DEFENSE SCIENCE BOARD

TASK FORCE ON APPLICATION OF HIGH TECHNOLOGY FOR GROUND OPERATIONS

FINAL REPORT

AN ASSESSMENT OF UNITED STATES ARMY HIGH TECHNOLOGY TEST BED
(MADE DURING THE PERIOD JULY 1981 - MAY 1982)

FEBRUARY 1983

OFFICE OF THE UNDER SECRETARY OF DEFENSE
RESEARCH AND ENGINEERING
WASHINGTON, D.C.

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DEFENSE SCIENCE BOARD

TASK FORCE

on

APPLICATION OF HIGH TECHNOLOGY

FOR GROUND OPERATIONS

FINAL REPORT

Dr. Eugene G. Fubini, Chairman

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OFFICE OF THE SECRETARY OF DEFENSE
WASHINGTON, D.C. 20301

DEFENSE SCIENCE BOARD

9 February 1983

MEMORANDUM FOR THE SECRETARY OF DEFENSE
SECRETARY OF THE ARMY
CHIEF OF STAFF, ARMY

THROUGH: UNDER SECRETARY OF DEFENSE FOR RESEARCH & ENGINEERING

SUBJECT: Report of the Defense Science Board Task Force on Application of High Technology for Ground Operations - ACTION MEMORANDUM

The attached report of the Defense Science Board Task Force on Application of High Technology for Ground Operations was prepared under the Chairmanship of Dr. Eugene Fubini. It contains an assessment, requested by the Chief of Staff of the Army, of a major initiative of the United States Army to improve the near-term strategic deployability and war-fighting capabilities of its light infantry divisions. I consider the findings of importance: not only those that suggest refinement in Army plans and actions, but indeed those that highlight actions needed by the four Services -- in concert -- to improve the war-fighting capabilities of all our Forces in the air-land battle.

The Army has initiated the very important and innovative -- as well as difficult -- task of capturing advancing technology for its ground forces and concurrently improving its deployability. Successful accomplishment should provide a light division combat capability that is tailored to meet strategic force projection requirements.

Recently, the Army has taken additional steps to ensure success -- but more needs to be done: more could be done by OSD, the other Services, and indeed the Congress, to assist Army in attaining mutually beneficial results.

I recommend that you:

a. Read Dr. Fubini's letter, the summary of major findings and recommendations, and approve the report.

b. Ask the Under Secretary of Defense for Research and Engineering and the Assistant Secretary of Defense (Comptroller) to examine and support the programmatic actions determined by the Army as needed for its HTTB/ATLO initiative.

c. Ask the Secretaries of the Navy and the Air Force to provide their commitment to and work with the Army toward early resolution of cross-Service interfaces and combined arms execution problems that are not unique to, but have been highlighted by the force development and expected tactical employment of the high technology light division.

I believe the actions described in the report will contribute a great deal to the earlier fielding of a much more capable Army light infantry division. The main task is the Army's, but support is needed from Navy, Air Force, Office of Secretary of Defense and the Congress. The payoff from success in this undertaking will be, in my opinion, much improved war-fighting for all our Forces in any future air-land battle.

Norman R. Augustine
Chairman

Enclosures:
As Stated

OFFICE OF THE SECRETARY OF DEFENSE
[illegible]

DEFENSE SCIENCE BOARD

8 February 1983

MEMORANDUM FOR CHAIRMAN, DEFENSE SCIENCE BOARD

SUBJECT: Defense Science Board Task Force on Application of High Technology to Ground Operations

I have chaired a DSB Task Force that has followed for the last two years the establishment of the High Technology Test Bed (HTTB) in Fort Lewis, Washington. The HTTB, coupled with the 9th Infantry Division (HTTB), will provide the equipment and resources for developing a prototype light division force.

The 9th Infantry Division is intended to be:

a) One of the light army divisions in the American force structure.

b) A unit capable to test new operational concepts and new hardware.

c) A test bed for new and non-conventional acquisition procedures.

After only two years of operation it is not yet clear whether the 9th Division will be as successful an experiment as its founders and proponents intended. The procedures chosen by the Division (with the strong approval of the Chief of Staff of the Army) depart very significantly from the standard procurement route represented by the directives of TRADOC and DARCOM; for this reason, among others, the Division is still navigating in uncharted waters and it has not always been fully supported by the whole Army hierarchy.

One of the most important goals of the experiment was to determine to what extent high technology could reduce the weight and volume of the weapons used in the battle without significant reduction in the capabilities represented by Division 86 with the M-1 tank - the jury is still out on this issue; it is however clear that, in the two years of its life, the 9th Division has not yet found any obstacles to its goal that could be called clearly unsurmountable. On the other hand, the quantitative result of being able to move the Division with 1,000 C-141 sorties instead of the 1,700 sorties now planned (note that the total number of C-141 in our force structure is 275) is not yet achieved.

In the last year there has been a major change in the activities of the 9th Division. Specifically, activities, that, in the first year were directed toward planning, have been strongly redirected toward experimentation. A partial list of items on which experiments have been or are being conducted are as follows:

1) A dune buggy reinforced by roll bars, frontal frame, etc., and equipped with weapons (heavy machine gun and/or TOW missile site) as a highly mobile ground vehicle.

2) A ground launched version of the Hellfire TOW anti-tank missile.

3) A new method to ship commercial and control-type shelters by separating them from their carrier truck.

4) A tilt bed truck/cargo pallet system that portends reduced requirements of cargo trucks on the Division.

In addition to these hardware items, the Division has made organizational innovations whose purpose is to permit the 9th Division to implement its responsibility to devise and test new doctrine and to procure increasing equipment that becomes available through commercial channels. These organizational changes, by order of the CSA, have the interesting result of conveying to an operational unit many of the functions that are usually considered to be the responsibility of TRADOC and DARCOM.

It should be obvious from the brief summary given above that the 9th Division is a multi-sided experiment that gives to this Division responsibilities that are very different from those assigned to other Divisions; at the same time, the Division is not relieved from its responsibility of being combat-ready.

The special duties assigned to the Commander of the 9th Division put him often in a difficult position in his relations with various elements of the Army Staff, military and civilians and with elements of DARCOM, TRADOC, and FORSCOM.

This Task Force remains convinced of the extreme usefulness of the experiment summarized in these pages. We recommend that the SECDEF, in his forthcoming visit to the 9th Infantry Division, reconfirm his interest in the results of its work and encourage the Army in its efforts to employ operational units to experiment with new employment concepts, new doctrines, new hardware, and new organizations. We are convinced that through this process of operational R&D, the U. S. can improve its capabilities in a number of special operations.

Eugene Fubini
Chairman
Task Force on Application
of High Technology for
Ground Operations

Summary of Major Findings

1. The Army made the correct decision in creating the High Technology Test Bed (HTTB); it is an appropriate response to a critical national need. (Page 12)

2. The HTTB provides an excellent opportunity at the same location to integrate technology, tactical concepts, and training — it is an excellent example for the Navy and Air Force. (Page 12)

3. It is not yet clear whether the Army can execute this multi-sided experiment, the results of which are critical to its future force structure. (Page 12).

4. Necessary support for the HTTB from important people in OSD and the Congress is lacking — but would be strong if they were informed and knowledgeable about Army intent and objectives. (Page 40)

5. Timely procurement of equipment is the toughest problem faced by the Director of the HTTB, and immediate Army actions are required for improvement. (Page 36)

6. Army must solve its near-term funding problems now or acknowledge that the High Technology Light Division (HTLD) prototype fielding date cannot be met. (Page 36)

7. Failure to undertake the above two actions will result in weakening the equipping and force building processes such that it would be impossible to field the prototype HTLD consistent with Army Chief of Staff goals. (Page 36)

8. Army is doing a good job capturing existing technology to provide improved combat capability in the light infantry division. However, Army commitment is needed to ensure early inclusion of wide-area-coverage, ground-moving-target, target acquisition systems in the HTLD force structure. (Page 32)

9. Air Land Battle 2000 tactics place an entirely new dimension on USAF and USN/USMC synchronization with Army tactical operations at the combat division level. Early resolution of resulting cross-Service "disconnects" requires USAF and USN/USMC support for and participation in HTTB activities. (Pages 28, 30, 38)

Summary of Major Recommendations

1. That the Chief of Staff of the Army, as a matter of priority, act to improve the support base for the HTTB/HTLD in OSD and the Congress. (Page 40)

2. That the Army institutionalize its HTTB/HTLD efforts before June 1983. (Page 40)

3. That the Army consider establishing a high technology light division force development and employment center or similar management organization, complete with its own Program Manager. (Page 36)

4. That the Army solve the HTTB/HTLD near term funding problem now, or acknowledge that the prototype fielding date of 1985 cannot be met. (Page 36)

5. That CSA act to provide wide-area-coverage MTI radar testbed equipment to the HTTB as soon as possible. (Page 32)

6. That the Army strongly support the JOINTSTARS program and obtain commitment from OSD and the Congress to provide the Army with the earliest capability that evolves from the development effort. (Page 32)

7. That the Secretary of Defense ask the Secretaries of the Navy and Air Force to provide their commitment to and work along with the Army in early resolution of cross-Service disconnects and problems associated with the force development and expected employment of the high technology light division. (Pages 28, 30, 32, 38)

This report presents the assessment made during the period July 1981-May 1982 of the U.S. Army's High Technology Test Bed/High Technology Light Division by the Defense Science Board Task Force on the Application of High Technology for Ground Operations.

The Task Force was established in response to a request by General E. C. Meyer, the Army Chief of Staff, to the Under Secretary of Defense for Research and Engineering.

ADDENDUM FOR PERSPECTIVE

This report reflects views of the Task Force based on the assessment, which ended in the middle of 1982. The report was presented to and approved by the Defense Science Board at its quarterly meeting in October 1982. We are encouraged to learn that since the Task Force completed its deliberations, the Army has taken additional steps to correct deficiencies and to ensure success. We are particularly pleased with improvements made in the management support provided by the Army material acquisition and force development communities.

2.

The Defense Science Board was asked to support a major initiative of the United States Army which was viewed as of great importance to its force structure and near-term combat capabilities. We were asked to focus on the 9th Infantry Division (9ID) and the High Technology Test Bed (HTTB); to take a look at the 9th and other relevant units' operational concepts and the technologies to execute them; and then suggest how this high technology could be applied to ground operations. We were asked also to provide continuous feedback to the United States Army: specifically 9ID/HTTB personnel, the Army staff, and the Chief of Staff of the Army (CSA). And after studying the ongoing and proposed program, make recommendations to the Under Secretary of Defense for Research and Engineering, the Secretary of the Army, and CSA "regarding gaps and proposed program improvements" for the near-term. (This charter is summarized from a memorandum to the Chairman of the Defense Science Board, Mr. Norman R. Augustine, from the USDR&E, Dr. Richard DeLauer (attached as an appendix).)

TASK FORCE CHARTER

DSB WAS ASKED:

- "TO SUPPORT A MAJOR INITIATIVE OF U.S. ARMY"
  --WHICH IS VIEWED AS--
  "OF GREAT IMPORTANCE TO ITS FORCE STRUCTURE AND NEAR-TERM COMBAT CAPABILITIES."

  - BY "SUGGESTING HOW HIGH TECHNOLOGY CAN BE APPLIED TO GROUND OPERATIONS"

- TO FOCUS ON 9TH INFANTRY DIVISION/HIGH TECHNOLOGY TEST BED
- TO PROVIDE CONTINUOUS FEEDBACK TO U.S. ARMY

4.

This chart shows the Task Force membership. The Task Force met four times at Ft. Lewis and in the Pentagon. The first meeting was in July of 1981, the last during February 1982. Since then, the 9ID/HTTB has been visited twice by the Task Force Chairman and a small group to obtain updates on the progress of the HTTB.

APPLICATION OF HIGH TECHNOLOGY T. GROUND FORCES

TASK FORCE MEMBERSHIP

DR. FRED ADLER - VP, HUGHES AIRCRAFT CORPORATION
GEN. GEORGE BLANCHARD, USA (RET.) - PRIVATE CONSULTANT
MAJOR LOUIS DARNELL, USA - HQ DEPARTMENT OF ARMY REPRESENTATIVE
COLONEL WAYNE B. DAVIS, USA - DSB SECRETARIAT REPRESENTATIVE
GEN. WILLIAM E DEPUY, USA (RET.)* - PRIVATE CONSULTANT
DR. JOHN M. DEUTCH* - DEAN OF SCIENCE, MIT
DR. EUGENE G. FUBINI,CHAIRMAN* - E.G. FUBINI CONSULTANTS, LTD.
COLONEL CHARLES GARVEY, EXECUTIVE SECRETARY - ODUSDRE/TWP
DR. ROBERT H. KUPPERMAN - EXECUTIVE DIRECTOR, CENTER FOR STRATEGIC & INTN'TL STUDIES
DR. JOSHUA LEDERBERG* - PRESIDENT, ROCKEFELLER UNIVERSITY
MR. JOHN RICHARDSON* - PRESIDENT, HUGHES AIRCRAFT CORPORATION

*MEMBERS, DEFENSE SCIENCE BOARD

The Task Force viewed that it was important to understand from the outset what the CSA had in mind with his initiative with the High Technology Test Bed and 9th Infantry Divison. Our understanding of his views are summarized as follows:

> "...to improve the strategic capabilities of the United States and to better the war fighting capabilities of the light infantry division—and in the process—to shorten and improve the force development and material acquisition processes. These actions would lead to an earlier combat capability: a lean, mobile, hard-hitting, sustainable combat division that can be deployed rapidly to trouble spots around the world.."

HTTB/HTLD

WHY THE CSA INITIATIVE?

- TO IMPROVE STRATEGIC CAPABILITIES OF UNITED STATES

  - TO IMPROVE WARFIGHTING CAPABILITIES OF LIGHT INFANTRY DIVISION

    AND

  - TO SHORTEN AND IMPROVE FORCE DEVELOPMENT AND MATERIAL ACQUISITION PROCESSES

LEADING TO

- EARLIER CAPABILITY
- RAPID DEPLOYMENT TO TROUBLE SPOTS AROUND THE WORLD
- A LEAN, MOBILE, HARD HITTING, SUSTAINABLE COMBAT DIVISION.

Secondly, the Task Force viewed it important to understand the task that the CSA had assigned to the Commander of the 9ID, who also serves as the Director of the HTTB. Our understanding of that charge is:

"Develop and field a prototype High Technology Light Division (HTLD) by September 1985."

The implied tasks associated with that charge are:

1. Develop more warfighting capability while concurrently providing a lighter force requiring less strategic airlift.

2. Accelerate the material acquisition process.

3. Doctrine and force development had to be accelerated and done in a hand-in-glove fashion.

4. Put Prototype units on the ground as soon as possible and provide a continuing effort after 1985.

HTTB MISSION

CSA CHARTER TO CO 91D:

- o "DEVELOP & FIELD A PROTOTYPE HTLD BY SEPTEMBER 1985"

- o IMPLIED TASKS:
  - SEEKING MORE COMBAT CAPABILITY AND LESS AIRLIFT
  - ACCELERATE MATERIAL ACQUISITION
  - "HAND & GLOVE," ACCELERATED, DOCTRINE & FORCE DEVELOPMENT.
  - PUT PROTOTYPE UNITS ON GROUND ASAP.
  - PREPARE TO CONTINUE POST 1985

10.

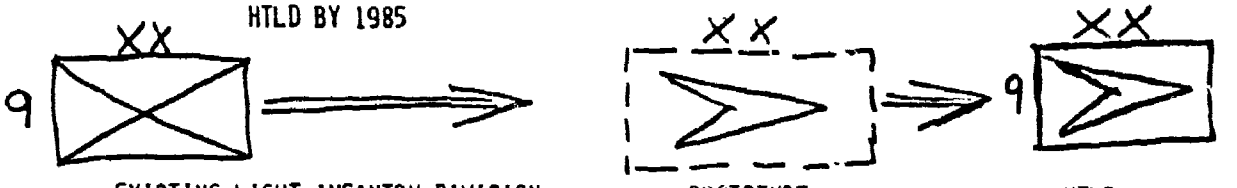
It is important to know the terms and their relationships used by the Army. The specific terms are: the 9th Infantry Division, the High Technology Test Bed, and the High Technology Light Division. This chart shows the relationship. A High Technology Test Bed is an entity created to manage the force development, the equipping, and the fielding of the prototype High Technology Light Division. The 9th Infantry Division is an existing infantry division with an operational readiness mission. The 9ID is the vehicle for the testing and gives on-ground meaning to High Technology Test Bed efforts. By September 1985, it is planned that the 9th ID would evolve into a prototype High Technology Light Division employing the forces, the equipment and the tactics that have been managed and developed by the High Technology Test Bed. In the future, the prototype High Technology Light Division would evolve to a standard Army High Technology Light Division and would be the model for other light divisions within the Army force structure.

WHAT IS NINTH ID/HIGH TECH TEST BED/HIGH TECH LIGHT DIVISION?

1980 - NOW	SEPT 1985	FUTURE
HTTB		

- MANAGE THE
  - FORCE DEVELOPMENT
  - EQUIPPING
  - FIELDING

  OF PROTOYPE HTLD BY 1985



- o EXISTING LIGHT INFANTRY DIVISION WITH OPERATIONAL READINESS MISSION
- o VEHICLE FOR TESTING & GIVES ON GROUND MEANING TO HTTB EFORT

PROTOTYPE HTLD

HTLD

The general views of the Task Force about the 9ID/HTTB initiative are presented on this chart. We have unanimous agreement that the Army made the correct decision in creating the HTTB and using the 9ID as the vehicle for the test bed efforts. We are unanimous also in our view that this was an appropriate response to a critical national need. We have the strong opinion that this initiative provides an excellent opportunity—at one location—to integrate technology, tactical concepts, force development and training. This is a departure from the traditional way of doing business in the force development arena; but the payoff potential is high in combined arms synchronization. Indeed our view is the HTTB experiment provides an excellent example for all four Services. We were very impressed with the enthusiasm, the hard work and the dedication that are demonstrated clearly by the 9ID/HTTB people. We are impressed, also, with the HTTB initiative—from the outset—to include Electronic Warfare and Cover and Deception combat capabilities in the HTLD force structure design. It is important to note that considerable progress has been made: the HTTB has moved from a planning to an experimentation phase that is underway today. Our view is also that much more visible support is needed for this effort to succeed. Clearly all segments of the Army do not support this initiative. Also, there is a lack of understanding of the Army's objectives and the importance thereof within the Office of the Secretary of Defense and indeed within the Congress. In our view the support is not there from these necessary segments but would be if they were informed and knowledgeable. And finally, our view is that the jury is still out: it is not yet clear whether the Army will be successful with this multi-sided experiment that is critical to its future force structure.

OUR GENERAL VIEW - HITB/HILD

- UNANIMOUS AGREEMENT:
  - ARMY MADE CORRECT DECISION -- CREATING HTTB
  - APPROPRIATE RESPONSE TO CRITICAL NATIONAL NEED.
  - WONDERFUL OPPORTUNITY TO INTEGRATE TECHNOLOGY, TACTICAL CONCEPTS, TRAINING. (EXAMPLE FOR SISTER SERVICES)
- IMPRESSED WITH ENTHUSIASM, DEDICATION, INTENSE ACTIVITY OF 9ID/HTTB PEOPLE.
- IMPRESSED WITH INCLUSION OF ELECTRONIC WARFARE AND C&D COMBAT CAPABILITIES.
- CONSIDERABLE PROGRESS - PLANNING TO ACTIVE EXPERIMENTATION.
- MUCH MORE VISIBLE SUPPORT NEEDED.
- THE JURY IS STILL OUT ---
  NOT YET CLEAR WHETHER MULTI-SIDED EXPERIMENT CAN BE PULLED OFF!!

The next step in the Task Force deliberations was to understand the expected employment of a high technology light division. This chart shows the tasks, the conditions, and the standards of what we view as the likely employment of such a division. First, the tasks. The division has to:

- Deploy to a distant battle area by air in minimum time and with minimum airlift.
- Force entry into the operational area if necessary,
- Dominate and thus control designated areas (for example, the oil fields in the North Eastern reaches of the Persian Gulf)
- Destroy enemy forces if and as necessary.
- Defend critical places such as oil loading facilities, political centers, and refineries.

Conditions under which these tasks would be performed are: The division would have to be moved with a shortage of strategic aircraft (there are only 275 C-141 aircraft in the United States inventory), a very long distance to the operational area, that is to the Persian Gulf. Once there, the force would operate over a very large area; it would operate also against large but varied indigenous military forces, some equipped with the most modern of Soviet equipment such as T-72 tanks, BMPs, FROGs, ZSU-23s and SA-6s; it would operate under a constant threat of Soviet intervention. And in the early days of the force projection into a hostile area, it would operate at the end of a very long line of communications with a very low ratio of troops to terrain and troops to enemy or potential enemy. The standards to be achieved are: the force must arrive in time to cope with the situation and must retain the operational initiative by being able to move and maneuver at will. Finally, it is our view that a military force asked to perform these tasks, operate under these conditions and within this environment, should use the high-mobility and fight-deep tactics embodied by the Army's Air-land 2000 concept.

HTLD: UNDERSTANDING THE EXPECTED EMPLOYMENT

TASKS

- o AIR DEPLOY, FAR, QUICK, MINIMUM LIFT
- o FORCE ENTRY, IF NECESSARY
- o CONTROL DESIGNATED AREAS (OIL FIELDS, ETC.)
- o DEFEND CRITICAL PLACES (POLITICAL CENTERS, ETC.)

CONDITIONS

- o SHORTAGE OF STRATEGIC LIFT (275 C141 A/C)
- o LONG LINE OF COMMUNICATION TO OPERATIONAL AREAS
- o A VERY LARGE AREA OF OPERATION - SOUTHWEST ASIA
- o VARIED, OPPOSING MILITARY FORCES; MOST MODERN SOVIET EQUIPMENT
- o CONSTANT THREAT OF SOVIET INTERVENTION
- o EARLY DAYS OF AN OPERATION: VERY SMALL FORCE/LONG LINE OF COMMUNICATION

STANDARDS

- o ARRIVE IN TIME TO COPE
- o RETAIN INITIATIVE -- MOVE AND MANEUVER AT WILL
- o DO THE MILITARY & POLITICAL JOBS ASSIGNED

The required force characteristics are discussed in general terms as shown on this chart. The force must be strategically mobile (small volume and weight). It must have superior tactical intelligence: it has to know at all times the enemy location, what the enemy is doing, and where the enemy may be moving. It has to be able to cope tactically with heavy enemy armor. Clearly, many forces equipped by the Soviets have the same armor used by their own forces. In addition to enemy armor, it has to be able to cope with heavy enemy fire support, which includes artillery rockets and missiles. Along with this, the division has to have adequate defense against enemy attack air which enables free maneuver of ground combatants — and equally importantly, continuous support. The force must have tactical mobility compatible with tactical distances and the environment. And in view of the Soviet doctrine of continuous land combat which portends their intent to fight at night, clearly it must have an adverse weather and night target acquisition capability which provides near real time targeting information to its weapons delivery means. In order to use that information effectively it must have superior tactical command, control, and communications so that: (1) this widely scattered force operating as small units over a very large area is under control at all times; and (2) the synchronization of ground forces maneuver and the fire support from all Services is possible. The product of these required characteristics is to allow commanders to operate inside the enemy's information, decision, and action cycle.

REQUIRED FORCE CHARACTERISTICS - OUR VIEW

- o SMALL VOLUME AND WEIGHT: FOR STRATEGIC MOBILITY
- o SUPERIOR TACTICAL INTELLIGENCE - KNOW AT ALL TIMES:
  ENEMY LOCATION, WHAT IT IS DOING, WHERE IT MAY BE MOVING.
- o ABLE TO COPE WITH:
  - HEAVY ENEMY ARMOR
  - HEAVY ENEMY FIRE SUPPORT (AND ARTILLERY ROCKETS & MISSILES)
- o ADEQUATE DEFENSE AGAINST ENEMY ATTACK AIRCRAFT
  - MAKES POSSIBLE FREE MANEUVER & CONTINUOUS SUPPORT
- o TACTICAL MOBILITY COMPATABILITY WITH DISTANCES AND ENVIRONMENT
- o ADVERSE WEATHER AND NIGHT TARGET ACQUISITION, PROVIDING NEAR-REAL TIME TARGETING INFORMATION.
- o SUPERIOR TACTICAL C^3 - SO THAT
  (A) WIDELY SCATTERED FORCE ---- OPERATING WITH SMALL UNITS ---- OVER VERY LARGE AREAS IS UNDER CONTROL AT ALL TIMES
  (B) SYNCHRONIZATION OF GROUND FORCE MANEUVER & FIRE SUPPORT FROM ALL SERVICES IS POSSIBLE

Considering the required force characteristics, the next step was to select the equipment that would most likely provide the desired combat capabilities. First, dealing with high and existing technology: in order to meet prototype unit fielding and HTLD the near-term combat capabilities specified as requirements by the Chief of Staff of the Army, the HTTB could embrace only the technology available today, and could not embrace high technology, i.e., technology that is perceived as on the cutting edge or likely of very high risk during weaponization. Regardless what level of technology is used, the major tasks facing the HTTB were viewed as: (1) selecting equipment to support the concept and to provide the required characteristics, and (2) acquiring, testing, and fielding that equipment within a relative short period of time.

HIGH TECHNOLOGY - EQUIPPING THE FORCE

- "HIGH" vs "EXISTING" TECHNOLOGY??
- MAJOR TASKS

SELECTING EQUIPMENT
- TO SUPPORT CONCEPT
- TO PROVIDE REQUIRED CHARACTERISTICS OF FORCE

ACQUIRING, TESTING AND FIELDING THAT EQUIPMENT

This chart presents the Task Force views on HTLD strategic mobility. The HTTB goal is that by 1985 it will have equipped a force that can be moved by 1000 C-141B sorties. The estimate today is that it would require 1350. These figures compare with 1750 sorties required to move the current infantry division. A major concern of the Task Force is that regardless if the 1000 sortie goal is achieved, excessive time (two weeks plus) is required to move a HTLD to Southwest Asia — using the entire C-141 fleet. Therefore, this situation presents clearly to the Soviets that we do have a problem with credibility of strategic response. Within this context, the Task Force realizes that the Army must play with the cards that are dealt to it. Accordingly, among other actions already underway, we suggest that the Army speed the acquisition of helicopter self-deployment kits. Some half of the 161 helicopters in the division could be configured with these kits, allowing self-deployment non-stop ranges up to 700+ nautical miles. This action would increase deployment options and could reduce airlift requirement by as much as 50 C-141B sorties. This is not enough. We suggest that the Army consider other options to include prepositioning selected items (for example, the aviation support and sustainability package that will be required to support this large aircraft fleet) within or near likely areas of operation. Recent combat experience in the Falklands suggests compelling reasons for more exaustive search for strategic force projection and force sustainability options.

EQUIPPING THE FORCE - STRATEGIC MOBILITY

- C141B SORTIES TO MOVE LIGHT INFANTRY DIVISION
  - CURRENT DIVISION - 1700
  - HTTB ESTIMATE NOW - 1350
  - HTLD GOAL (1985) - 1000
- TASK FORCE CONCERNS: CREDIBILITY OF STRATEGIC RESPONSE
  - STRATEGIC LIFT SHORTAGE - ONLY 275 C141B
  - EVEN IF 1000 GOAL ACHIEVED,
    - 2 WEEKS TO MOVE HTLD TO SOUTHWEST ASIA
    - ENTIRE C-141 FLEET
- TASK FORCE SUGGESTS:
  - SPEED ACQUISITION OF HELICOPTER SELF DEPLOY KITS
    (INCREASES DEPLOYMENT OPTIONS, REDUCES AIRLIFT REQUIREMENTS)
  - CONSIDERATION FOR PREPOSITION OF SELECTED ITEMS.

This chart shows the Task Force's assessment of the HTTB efforts to equip the force with tactical mobility.

Ground tactical mobility: We are very impressed with the initiative and the efforts underway to experiment with off-the-shelf high mobility and lightly armored vehicles. In our view, the HTTB is in very good shape in this arena. We would caution, however, that the keys to success will be the range and reliability of these combat vehicles.

Air tactical mobility: We applaud the Army's initiative in consolidating their aviation assets under control of one tactical organization, the Cavalry Brigade Air Attack. This tactical headquarters provides, for the first time, central direction and control of these high value assets; that allows for a more rapid massing of this critical capability and much quicker response to a highly maneuverable and rapidly changing threat. We are concerned, however, that the HTLD appears to place total reliance on their UH-60 fleet for in-theater lift. Considering there are only 30 Blackhawk aircraft within the HTLD force structure, and the vast area over which the divison is expected to operate, it is our view that the entire fleet will be required for tactical mobility of its maneuver forces. Because of this, we view the HTLD has to have its own medium-lift helicopter force, specifically CH-47's that are in the Army inventory today. These aircraft, or equivalent additional tactical VTOL lift, are required for sustaining the force over longer distances, and in particular when operating over terrain with natural obstacles, such as will be experienced in the Middle East. Ground transportation planned for the divison today will not sustain the force in this type of terrain.

HIGH TECHNOLOGY - EQUIPPING THE FORCE (TACTICAL MOBILITY)

- o GROUND TACTICAL MOBILITY
  - GOOD SHAPE: EXPERIMENTING WITH OFF-THE-SHELF, HIGH MOBILITY, LIGHTLY ARMORED VEHICLES
  - KEY TO SUCCESS: RANGE AND RELIABILITY
- o AIR TACTICAL MOBILITY:
  - APPLAUD CONSOLIDATION OF AVIATION ASSETS:
    COMBAT BRIGADE AIR ATTACK (CBAA) --- VERY NEW
  - CAUTION:
    - o TOTAL RELIANCE ON UH-60 FOR IN-THEATER LIFT??
    - o CH-47s NEEDED

Communicating with and controlling the force will be among the most difficult challenges faced by commanders employing the Air-Land 2000 tactics. The Task Force views that widely scattered combat units executing high mobility tactics, involving rapid maneuver and tightly synchronized support fires, will require communication that cannot be provided by standard Army division and Army Corps equipment. We suggest that the HTLD turn to high frequency communication (HF) down to battalion level for operational command and control. We believe also that this is not enough; it would be appropriate for selected small units to be provided portable SATCOM terminals as a backup. The SATCOM terminals are being used by Special Forces units and can be acquired easily. Regarding maneuver control, we recommend that for the near term the HTLD consider equipping their ground maneuver forces with beacons that can be picked up by AWACS and/or Navy E-2C radar. That position location information would be down-linked directly to the division and brigade tactical headquarters, providing commanders with real-time locations of their subordinate maneuver elements. In the future, we feel that it is important that the Army speed up its Position Location Reporting System (PLRS) availability. We recommend also that the Army take the lead with the other Services to ensure that a common grid is adopted for electronic position equipment systems: the Army PLRS, the Air Force and/or Navy JTIDS, and/or GPS. All systems selected by the respective Services must have a common electronic grid so that fire support, in any form from the various Services, can be integrated easily with ground force maneuver.

EQUIPPING THE FORCE - COMMUNICATION, CONTROLLING THE FORCE

TASK FORCE VIEW: EXECUTION OF HIGH MOBILITY TACTICS, INVOLVING RAPID MOVEMENT AND TIGHTLY SYNCHRONIZED SUPPORT FIRES, BY WIDELY SCATTERED MANEUVER UNITS ---

CALLS FOR COMMO LINKS THAT CANNOT BE PROVIDED BY STANDARD DIVISION AND CORPS EQUIPMENT.

TASK FORCE SUGGESTS:

COMMO

- HTLD TURN TO HF COMMUNICATION DOWN TO BATTALION LEVEL FOR OPERATIONAL C^2
- FOR SELECTED SMALL UNITS: PORTABLE SATCOM TERMINALS AS A BACKUP

MANEUVER CONTROL

- EARLY STAGES: AWACS OR E2C WITH GROUND BEACONS DOWNLINKING DIRECTLY TO DIVISION AND BRIGADES.
- SPEED PLRS AVAILABILITY
- ASSURE COMMON GRID (PLRS/JTLDS/GPS)

The Task Force believes that the capability to defeat heavy armor head-on is essential for every independent operating maneuver unit. They must be able to do this by themselves in the absence of air support, attack helicopters or even artillery. With respect to direct fire weapons, it seems unlikely that light armored vehicles will be able to carry a gun with the kinetic energy or shaped charge size required to penetrate heavy armor. Therefore, heavy anti-tank guided missiles should be mounted on at least some of the light armored vehicles. The product improved TOW and HELLFIRE would be adequate. In that regard, the Task Force applauds recent HTTB initiatives in the testing of ground launched HELLFIRE and TOW on dunebuggys and other lightly armored vehicles. The Task Force suggests, however, that the Army continue efforts with shoulder fired, top attack weapons for use by the individual soldier. Additionally, the Army should devote its attention to developing anti-armor mortar projectiles. The anti-armor mortar projectile commends itself because the delivery system is very small cube and weight, mortars can accompany the smallest tactical units, the kill mechanism in inherently top attack, and the shaped charge size is more than adequate. Additionally, the mortar has the highest rate of fire of any weapon available to a small maneuver unit.

The Task Force believes also that considerable tank fighting capability can be added to the division by arming with anti-tank PGM's the 50 or so light observation and scout helicopters planned for the HTLD. Again, improved TOW and possibly HELLFIRE would be candidates for this effort. Recent combat experience suggests very high payoff: Experiences of the Israeli Cobra and Hughes 500D's armed with TOW against Syrian tanks; the Syrians with their Gazelle and HOT missile combination experience against Isreali tanks; and the Iraqi success against Iranian tanks. These light helicopter/anti-tank PGM weapon systems were the top tank-killers in the mentioned wars, and the collective experience suggests strongly that this is an area that needs close attention by the U.S. Army. Arming these various small helicopters with PGMs provides the division commander with a flexible, heavy firepower response that can be marshalled to meet the threat as it develops at any location over a wide area. Secondly, several of these small helicopters can be put in a into a C-141B and can be combat ready in as early as ten minutes after the C-141 lands.

EQUIPPING THE FORCE - DEFEATING ARMOR

- o Task Force View: - INDEPENDENTLY OPERATING MANEUVER UNITS MUST HAVE WEAPONS TO DEFEAT ---
  - HEAVY ARMOR -- HEAD-ON
  - ABSENT ARTILLERY, ARMY & SISTER SERVICE ATTACK AIR.
- o Task Force Applauds: - TESTING GROUND LAUNCHED HELLFIRE, TOW, ON LIGHTLY ARMORED VEHICLES (DUNE BUGGIES, ETC.).
- o Task Force Suggests: - CONTINUED EFFORTS WITH SHOULDER-FIRED, TOP ATTACK, WEAPONS.
  - DEVELOPING ANTI-ARMOR MORTAR PROJECTILE
  - ARMING LOH/SCOUT HELICOPTER WITH PGM
    - -- 50 LOH IN DIVISION
    - -- RECENT COMBAT SUGGESTS HIGH PAYOFF

The Task Force views that defeating enemy fire support (the weapons and the command and control of those weapons) in the early deployment stages into a hostile area will be accomplished almost exclusively by attack helicopters and tactical air. This view is derived from our concern about the mobility incompatability of light and medium artillery with ground maneuver forces, and the lack of strategic aircraft required to move this artillery into the lodgment area in the early stages of a tactical operation. Because this situation dictates almost total reliance on attack helicopters and USAF/USN tactical air for defeating enemy fire support, the Task Force is very concerned about the lack of USAF true night and adverse weather close air support (CAS) capability — even with Air Force plans to include LANTERN on many of their attack aircraft. We view that LANTERN might not be the answer for this capability void. Correspondingly, the Task Force applauds Army plans for the early equipping of the HTLD with night CAS capable AH-64 attack helicopters. We suggest that the Army assure that the artillery locating radar and the communication emitting targeting information can be passed quickly to attack helicopters and tactical air in order to be more responsive to the enemy fire support threat.

EQUIPPING THE FORCE - DEFEATING ENEMY FIRE SUPPORT

- o Task Force View: - LONG-LEGGED MOBILE FIRE POWER
  - TO HOLD IN EARLY STAGES OF DEPLOYMENT
  - WILL BE FURNISHED BY ATTACK HELOS AND TACTICAL AIR
  - FOR ALMOST ALL TACTICAL PURPOSES
  - EXCEPT DIRECT FIRE OF MANEUVER ELEMENTS THEMSELVES

- o Task Force Concerns: - LACK OF USAF TRUE NIGHT/ADVERSE WEATHER CAS CAPABILITY (LANTIRN MAY NOT BE THE ANSWER).
  - MOBILITY COMPATIBILITY OF LIGHT AND MEDIUM ARTILLERY.

- o Task Force Suggests: - ASSURING THAT ARTILLERY LOCATING RADAR/COMMUNICATION EMITTER TARGETING INFO. CAN BE PASSED QUICKLY TO ATTACK HELOS AND TACAIR.

The Task Force applauds the efforts underway by the HTTB to equip HTLD forces for defeating enemy air attack. This includes not only the lightweight air defense weapon but efforts also to incorporate AWACS and Navy E-2C radar information of air moving targets, down-linked directly to division SHORADS command and control for alerting of air defense weapons. AWACS is not the total answer, however, because it will not detect slow movers such as enemy attack helicopters and slow flying fixed wing attack aircraft.

The Task Force's major concern in this mission area is, however, that of air space management, rules of engagement, and SHORADS command and control interfaces. A difficult problem which confronts Army elements during a contingency deployment arises out of the restricted rules of engagement which are normally imposed upon Army SHORAD systems by the overall air defense commander —an Air Force officer. These restrictive rules of engagement are the consequence of Air Force lack of confidence in the degree of Army control over SHORADS weapons, the absence of reliable electronic IFF, and the difficulty involved in establishing and enforcing the air space control procedures designed to alleviate the IFF problem. Unless rules of engagement can be relaxed through the growth of Air Force confidence in SHORAD command and control, the capability of Army SHORAD systems to operate in bad weather and at night, and the potential lethality of those systems will be severely limited. We recommend, therefore, as a matter of urgency, that the Army in cooperation with the Air Force and the Navy, move to resolve air space management, rules of engagement and SHORADS interface problems.

We suggest also that the Army experiment with arming some of its helicopters with air-to-air missiles in order to deal more effectively with the slow moving Hind-D and Hind-E attack helicopters, and other slow-moving attack aircraft that could easily avoid detection by AWACS radars.

EQUIPPING THE FORCE - DEFEATING ENEMY ATTACK AIR

- o TASK FORCE APPLAUDS: EFFORTS INCORPORATING AWACS & E2C --DOWN-LINKING DIRECTLY TO DIVISION SHORADS C^2 FOR ALERTING
- o TASK FORCE CONCERNS: - AIRSPACE MANAGEMENT/RULES OF ENGAGEMENT/SHORADS INTERFACE
  - ALERTING VOID FOR SLOW-MOVERS (AWACS)
- o TASK FORCE SUGGESTS: - EXPERIMENTING WITH ARMING SOME HTTD HELO'S WITH AIR-TO-AIR MISSILES.

Probably one of the most demanding tasks facing the HTTB is deciding how to equip its force so that commanders on the ground can be provided superior intelligence and target acquisition. The Task Force position is that in addition to signal intelligence, MTI radars with wide area coverage of ground targets, providing near real time intelligence and targeting situational display, are absolutely essential for executing the fight deep, high mobility tactics embraced by the high technology light division. The Task Force views that this MTI capability may be the "systems integrator" that allows fighting the HTLD, or any Army division, as a combined arms team. Since this is a critical required characteristic of the force, the Task Force has major concern that the HTTB has no MTI testbed equipment. This is particularly bad since the Army has had since 1977 testbed airborne MTI equipment in two of its other divisions.

We are concerned also about the possible pitfalls of a jointly managed weapons system development program — in this case the JOINTSTARS (Joint Surveillance and Target Attack Radar System) Program which is managed by a sister Service—that provides a critical Army capability.

In view of these concerns, the Task Force recommends the following: (A) Near-term capability - That the Army provide wide area coverage MTI testbed equipment to the HTTB as soon as possible, either by direct purchase from a contractor, or by moving one of the units now located in Europe to Fort Lewis; and (B) Follow-On capability - That the Army do two things:

1. Strongly support the JOINTSTARS Program and the earliest possible fielding of that capability regardless what the management form is.

2. Concurrently, obtain from the Office of the Secretary of Defense, and from the Congress, their commitment to ensure program stability in the JOINTSTARS Program, and commitment to provide the Army with the earliest capability that evolves from the development effort.

EQUIPPING THE FORCE - SUPERIOR INTELLIGENCE/TARGET ACQUISITION TO CDRs ON GROUND

- o TASK FORCE VIEW: - IN ADDITION TO SIGINT, MTI RADARS WITH WIDE-AREA COVERAGE OF GROUND TARGETS, PROVIDING NEAR-REAL TIME INTELLIGENCE AND TARGETING SITUATIONAL DISPLAY ARE: ABSOLUTELY ESSENTIAL FOR EXECUTING THE "FIGHT DEEP," HIGH MOBILITY TACTICS.

  - MAY BE THE "SYSTEMS INTEGRATOR" THAT ALLOWS FIGHTING THE HTLD AS A COMBINED ARMS TEAM.

- o TASK FORCE CONCERNS: - EXISTING TEST BED EQUIPMENT EXISTS TODAY IN OTHER ARMY DIVISIONS - YET HTTB HAS NONE!

  - POSSIBLE PITFALLS OF JOINT PROGRAM (JOINTSTARS), MANAGED BY A SISTER SERVICE, PROVIDING A CRITICAL ARMY CAPABILITY.

EQUIPPING THE FORCE - SUPERIOR INTELLIGENCE/TA TO CDRs ON GROUND (CONTINUED)

o TASK FORCE SUGGESTS: - NEAR TERM CAPABILITY: PROVIDE WIDE AREA COVERAGE MTI TEST BED TO HTTB ASAP

- ARMY (1) STRONGLY SUPPORT JOINTSTARS PROGRAM & EARLIEST POSSIBLE FIELDING---WHATEVER THE MANAGEMENT FORM.

(2) OBTAIN OSD AND CONGRESSIONAL SUPPORT TO ENSURE PROGRAM STABILITY, AND TO ARMY EARLY REQUIREMENTS.

Selecting equipment and procurement of that equipment are irreversibly related, but two very different problems requiring different management talent and knowledge. The Task Force views that procurement is the one toughest problem facing the Director of the High Technology Testbed. We hold this opinion despite praiseworthy efforts by the Army to speed equipping the HTLD by adopting expeditious acquisition procedures: the quick reaction program (QRP) and quick reaction capability (QRC), both of which require expeditious approval of the requirements. We are encouraged also by the DARCOM initiative to create a material support activity located at Fort Lewis which has the responsiblity of coordinating all of the DARCOM efforts in support of the HTTB. A very important adjunct to the Army's effort is the on-site "skunk works" that was created to assist HTTB activities. We believe this to be a very valuable asset. But we are still concerned because there is a lot of "business as usual" within the procurement and research and development communities within the Army. We are concerned also that the quick reaction program is not working as intended, primarily because of funding availability at Headquarters, Department of the Army (HQDA). The "mini" requirement documents that initiate a quick reaction program are not approved expeditiously at HQDA, thereby creating a situation of delay and an atmosphere of frustration for HTTB management personnel. That situation is compounded by a lack of HTTB management understanding of the necessary planning, programming and budgeting system (PPBS) processes at HQDA and OSD. This has resulted in inadequate or incomplete information being provided to the Army Staff, and therefore much HTTB program information and justification is not included in the Army budget.

Another concern is the funding inflexibility that plagues the Director of the High Technology Test Bed. In essence, his hands are tied behind him because he does not have control of the resources nor the direct authority to move money around in order to respond to the responsibilities placed upon him by the Chief of Staff of the Army.

A major concern is that there are so many procurement agencies involved in assisting the HTTB effort that there appears to be no central direction of material acquisition activities. This is caused to a great extent by the fragmented funding under control of various agencies who are not responsible to — nor responsive to —the Director of HTTB. For example, the Commander of the DARCOM Material Support Activity has no authority to move any money around; indeed he has no funds nor resources to cause things to happen. These conditions create inefficiency, lack of understanding, and clumbsy execution in the material acquisition process. For that reason the Task Force recommends very strongly that the Army must solve its near-term funding problems now or acknowledge that the prototype high technology light division fielding in 1985 cannot be met. Finally, a critical action needs to be taken to help alleviate the procurement and force development management problem: we recommend strongly that the Army consider establishing a high technology light division force development and employment center or similar management organization, complete with its own Program Manager. This organization would be chartered by the Chief of Staff of the Army, or a higher authority, with resources (people and dollars) with the task of providing centralized direction of material acquisition and force development efforts. The net effect of this action will merge more effectively the user with the combat and material developers by accelerating both force development and material acquisition. In our view failure to undertake these required actions will result in weakening the equipping and force building processes in a manner such that it would be impossible to field the prototype HTLD consistent with the Chief of Staff of the Army's goals.

ACQUISITION PROCEDURES

TASK FORCE VIEWS: PRAISEWORTHY EFFORTS TO SPEED UP EQUIPPING THE HTLD

- EXPEDITIOUS ACQUISITION PROCESURES: QRP, QRC
- DARCOM MATERIAL SUPPORT ACTIVITY (MSA)
- ON-SITE SKUNK WORKS

TASK FORCE CONCERNS:

- QRP NOT WORKING AS INTENDED (FUNDING AVAILABILITY @ HQDA)
- PPBS LEAD TIME
- FUNDING INFLEXIBILITY (EXAMPLE: LOCAL PURCHASE $3000 LIMIT)
- MANY PROCUREMENT AGENCIES INVOLVED, CENTRAL DIRECTION NOT APPARENT.

TASK FORCE RECOMMENDATIONS: THAT ARMY:

- SOLVE NEAR TERM FUNDING PROBLEMS NOW OR ACKNOWLEDGE PROTOTYPE 1985 CANNOT BE MET.
- ESTABLISH A HTLD FORCE DEPLOYMENT CENTER/PROGRAM MANAGER.
  - CHARTERED BY CSA
  - WITH RESOURCES (PEOPLE, $)
  - TO PROVIDE CENTRALIZED DIRECTION OF ACQUISITION AND FORCE DEVELOPMENT EFFORT.

The next chart presents the Task Force views on force effectiveness and the importance of tieing things together. Regardless how well the Army equips the HTLD and how effective the acquisition process, force effectiveness will be dependent to a great extent on the cooperation of Army's Sister Services. We view that the Air-Land Battle 2000 concept places an entirely new dimension on USAF and USN synchronization with Army tactical operations at the combat division level. For that reason the Task Force views that Sister Service active participation in and top level support for the HTTB is mandatory because HTLD combat operations, which embrace high mobility and fight deep tactics, requires cross Service tailoring of target acquisition, command and control, weapons delivery; and early resolution of air space management, and air defense command and control problems. Unless these problems are addressed early, we think that " proof of the pudding" of all these cross-Service disconnects will be evident when the HTLD prototype gets in the field and demonstrates clearly an extensive problem with tri-Service and combined arms synchronization. The Task Force recommends, therefore, that the Secretary of Defense require Navy and Air Force commitment to the HTTB activities now.

FORCE EFFECTIVENESS: TIEING THINGS TOGETHER

TASK FORCE VIEWS:

- SISTER SERVICE ACTIVE PARTICIPATION AND TOP LEVEL SUPPORT MANDATORY.
- HTLD OPERATIONAL MISSION & HIGH MOBILITY, FIGHT DEEP TACTICS REQUIRE CROSS SERVICE TAILORING OF TARGET ACQUISITION, C&C, WEAPONS DELIVERY AND EARLY RESOLUTION OF AIRSPACE MANAGEMENT, AIR DEFENSE C&C, ETC.
- HTTB FIRST WITH "PROOF OF PUDDING??"

TASK FORCE RECOMMENDATION:

- THAT SECDEF ENCOURAGE NAVY AND AIR FORCE COMMITMENT TO HTTB ACTIVITIES

As noted earlier in this report, the Task Force unanimously agreed that the Army made the correct decision in creating the High Technology Testbed and that it was an appropriate response to a critical national need. Additionally, we viewed it provided the opportunity at one location to integrate technology, tactical concepts, and training; and considered it an excellent example for the Sister Services. This HTTB approach departed from the traditional and was unconventional, that it was a multi-sided experiment that was going to be very difficult to execute. A concern, indeed a major concern of the Task Force, is the probable destabilizing impact on this effort when the current Chief of Staff of the Army leaves. It is our undertanding that his tour would end in the Summer of 1983. Our concern is acute because it appears that the HTTB/HTLD efforts are not well understood by important elements of Congress and OSD. This lack of understanding, coupled with the departure of General Meyer, would create a critical void in support for this effort — and it might very well die. Because of this concern, we think it is important that the Army institutalize its HTTB/HTLD efforts now. We recommend strongly that the Chief of Staff of the Army, as a matter of priority, act to improve the support base in the OSD and the Congress, or expect that the Army will experience troubled waters ahead.

KEEPING THE "EXPERIMENT" GOING - BUILDING SUPPORT

TASK FORCE VIEWS:
- HTTB IS MULTISIDED EXPERIMENT
  - -- UNCONVENTIONAL APPROACH
    - -- DIFFICULT TO PULL OFF

TASK FORCE CONCERNS:
- WHAT HAPPENS WHEN CSA LEAVES?
- APPEARS HTTB/HTLD EFFORT NOT WELL UNDERSTOOD BY IMPORTANT ELEMENTS OF CONGRESS AND OSD.

TASK FORCE RECOMMENDATION:
- THAT CSA, AS A MATTER OF PRIORITY, ACT TO IMPROVE THE SUPPORT BASE IN OSD AND CONGRESS OR EXPERIENCE "TROUBLED WATERS" AHEAD.

We are pleased to report that the Defense Science Board gives its approval to and strong support for the Army's High Technology Test Bed and the High Technology Light Division.

DSB POSITION

APPROVAL AND STRONG SUPPORT FOR HTTB/HTLD INITIATIVE

APPENDIX A

THE UNDER SECRETARY OF DEFENSE

WASHINGTON, D.C. 20301

RESEARCH AND ENGINEERING

23 April 1981

MEMORANDUM FOR THE CHAIRMAN, DEFENSE SCIENCE BOARD

SUBJECT: Defense Science Board Task Force on Application of High Technology to Ground Operations

You are requested to organize a Defense Science Board Task Force on the application of high technology to ground operations in response to a request from General Meyer, the Army Chief of Staff, to support a major initiative of great importance to its force structure and near-term combat capabilities. The Task Force, in close cooperation with the Army, should suggest how high technology can be applied to two problems relating to ground operations.

The first problem relates to the 9th Infantry Division which is being used as a High Technology Test Bed designed to exploit our nation's technological capabilities. The basic purpose of the project is to develop a high firepower, survivable Light Division designed to facilitate rapid deployment, and make the division the forerunner of the future.

The second problem involves a unit which plans to exploit some of the technologies developed for the 9th Infantry Division, and other specialized technical means, to conduct quick-reaction operations. In order to accomplish extremely difficult operations of significant national interest, such units must possess the most current state-of-the-art equipment.

The Task Force should focus on the operational necessities of the 9th Infantry Division. The Task Force objectives include the following:

a. Examine the 9th Infantry Division's and other relevant units' operational concepts and the technologies to execute them.

b. After studying the ongoing and proposed R&D programs, make recommendations to the Under Secretary of Defense for Research and Engineering, the Secretary of the Army, and the Chief of Staff of the Army regarding gaps and proposed program improvements for the near term.

The product of the Task Force should be a plan of action proposing a comprehensive program to enhance the near-term capabilities of these two type units. The final written report should be delivered to me no later than 14 December 1981.

Mr. David C. Hardison, Deputy Under Secretary of Defense for Tactical Warfare Programs will be the sponsoring Deputy for the Task Force. Dr. Eugene G. Fubini, Vice Chairman, Defense Science Board, has agreed to be the Task Force Chairman. Colonel Charles J. Garvey, USA will be the Executive Secretary.

James P. Wade, Jr.
Acting

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