



RESEARCH AND
ENGINEERING

THE UNDER SECRETARY OF DEFENSE
WASHINGTON, D.C. 20304

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MEMORANDUM FOR THE SECRETARY OF DEFENSE

SUBJECT: Improvement of Power Projection Capabilities -- Interim Report approach.

INTRODUCTION

In your memorandum of 10 November 1979 you asked that I take the lead in exploring "options for arming light, highly mobile US forces of the type that may be needed for rapid insertion into crisis areas" and provide you with "an interim report by the first of the year." This memorandum summarizes the findings of the effort to date, outlines the key elements of program and management initiatives we should consider undertaking soon and describes the plan for completion of the study effort by end of March.

So far, the work has been done by my staff with a great deal of assistance and cooperation from the JCS/J-3 Contingency Review Group additionally drawing upon PA&E Non-NATO Contingency studies, Andy Marshall's Power Projection Balance study, USDR&E sponsored study efforts on Light Division Modernization, and several studies done in the past few years on Crisis Control/Management including reviews of Unconventional Warfare Capabilities (e.g., Service Special Forces, Covert Forces and "Quick Strike" units).

We intend to provide by the end of March a much more comprehensive study of the options available. In this study we will have had service and JCS participation and will also have the recommendations of an independent study group of senior retired military officers with analytical support by IDA.

This interim report is submitted in the following sections:

- I FINDINGS TO DATE
- II GENERAL CONSIDERATIONS
- III PROGRAMMATIC/MANAGEMENT INITIATIVES
- IV PLAN FOR COMPLETION OF THE EFFORT

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Authority: EO 13526

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Date: OCT 04 2017

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I. FINDINGS TO DATE

1. We do clearly have a problem

For the better part of the last decade NATO has been the principal focus for non-nuclear defense programs. In recent history, our capabilities to deal with potential non-NATO crises and contingencies at all levels from small covert or clandestine teams to division or larger overt forces have never had an emphasis in our OSD guidance to the services, in the interests or concentrations of the services, in our budget allocation of resources, in our planning of realistic scenarios using contemporary opposing forces. Therefore it is not surprising that the present situation of inadequacy exists.

2. We are not working the problem very hard

The FY 81 budget reflects important and significant new acquisition initiatives which will provide increased capability, particularly in strategic mobility. However, the Research, Development and Acquisition (RD&A) and analysis communities are yet virtually dormant in their response to this new emphasis on rapidly deployable capability. There are a number of procedural actions which we need to take to bring the RD&A bureaucracy around to working on the problem.

3. We need a better understanding of what we need

So far the operational community has not laid down for RD&A any actionable goals (nor has R&D insisted we have any) on what kind of capability, in what amounts we need where, with what kind of basing capability and how these needs change with time. Because there are few operational details in the contingency plans it is difficult to develop material requirements and priorities. Somehow we need a sense of where to put the emphasis based on some acceptable set of scenarios.

4. We lack the organizational ability to deal with contingency force RD&A since major issues center on how services cooperate closely together and our bureaucracy isn't designed for that situation.

Even OUSDR&E is organized by platform (air, sea, land) not by type of warfare (Central Europe, Middle East, etc.) Services RD&A elements are organized around combat missions, not how to join together to fight successfully a war. The JCS works primarily on how to make do in war with what is now available not specifying what should be developed in the future. OSD PA&E seems to deal more with present needs than future.

A great deal of our problems derives from no one really considering contingency force design as their obligation. This lack of interest in contingencies is communicated down to system/commodity commands and laboratories which have still the belief that the focus is primarily if not exclusively on Central Europe.

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5. Notwithstanding there is much that can be done quickly if the management clearly says that is what it wants.

The following pages relate to things which can be done, some quickly, some not so quickly. The most important thing is to make the RD&A community know that the deployable capability is a prime interest which will be allocated prime funding.

II. GENERAL CONSIDERATIONS

- Strategic Mobility of Deployable Forces: Though the major mobility enhancement decisions have been made and funds included in the FY 81 budget there remain pressing needs such as materials handling equipment especially for Sealift but also airlift. Of particular concern is the question of how much capability is needed for unloading ships over the shore in addition to unloading at large and modern friendly ports.
- Tactical Mobility of Deployable Forces: In some contingencies airlift terminals and seaports can be far from conflict areas. Though light airborne forces are highly mobile strategically and air mobile forces tactically mobile, currently structured ground forces with sufficient armored combat vehicle capability lack both in the mid-East and Persian Gulf region.
- Anti-Armor Capability: Neither our air nor ground quickly deployable forces (lead elements) have sufficient anti-armor capability. Four to five potential adversaries in the third world have (without considering Soviet reinforcements) of the order of 2,000 tanks, some of which are modern (T-72's).
- C³I: Currently our rapidly deployable forces can be supported with long-haul and tactical communications system, however, there are a number of deficiencies that must be eliminated. To obtain an enhanced power projection capability as represented by the Rapid Deployment Joint Task Force (RDJTF), near-term actions must be taken in RD&A.

Although a wide variety of C³ systems are in the inventory or under procurement, the availability and hence the employment of these systems is spread thin. For example, the limited inventory of secure voice and highly transportable satellite communications terminals are in a near constant state of use in support of relatively small contingency efforts. C³ systems may also be required to achieve interoperability with our allies. Thus, such assets are needed in significantly increased quantities to support the projected RDJTF capabilities.

While the C³ systems requirements will be refined with the implementation of the RDJTF and exercises in war game scenarios, there is much that can be done now in both procurement and development toward achieving the full capability of the RDJTF.

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- Support Items: There are serious shortfalls and deficiencies in such areas as desert camouflage items (e.g., uniforms) and water supply (well drilling, water purification and distribution) and medical inoculation resources.
- Special and Covert Force Capability: Here we draw a distinction between elite "quick reaction" units, such as the two Army Ranger Battalions (located in two infantry divisions) and the Army, Navy and Air Force special forces and the CIA Operational Support Group (OSG).

The first order problem with special and covert forces is the erosion of size, strength and capabilities over the past decade brought about by legislation and policy changes. Since 1968 Army Special Forces strength has decreased from 30,000 to less than 5,000 spaces; the Air Force has dropped from 3 wings (400 aircraft) to 1 wing (38 aircraft);

There has been an attendant drop in paramilitary equipment stocks (foreign and U.S.) and decreased emphasis and attention to modernization of specialized equipment for these units. As far as the people are concerned it appears that this capability could be rapidly enhanced by paramilitary reserves and reassignment of special forces trained officers in other jobs. While the utility of such forces would depend largely on legal/policy constraints, it appears that concerted efforts to modernize this element would provide new and important crisis-control opportunities.

III. PROGRAMMATIC/MANAGEMENT INITIATIVES

- Armored Combat Vehicles: Deployable forces from battalion to division size urgently need an armored combat vehicle with high strategic and tactical mobility, and effective in engagements against main battle tanks including the T-72. The options are: accelerate the US development (The Armored Combat Vehicle Technology Program originated at DARPA and now managed by the Army); product-improvement of the M551 Sheridan vehicle (1,500 now being taken out of the Army force structure except for one battalion in the 82nd Airborne Division); procure foreign vehicles now in production in the UK, France, Canada, Sweden and Switzerland. The choice should be made only after experimental evaluation of the options to assess performance, effectiveness and supportability with employment concepts and tactics appropriate for the contingency situations of interest. The range of options include both wheeled and tracked vehicles with armament ranging from medium caliber (60-75mm) automatic cannon to 105mm main tank guns and anti-tank guided missiles (e.g., TOW). Multipurpose (anti-tank and anti-air) armament for ACV's would provide very significant enhancement to the early deployable units. Several alternative gun and missile concepts available in the near future will be evaluated.

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Close Air Support: In most contingencies, rapidly deployable carrier and land-based air forces are deficient in capability to stop massed armor attacks early enough in the conflict. Anti-armor mines as well as highly effective air-to-ground missiles and/or guns (e.g., 30mm gun pod) are needed. There definitely is a role for the new GATOR mine delivered by both USN and AF tactical fighter and possibly by B-52D's. GATOR is currently scheduled for initial deliveries in 1984, but could, with additional FY 80 and 81 funds, be accelerated by two years and made available for Air Force as well as Navy/Marine Corps aircraft in the deployable forces.

The EO Maverick is presently in the force and out of production. Post production testing indicates the system is not as effective as expected in Europe. It should be much more effective in the more favorable contingency environments and the present stockpile may be adequate for RDF needs. Laser Maverick is another choice to be evaluated. This system is ready for production, but the program was terminated in the FY 80 budget. Laser Maverick may be essential for those contingencies where IFF is a problem that can be solved by ground laser designators. *7-1
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Multiple mission air capability is a particularly great need for deployable forces to provide force flexibility and economy where the number of aircraft will be limited. We plan to look at providing some of the F-15's with air-to-ground weapons. Without multipurpose F-15's it is likely that the F-4 would have to be deployed first but would not provide the interceptor capability that might be needed in some contingencies.

- **Air Defense:** It appears that emphasis should be placed on the option of early deployment of land-based interceptors for the greater presence and credibility of the deployment even though carrier-based interceptors are effective. Conceptually an F-15 quick-reaction squadron with highly mobile ground-based radars for surveillance and control appears to offer significant opportunity to augment an F-15/AWACS package, and will be evaluated.

Near-term improvements to the mobility or effectiveness of ground-based air defense are possible and will be explored. For example, it appears possible to significantly increase the strategic mobility of the HAWK system by modifying the engagement radar so that the acquisition radar can be eliminated. Capability of the CHAPPARAL system can be greatly improved by the addition of a FLIR for night-time and low visibility operations. Also the VULCAN air defense gun can be dramatically improved by a low-cost product improvement to its fire-control system. Clearly the new STINGER MANPADS, now in production should be acquired early for the deployable forces since it will very greatly improve the light-weight infantry air defense firepower and lethality.

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- A new consideration of an old idea, namely the YF-12 (SR-71 with PHOENIX AAMs) appears to be an important option to deter if not deny MIG-25 FOXBAT access to high-altitude airspace. Neither the F-14 and F-15 have a credible capability against this aircraft and the Soviets have demonstrated the willingness to overfly without permission.

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- Urban Warfare Capability: We and the Army have recognized for some time that present forces and materiel are not well suited for urban combat. The deficiencies have been clearly shown by extensive study and analysis, some testing, and observations in the few urban conflicts in which we have been involved recently. To a large extent these problems have evolved from R&D programs with a primary emphasis on long-range combat in open areas. For example we presently do not have an anti-tank weapon that can be fired inside a building without injury to the user. Our field radios are not reliable in cities. Although some improvements have been made in the training and doctrine area, development and acquisition of specialized urban warfare materiel remains at low priority in the Army. Improvements are possible in the near-term and are essential not only for the deployable forces but also for NATO forces.

- Special Forces/Operations: A number of new options are conceivable and possible. In addition the existing unconventional forces can be modernized to greatly improve their effectiveness.

- A precision, long-range, standoff (clandestine) ordnance delivery capability could be provided for special aircraft (e.g., SR-71) and/or submarines. For example laser-guided weapons could be launched in clear weather from ranges approaching 100 miles using either autonomous or remote laser target designation. (Other guidance modes for operation in less favorable weather are also possible later). Non-nuclear cruise missiles or ballistic missiles with [redacted] could be launched from submerged submarines. The key point is that when such attacks are successful, the enemy would be unable to ascertain the nature or origin of the weapon. It remains to be shown whether the risk and cost are justified by the benefits of such limited attacks (or the threat of attack) in the various contingencies, and for the various targets of interest. One example case of potential utility might be [redacted]

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- Aircraft delivery of special forces in hostile regions is a capability that could be and probably should be upgraded. C-130's, specially equipped for low altitude penetration at night would presently be used for this mission. While this technique has been successful in the past we need to look at the increasing sophistication of Soviet-furnished third-world surveillance and detection sensors to determine whether new

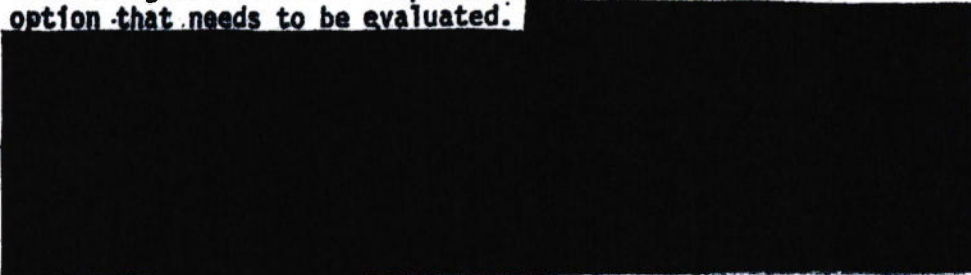
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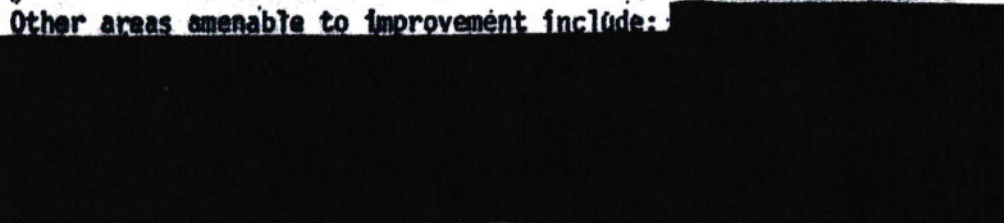
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special aircraft might be required and justified. Upgrading of mission equipment may be all that is required.

Counteracting Soviet airlift operations by indirect means is an option that needs to be evaluated.



Other areas amenable to improvement include:



(C31: Procurement programs to provide an expanded transportable UHF and SHF satellite communication capability need to be pushed. The air deployable command center as envisioned in the Joint Crisis Management Capability, and transmission, terminal and switched mobile systems being developed through the TRI-TAC program should be fielded early. Where long-lead times are projected, "off-the-shelf" and/or foreign equipments will be considered. Accelerated delivery of electronic warfare equipment such as COMPASS CALL and the EF-111A will give the RDF forces high leverage in a limited war environment. Accelerated procurement of new or upgraded intelligence systems such as RF-4C, TERC, RIVET JOINT and GUARDRAIL would also greatly assist the RDF forces in accomplishing its mission.

Priority development efforts on such programs as Adaptive HF, EHF satellite communications, and JTIDS, to enhance the capability in an electronic warfare environment are appropriate. In addition a significant benefit can be postulated from development of the Global Positioning Satellite System (GPSS).

Expedited development and fielding of RPV electronic warfare systems and TR-1 and TENCAP intelligence systems would greatly increase the effectiveness of RDF forces as would target acquisition systems such as SOTAS, interim versions of which could be fielded in the near-term.

Management Actions

We should consider asking each service chief to designate a high-level staff officer responsible for the programmatic planning and implementation of all aspects of deployable forces

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(including Special Forces and unconventional warfare). The intent would not be to create a new authority in the service staffs but to provide a quick response means for coherently and centrally focussing management action (in all the functional areas involved) on the deployable force initiatives.

It would be very helpful to establish an "experimental force" element in the Joint Deployable Force to evaluate weapon systems, equipment and tactics options for rapidly insertable forces, including the Special Force elements. This is necessary to insure that the hardware options and tactics are considered together and to avoid the long bureaucratic delays of the existing practices for establishing requirements, developing hardware to meet the requirements and testing the hardware for user acceptability.

-- Similar "fast-track" procedures are appropriate for OSD, but I can establish those informally with my staff and with the other OSD elements.

-- Initiate a few high-payoff, accelerated development/acquisition initiatives to include:

1) Test and Evaluation of Lightweight Armored Combat Vehicles:

The objective of this effort is to select an existing vehicle and its weapon system for procurement and/or modification to provide the RDF with a mobile anti-armor system. The need is urgent enough that FY 80 reprogramming should be considered to start this effort or it should be included in an FY 80 reprogramming request if there is to be one. The vehicle candidates are the product improved M-551 SHERIDAN with a new gun or missile weapon and a number of foreign wheeled and tracked vehicles in production such as the UK SCORPION, French AMX-10RC, Swiss-Canadian PIRANHA, Swedish IKV-91 and others. Candidate weapons include: 90mm or 105mm tank guns; low velocity 152mm or larger guns launching the STAFF or SADARM target-activated, top attack anti-tank munitions*; the product improved TOW missile; or a dual-purpose (anti-tank, anti-aircraft) laser-beam-rider missile that could be developed in a few years.

2) Accelerated Development of Infantry Shoulder-Fixed Medium Anti-Tank Guided Missiles:

I recently directed DARPA to accelerate their development and demonstration a fire-and-forget, top-attack ATGM based upon the rapidly developing infrared focal plane array technology. This new technology provides a means for incorporating many (1000-10,000) infrared detectors (3-5 μ or 8-12 μ) on a single small "chip." With such focal planes today's large aircraft FLIR performance can be achieved in a volume of about 1,000 CM³ and weight of a few pounds. An ATGM with such a focal plane array could be fired in either

* See attachment 1 and 2 for description

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direct or indirect fire modes since it can lock-on the target after launch. In this initiative the Army would join DARPA in a cooperative effort and other promising shoulder-fired ATGM concepts such as the STAFF Recoilless Rifle Concept (Attachment 3) would be pursued in parallel with the objective of fielding the best system in five years.

3) Aircraft Anti-Armor Weapons: This initiative would accelerate the development, test and evaluation and procurement of anti-armor weapons for Air Force aircraft, including the B-52D, and carrier-based Navy/USMC aircraft. Emphasis would be placed on the GATOR anti-tank/anti-personnel mine dispenser system (Attachment 4) gun pod operational evaluation, Laser Maverick and the Air Force Anti-Armor Cluster Munition (ACM) (Attachment 5) a highly effective wide-area anti-tank weapon.

- The JCS Contingency Review Group (CRG) carried out a command center type of exercise or "war game" for the deployable forces for a scenario in which forces were deployed to Kuwait to assist in defense against an Iraqi attack. The CRG evaluated this exercise to determine materiel/weapon deficiencies as well as operational problems, and as a result has identified specific priority needs as presented in Attachment 6. These recommendations will be strongly considered in the continuing USDR&E study effort.

IV. PLAN FOR COMPLETION OF THE EFFORT

Schedule

January: gathering of information and briefings
February: analysis and evaluation
March: preparation of report

Approach

- Identify equipment that can be procured and developed (3-5 years) for significantly enhancing RDF capabilities in terms of mobility, effectiveness and sustainability. Non-military and non-U.S. military equipment should be considered.
- Based upon the improved equipment options construct alternative operational concepts for a variety of contingency situations.
- Using simple measures, evaluate the improvements expected in terms of military effectiveness and responsiveness.

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- Develop a set of alternative procurement/development initiatives with schedules and funding requirements including those that require FY80 and 81 reprogramming or supplemental request..
- Primary emphasis is on Battalion, Brigade, and Division scale forces. Small-scale or special action forces will also be treated with a view toward very rapid response very early in a crisis in order to de-escalate or terminate a crisis before the larger-scale forces would be required.

Organization

- I am implementing a plan to carry out the study with two parallel efforts -- one with a study task force consisting of Services, JCS and OSD members and the other by a panel of retired senior military officers, with analytical support from IDA to provide an independent set of recommendations. In addition I will form a small separate group of highly qualified experts to deal with the more sensitive areas of covert/ clandestine and other special operations and warfare including psychological operation.
- Many of the acquisition issues we will deal with are closely coupled to operational concepts, potential mission plans and scenarios, which in turn will be bounded in possibilities by legal/policy constraints. I believe close interaction with Bob Komer and his staff during our efforts will be necessary.

William J. Perry

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Chief, RDD, ESD, WHS
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