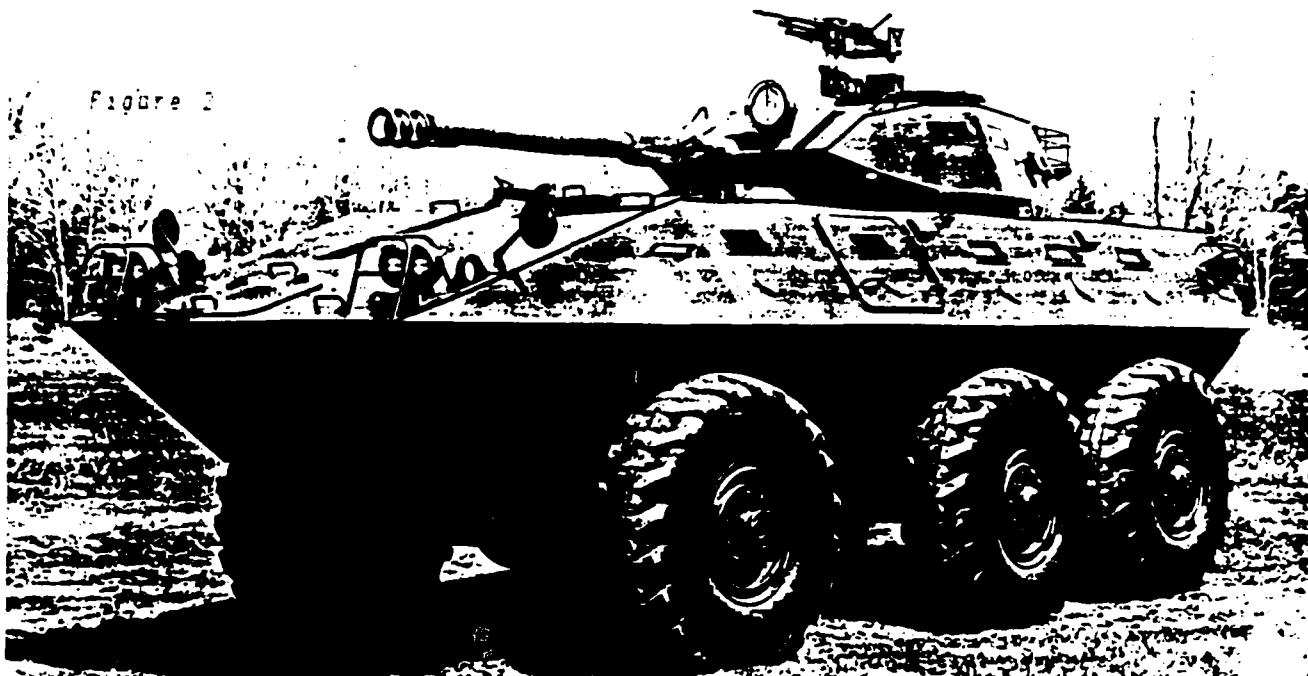


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Cadillac Gage V-300 Commando fitted with two-man turret armed with Cockerill 90 mm Mk III gun, 7.62 mm coaxial machine gun and 7.62 mm anti-aircraft machine gun



Cadillac Gage V-300 Commando fitted with Cadillac Gage one-metre turret armed with 20 mm Oerlikon cannon and 7.62 mm coaxial machine gun

FIGURE 3 COST COMPARISON

MECH DIVISION A. STRUCTURE & EQUIPMENT

BATTALIONS	M1 MBTs EA BN/TOTAL	BFV/CFV EA BN/TOTAL
5 TK BNS	58/290	6/ 30
5 MECH BNS		54/270
1 CAV SQDN		41/ 41
TOTALS	290	341

B. COSTS

M1 MBT = \$2.518 M @ X 290 = \$730.22 M
 BFV = \$1.196 M @ X 341 = \$407.84 M COST OF DIVISION = \$1138.06 M

ARMORED DIVISION A. STRUCTURE & EQUIPMENT

BATTALIONS	M1 MBTs EA BN/TOTAL	BFV/CFV EA BN/TOTAL
6 TK BNS	58/348	6/ 36
4 MECH BNS		54/216
1 CAV SQDN		41/ 41
TOTALS	348	293

B. COSTS

M1 MBT = \$2.518 M @ X 348 = \$876.26 M
 BFV = \$1.196 M @ X 293 = \$350.69 M COST OF DIVISION = \$1226.69 M

GUARDIV

A. STRUCTURE & EQUIPMENT

BATTALIONS	V600 EA BN/TOTAL	V300 EA BN/TOTAL
9 CMDD ARMS BNS	18/162	41/369
1 CAV SQDN	12/ 12	23/ 23
TOTALS	174	392

B. COSTS

V600 = \$.998 M @ X 174 = \$173.65 M
 V300 = \$.595 M @ X 392 = \$225.40 M COST OF DIVISION = \$399.05 M

SUMMARY

TYPE DIVISION COMBAT VEHICLES

COST

MECHANIZED	631	\$1.138 BILLION
ARMORED	641	\$1.226 BILLION
GUARDIV	566	\$0.399 BILLION

NOTES:

- Number of combat vehicles includes force-modernization equipment only (M1/BFV & V300/V600). Other combat and tactical vehicles are common in the three types of divisions, though fielded in GUARDIV at slightly lesser quantities.
- The following vehicles, it should be noted, also have V300/V150 equivalents, which in most cases can be purchased at significantly lower prices.

CURRENT

V300/150 EQUIVALENT

M113	150 OR V300 APC
M125	V300 MORTAR CARRIER
IMPRVD TOW	V300 TOW CARRIER
M577	V300 COMMAND VEH
M578	V300 RECOVERY VEH
M548	V300 LOGISTICS VEH

- Costs of the V-600 and V-300 are estimates only, provided by Cadillac Gage based upon a production run of 100 of each type vehicle per year. M1/2/3 costs are based upon multiple year production runs of approximately 600 of each per year. It is assumed V-600/300 costs could be substantially lower than those quoted, were yearly "buys" and production runs more in keeping with the M1/2/3 pattern.

Based upon these estimates, the cost of modernizing each GUARDIV is approximately one third that of the heavy divisions. Put another way, all six of the existing National Guard Infantry Divisions could be modernized on the GUARDIV pattern for the same money it would cost to make any two of them modern Mechanized Divisions. Viewed in yet another manner, the funding already projected for RC equipment modernization in the Army POM, FY 90-94, exceeds \$5.5 billion, while the cost of equipping six GUARDIVs amounts to but \$2.4 billion.¹⁴

Another key issue of equipment-packaging is interoperability. Low-cost alternatives must be as interoperable as possible with existing US equipment and, to the maximum extent possible, with the equipment of likely NATO battle-field partners. 105mm tank ammunition, for example, remains a NATO and US standard, with existing stockpiles more than sufficient for GUARDIV training and war reserve requirements, as the active Army transitions to the new 120mm round. 105mm tank ammunition will remain a NATO standard well into the next century. Fire-control and other armament must also be fully interoperable with the equipment found in US heavy forces. The alternatives mentioned here all meet these requirements.

STRATEGIC MOBILITY

Assuming, then, that a capable, affordable force can be designed and equipped, the next critical hurdle is that of strategic mobility. It is senseless for the Army to design forces without the Joint assurance of strategic mobility. Though GUARDIV should be designed to be fully transportable in C130/141/17 aircraft, the availability of timely, strategic airlift does not appear to be a likely option. GUARDIV is envisioned, then, essentially as a sealifted force.

The Navy has only recently begun to give this critical function the emphasis it deserves, having historically relied upon a now moribund American Merchant Marine for both sealift and sustainment vessels. At the peak of World War II, for example, there were over 3,500 privately owned American merchant ships manned by 168,070 merchant seamen.¹⁵ Since then the trend has been remorselessly downward. Increasing competition from foreign carriers and stiff regulation of the domestic maritime industry have priced the American merchant fleet off the seas. Since 1970 alone, 14 major US shipping companies have gone out of business.¹⁶ Assets have steadily dwindled in the post-war period, so

that by the end of 1987 there were but 366 remaining active US-flag merchant ships, employing a total of 10,829 merchant seamen.¹⁷

In the meantime, requirements for strategic sealift have increased, as the number of worldwide contingencies, relative size and bulk of ground forces, and the percentage of the force home stationed within CONUS have all burgeoned. Of the Army's 28 divisions, for instance, less than six are forward deployed in peacetime.¹⁸ The equipment of another six(-) divisions is maintained in forward POMCUS stocks¹⁹, with the troops of those units earmarked for rapid air deployment. That leaves 16 full divisions to deploy by sea and/or follow-on air. As General David M. Shoup, a former commandant of the Marine Corps, once remarked, "We have more fight than you can ferry."²⁰

Reacting to this situation, the Navy has in recent years attempted to compensate for the loss of merchant sealift by expanding the size of Military Sealift Command's active and reduced-operating-status (ROS) fleet, while building up the Ready Reserve Force. Twenty-nine privately-owned dry cargo ships have been permanently leased by Military Sealift Command. Another 13 new "Afloat Preposition Force" ships have been built and dedicated to transport and sustainment of Marine expeditionary forces. 86 older ships of various types have been purchased and placed in the Ready Reserve Fleet. These vessels are maintained in 5, 10, or 20 day readiness status, available for reactivation and manning at designated shipyard and repair facilities. Significant additional time would be required for recruitment of merchant seamen crews.²¹

The real muscle of Military Sealift Command lies in its eight Fast Logistics Ships, LS-7 (TAKR).²² These modern, roll-on/roll-off ships are uniquely well-suited for rapid force projection. Built in Europe for Sealand Corporation in the 1970's, they are both huge (965 feet) and extremely fast (30-plus knots). Maintained at various East and Gulf Coast ports in Reduced-Operating-Status, it takes approximately 96-hours from alert for these semi-active ships to achieve full operating status, hire-on merchant crews and steam from home toward designated loading ports. Together, the 8 TAKRs can transport the equipment of one armor or mechanized division in a single lift. GUARDIV, with far less bulk than a conventional heavy division, must be designed to be transportable in no more than four TAKRs.

It is only these imposing LS-7s which provide the Army with a substantive rapid sealift capability. Everything else we own is either too slow or too old (often both), or already committed to the Marine Corps. With 16 divi-

sions remaining to deploy, but sufficient TAKRs for but a single division, it is obvious we need more of these outstanding vessels. Sufficient TAKRs to deploy two GUARDIVs simultaneously, or another eight L8-7s, would be required to materially impact on US commitments to NATO.

It is difficult to estimate costs associated with building another eight TAKRs. The American ship-building industry is generally in dire distress, and nothing like these ships has ever been produced in an American shipyard. The last commercial ship built in this country, the "Sea Land Anchorage", was delivered in 1987 at a cost of approximately \$67 million. This 20,965-ton, 710-foot container ship is capable of 20 knots. On the other hand, the American President Line's "President Eisenhower", a 55,000-ton, 23-knot container ship, was built last year in Japan for only \$29 million.²³ TAKRs are both larger and faster than either of these new ships. Assuming a roughly median price of \$38 million between the "Sea Land Anchorage" and the "President Eisenhower", then doubling it to account for domestic production and size/power differentials, a planning price of \$76 million each for eight new TAKRs is probably a fair estimate. Based upon that estimate, a fleet of these magnificent ships sufficient to lift two GUARDIVs simultaneously could be purchased for approximately \$600 million -- or less than the price of a single B-2 bomber.

Personnel transport is another issue. Fast Logistics Ships are designed to move equipment only. If GUARDIV is to be viable, fast sealift of personnel must also be accommodated as an adjunct to CRAF shortfalls which accelerated deployment of GUARDIVs might generate. There are today but two United States flag commercial passenger liners capable of meaningful military support operations. Both of these are ancient (1930s vintage) and rather slow ships, now operating in the tourist trade in Hawaiian waters. By the year 2000, it is estimated that there will be no operational US flag passenger ships.²⁴ One very attractive and cost-effective solution rests with the S.S. "United States", released several years ago by the federal government for private sale as excess to wartime contingency requirements. This ship, built in 1952 for fast trans-Atlantic service, is the last of its kind. Capable of moving and sustaining the personnel of two entire GUARDIVs in one lift at speeds exceeding 40 knots, the ship was, at last report, again laid up by its private-sector owner as too expensive for commercial operation. This marvelous vessel should be acquired by Military Sealift Command, outfitted for troopship utilization and placed in reduced-operating-status, like the TAKRs. The availabili-

ty of additional fast ships for conversion to troop carriers should be explored. Moth-balled World War II light cruisers, for instance, are of little or no value to the Navy as modern combat vessels, but are extremely fast and could well be converted to efficient troop carriers at costs far less than new construction.

There is another dimension to fast sealift which must be considered. TAKRs are crewed principally by merchant seamen, supplemented by a few Navy personnel as permanent party. Each TAKR has a crew of 42 seamen and officers. The American merchant marine is no longer capable of mustering the workforce associated with military mobilization. It is estimated that 34,600 merchant seamen would be needed to meet a general war requirement today.²⁵ With but 10,829 seamen available, there is an tremendous shortfall. Adding new TAKRs, or other military sealift assets, to the fleet will only compound this critical problem. Obviously, some other method of manning must be considered. A fleet of eight new TAKRs would require 336 personnel of various skills and grades. Since these TAKRs would exist primarily to support rapid deployment of Reserve Component assets, crewing them with Naval Reservists seems a logical option. A small Active Navy cadre force would also be required for each vessel. The "United States", were it to prove available and practical for passenger sealift, would also require crewing. In active passenger service, the ship carried a crew of approximately 450. Since much of this was dedicated to the luxury aspects of operations, a somewhat smaller crew could be anticipated for military purposes. Use of a Reserve/Active Navy workforce package would again seem thoroughly practical. Former Secretary of the Navy, John F. Lehman, Jr., makes this very point in his recent book, Command of the Seas, where he advocates an increase in the size and missions of the Navy Reserve.²⁶

Very appropriate training of these Reservists would take place as the ships were utilized for peacetime reinforcement and deployment exercises, such as REFORBER. Since it is unlikely the entire TAKR fleet would be employed in any single peacetime exercise, crews could be doubled (perhaps tripled) up for training cruises. For a total expansion of the Naval Reserve, then, of less than 750 personnel, a fleet of fast materiel and passenger ships sufficient to lift two GUARDIVs and their personnel could be manned.

Strategic mobility of Army forces is also closely related to home-stationing. GUARDIV units should be stationed along the East and Gulf Coasts, no more than one day's road march from the designated ports of embarkation. It is important to design GUARDIV's equipment package in such a manner that the

division is totally self-transportable and that all end items can be convoyed over public highways. Critical deployment time, both in loading and transit, is lost if rail shipment must be undertaken in CONUS. Whether coincidental or not, all six of the current ARNG Infantry Divisions and both Armor Divisions are now stationed within a day's road march of an East or Gulf Coast port. Only the two Guard Mechanized Divisions are home-stationed outside that region -- and these might well be considered for a similar force package arrangement in support of Pacific contingencies. As an aside beyond the scope of this study, the sixteen Guard separate brigades not committed to the ROUNDOUT program should also be reorganized as Separate (Incremental) Brigades for eventual attachment in-theater to a GUARDIV. It would then prove remarkably easy to tailor a given GUARDIV for the mission at hand simply by attaching additional Incremental Brigades, all of which would come with completely compatible equipment packages. GUARDIVs committed to forward defensive missions, for instance, could well be habitually employed with four, or even five, Incremental Brigades to dramatically increase effective firepower.

SUSTAINABILITY

Deployment of any CONUS-based force to Europe without an initial logistical upload and sustainment package would be folly, as currently the gaining theater lacks this capability. Although the Navy now has no logistics ships earmarked for Army use, it does maintain a fleet of 12 relatively new "Prepositioned Supply Ships" in the Indian Ocean, Pacific, and Mediterranean for the Marine Corps.²⁷ Even though four different type ships are used for USMC support, a single type -- the container ship class designated TAK -- would meet Army needs. Two TAKs could carry a complete 30-day logistics package of Class I, II, IV, V, VIII and IX for GUARDIV. Tanker TAKs would be required only if deployment were to other than the European theater. Obviously, there is a pressing need for more TAKs within our semi-active fleet. The "President Eisenhower, previously mentioned, was built last year for \$29 Million and is illustrative of the type ships needed.

A partial alternative to new construction might lie in purchase and reactivation of the N.S. "Savannah", a nuclear powered freighter, now laid up in Charleston, S.C. and no longer profitable for commercial operation. Such a ship might well prove an ideal break-bulk TAK for military fast sealift purposes. This vessel, too, should be obtained and added to the semi-active reserve fleet.

Basic loads and 30-day logistics packages for division-sized forces cannot materialize overnight. Ideally, these war reserve stocks should be assembled and pre-positioned at the ports of embarkation in division sets. Specific GUARDIVs should be assigned in peacetime to specific ships as part of a total force deployment plan. Since sealift of all available AC and GUARDIV forces would require each ship to make multiple round trips, the logistics packages of the first two divisions should be permanently uploaded on the TAK ships, in much the same manner as the USMC maintains its Marine Amphibious Brigade (MEB) packages. Logistics packages for the follow-on GUARDIVs should be warehoused at the port in the immediate vicinity of loading docks and included within Forces Command's CONUS Key Assets Protection Plan. TAKs should be routinely rotated through operational reinforcement exercises, such as REFORGER, to train the deploying forces and to rotate logistics packages. Existing uploaded packages would be used, then replaced by a warehoused package, which would in turn be replaced by procurement of a new package.

It is indeed difficult to estimate the cost of a GUARDIV 30-day sustainment package. Drawing upon USMC experience, though, a 30-day package, less bulk POL, perishable items and dependent upon the actual weapons mix, might be expected to cost somewhere in the neighborhood of \$100 million per GUARDIV.

EMPLOYMENT

Many fascinating options for employment of GUARDIV forces exist. It is not unreasonable to envision some GUARDIVs maintaining a state of readiness high enough to justify deployment after but one week of post-mobilization training. In such a case, the mobilization and European deployment cycle would look something like this:

- 2 days for alert, assembly and movement to mobilization station.
- 7 days for training at mobilization station.
 - Meanwhile, Naval Reservists activate and position fast sealift vessels.
- 2 days for load-out.
- 1 day for movement to the port.
- 1 day for vessel loading.
- 4 days at sea (wartime flank speed).
- 1 day for vessel unloading, combat vehicle fueling & uploading.
- 1 day for onward movement and TOA.

TOTAL = M+18 days for first two GUARDIVs to arrive in theater.

Two more divisions available 18 days later (turn-around time);
two more in another 18 days.

M+28 days for 4 GUARDIVs (or 3 GUARDIVs and a corps slice).

M+38 days for 6 GUARDIVs to TOA to SACEUR.

Assuming that US C-Day preceded NATO D-Day by ten days and that M=C,
SACEUR could have two additional divisions available at D+8, four by D+18,
and six by D+28.

Other interesting permutations are possible. Should the GUARDIV model prove practical for Army-wide application, perhaps to replace non-POMCUS, CONUS-based forces, AC/RC mixed divisions could be formed by the Roundout or RoundUp process. In such scenarios it is conceivable that post-mobilization training time could be further reduced or eliminated. The Israeli Defense Forces, for example, certainly do not conduct post-mobilization training of their Reservists. Within our own forces, a few selected Reserve Component units, principally smaller logistical or command and control organizations, are slated for direct deployment from home station to theater of commitment. It is not unreasonable to look toward expansion of such a model. Assuming that two GUARDIVs could be sustained in peacetime at this level of training, with another two GUARDIVs requiring but a week of post-mobilization training, the first two deploying GUARDIVs could be on the ground at D-Day, with another two divisions chopped at D+11!

A six division GUARDIV force could well be staggered in terms of pre-mobilization readiness to coincide with availability of strategic sealift.

2 GUARDIVs: Roundout or Roundup. Zero post-mob training.

2 GUARDIVs: One week post-mob training required.

2 GUARDIVs: Three weeks post-mob training required.

Employment of GUARDIVs in theater also offers many interesting possibilities. III Corps, having deployed by air and drawn POMCUS as scheduled, could - with the addition of three GUARDIVs - assume its mission with a six division force. Or, even more interesting, perhaps a multi-national Dutch/US or Belgian/US corps could be established in NORTHAG using GUARDIVs and a US (RC) mini-Corps slice. Still more enticing, perhaps GUARDIVs might be used in US Vth or VIIth Corps sectors to relieve mechanized or armor divisions for constitution of an early-on AFCENT heavy counterattack force. Regardless of the actual scheme of employment, many of the pressing issues facing both SACEUR and NATO CINCENT could be mitigated through early-on availability of well-

equipped, well-trained US GUARDIVs.

CONCLUSION

The balance of conventional forces in Europe is such that Soviet aggression today would leave SACEUR with the equally unpalatable choices of accepting defeat or resorting to nuclear weapons in as little as seven days.²⁸ At the same time, American political and budgetary realities preclude sizable increases in Active Army force structure during the foreseeable future.

Yet, we need not accept this as a hopeless situation. Our nation is possessed of another ten full divisions within the Army National Guard which, for a relatively modest investment, could be rapidly modernized within a given five-year POM cycle to generate tremendous additional military might. Costs of such a proposition can be summarized:

GUARDIV COSTS:

Equipping the force:	6 Divs at \$399 M @ = \$2.39 B
Strategic Lift:	8 TAKRs at \$76 M @ = \$0.61 B
Sustainment ships:	4 TAKs at \$30 M @ = \$0.12 B
Sustainment packages:	6 30-day div packages at \$100 M @ = \$0.60 B
TOTAL = \$3.72 Billion	

Considering that the FY 90-94 POM projects \$5.5 Billion for Army RC modernization alone, a price of \$3.72 Billion to equip, lift, and sustain a six division force for 30-days of combat begins to take on a very reasonable appearance.

The yawning gap which now exists between Guard mission requirements and force capabilities will grow ever wider unless decisive action is soon taken within the joint service arena to modernize our Army National Guard combat forces and systematically plan their structure, mobility, and sustainability. Neither the Guard alone, nor even the Army, can accomplish those objectives. Rather a Total Force decision of both joint and service staffs is required.

Our choices are simple. Each year of inaction only moves these forces further from combat effectiveness and closer to useless obsolescence. There is still time to act. A relatively modest joint service budgetary commitment over the next decade could give us an additional six, eight, or even ten, combat capable, sustainable divisions and a true strategic sealift capacity at bargain basement prices. It's simply a bargain by any standard.

ENDNOTES

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(2) U.S., Department of the Army, National Guard Bureau, NGB-ARO-F, "Footnote to Table 1," Information Paper, 17 February 1987 (Washington, D.C.: n.p., 1987), 1.

(3) U.S., Department of the Army, National Guard Bureau, NGB-ARO-F, Reserve Component Troop Basis of the Army (Washington, D.C.: n.p., 1988), 11-51. Example used is 28th Infantry Division.

(4) Robert Salvy, "Updating Older Combat Aircraft," International Defense Review, 21, no. 10 (December 1988): 15-17.

(5) Salvy, 15-17.

(6) National Guard Almanac, 1988, ed. LTC Sol Gordon (Washington, D.C.: Uniformed Services Almanac, Inc., 1988), 21-23.

(7) National Guard Almanac, 1988, 77.

(8) Jane's Military Review, ed. Ian V. Hogg (London: Jane's, 1988), 55-56.

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(10) Thomas S. Jambriska, Regional Marketing Manager for Combat Vehicle Operations, Cadillac Gage-Textron, Inc, correspondence with author, March 1988. Price of the V600 vehicle is quoted at \$998,000 each, subject to specific options and design requirements, and based upon a production run of approximately 100 per year.

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119) U.S., Department of Defense, Joint Chiefs of Staff, Military Posture FY 1989. (Washington: GPO, 1988), 73.

120) Isaac D. Kidd, Jr., "Maritime Logistics," The Almanac of Seapower 1988. (Arlington, VA: Navy League of the United States, 1988), 67.

121) Crowe, 29.

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123) Figures pertaining to both the "Sea Land Anchorage" and the "President Eisenhower" are drawn from Peter J. Finnerty's article, "Merchant Marine: Recent Legislative Proposals, the Outlook for the Merchant Marine is Bright," The Almanac of Seapower 1988, 81-82.

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125) Report of the Presidential Commission on Merchant Marine and Defense, 20.

126) John F. Lehman, Jr., Command of the Seas, (New York: Scribners, 1988), as quoted in "Army Times", 30 Jan 89, 39.

127) Thomas, 186.

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