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Monterey, California

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AN ANALYSIS AND CASE DEVELOPMENT
OF THE
ARMY DEVELOPMENT AND EMPLOYMENT AGENCY

by

Nolen V. Bivens

June 1984

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The purpose of this thesis is to analyze the Army Development and Employment Agency (ADEA) and develop an indepth case study based on it. The case study contains situations and issues which, when used by the Organizational Effectiveness School, would require students to make an integrated application of the curriculum's key concepts in Management, Systems, and Behavioral Science. It would also require the student to make application of the knowledge he

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An Analysis and Case Development of the Army Development and Employment Agency

by

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Captain, United States Army
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Submitted in partial fulfillment of the
requirements for the degree of

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The purpose of this thesis is to analyze the Army Development and Employment Agency (ADEA) and develop an indepth case study based on it. The case study contains situations and issues which, when used by the Organizational Effectiveness School, would require students to make an integrated application of the curriculum's key concepts in Management, Systems, and Behavioral Science. It would also require the student to make application of the knowledge he or she gets from the curriculum components of Probability and Statistics, Computer Literacy and How The Army Runs. The aim of these conjoint cases is to allow the students to develop solutions for a single organization's problems utilizing all of the curriculum's content.

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I. INTRODUCTION

As stated, the purpose of this thesis is to analyze The Army Development and Employment Agency (ADEA) and develop a case study consisting of situations and issues which will require students of the Organizational Effectiveness Staff Officers Course to use the principles taught in the Organizational Effectiveness School's curriculum. This case is unlike any other one currently used by the school in that it provides situations which instructors from all blocks may use to emphasize learning objectives relative to their particular block. There does not currently exist a set of case studies which provides situations and issues which would require the students to make an integrated application of all the curriculum's content towards the attainment of a solution for a single organization's problems.

The cases in this thesis were prepared by CAPT Nolen V. Bivens under the supervision of Professors Samuel Parry and Roger Evered. The cases are intended as a bases for class discussion rather than to illustrate effective or ineffective handling of organizational problems. Certain names and facts have been changed in order to avoid the disclosure of confidential information. This does not materially lessen the value of the cases for educational purposes. The author requests that the cases only be used in classroom discussions.

II. THE ORGANIZATIONAL EFFECTIVENESS COURSE AND SCHOOL

A. THE OLD PROGRAM

"The old program", to which the writer refers, covers the period of the Organizational Effectiveness (OE) School's history from July 1972 (when Fort Ord was the pilot test for the Organizational Development Program) to June 1983. [Ref. 1]

The purpose of the pilot test was to determine if the application of Organizational Development (OD) tools could enhance the effectiveness of Army units. The implementation of the pilot test accurred in four phases. The most important result of the pilot test was the establishment of the U. S. Army Organizational Effectiveness Training Center (USAOETC) on 1 July 1975. [Ref. 2]

The OETC's mission contained the following objectives: to train personnel in OE skills for the purpose of assisting the commander in the accomplishment of his mission, to establish and maintain liason with the commanders utilizing these personnel, to develop and evaluate OE techniques, to develop and refine instrumental survey systems and data processing requirements, and to support OE Programs. [Ref. 3]

During the 16 week course, the officer was taught various OE skills. One of the key skills he was given was how to use the "Four step process." [Ref. 4] The four steps were assessment, planning, implementation, and evaluation. The

steps essentially described the typical steps an OE officer would follow once a commander requested his assistance.

A key feature of the OE program during this time was that it was an all volunteer management tool the commander had at his disposal to use. In other words, the use of the OE staff could not be directed by a higher headquarters to a subordinate unit even if it was suspected that the unit might have problems with which the OE office could assist them.

The McBer Consulting Company, as a result of its evaluation of the OE School curriculum, concluded that the OE School did not place enough emphasis on the "evaluation step" of the four step process. Another major problem the school had was gaining acceptance in the Army by all commanders. [Ref. 6]

Generally, the OE office was operationally assigned to the Division G-1. As a section of the G-1, it was available to assist any commander or staff from company level to division level.

Several changes were made to the OE curriculum during this time period. Noncommissioned officers began to attend the course. The school added to the curriculum a block of instruction in combat related OE. Based on recommendations from the McBer Consulting Company, instruction on "socio-technology and job enrichment was also integrated into the

curriculum. Overall, the school's curriculum was upgraded to include "state of the art Organizational Development technology" to insure that the graduating students were capable of functioning in large organizations with complex problems. [Ref. 7]

To reflect these changes and many others, the OE staff officer's name was changed to Organizational Effectiveness Management Consultant (OEMC).

B. THE NEW PROGRAM

The current OE program started in June 1983. A key concept in the new program is systems integrations. As defined by the school, systems integration is the "conjoint application of behavioral, management, and systems sciences in achieving unity of effort to meet the challenges posed by change in the Army." "Structurely" the OE curriculum has been expanded from 16 to 19 weeks. The graduate of the course is no longer referred to as an OEMC but as an Organizational Effectiveness Staff Officer (OESC). The OESO staff will only work at division level or higher. It is to be used by the Division Commander to assist in solving those kinds of problems which cross over subordinate commands' and staffs' boundaries. The student criteria has been upgraded to senior Captain or Major. There will be no NCOs attending the course in the future.

The OE School envisions that the OE staff work will focus on such issues as force modernization, systems interfacing,

reorganizations, systemic training problems, and information flow process. [Ref. 8] To meet this operational need the curriculum now includes major blocks of instructions in How The Army Runs (HTAR), the management of networks, analytical skills, information processing, Air Land Battle, and change technology. [Ref. 9]

C. THE PROGRAMS IN CONTRAST

The change in focus of the OE school was spurred by a desire to change the program from a specific orientation on the individual and his needs to one which puts more emphasis on the overall organization's needs. It is essentially an orientation towards systems and systems management. The key difference is embodied in what the school now calls "systems integration" as defined earlier.

Recognizing the complex process of change now occurring throughout the Army, the OE School wants to develop a staff officer who is capable of understanding and finding solutions to broad issues which transcend many functional boundaries.

D. THE MOTIVATION FOR THIS CASE

The motivation for designing a single case which reflects, in an integrated fashion, situations relating to all the curriculum blocks was to provide the student with a method by which he could apply all the concepts he learns towards solving an organization's problems. Another reason was simply because of need. It was also done to allow the student to

apply the concepts he is learning towards solving issues and problems similar to those Army commanders are now facing.

E. WHY THE ARMY DEVELOPMENT AND EMPLOYMENT AGENCY/HTTB

The choice of the Army Development and Employment Agency (ADEA), formerly known as the High Technology Test Bed (HTTB), as the organization on which to base this case can be largely attributed to the fact that it is the one organization which epitomizes the change process the Army is going through.

Secondly, the ADEA organization has a very dynamic mission which requires it to coordinate with nearly every agency within the Army, and many outside. Figure 2-1 shows the complex nature of the environment in which the ADEA organization participates.

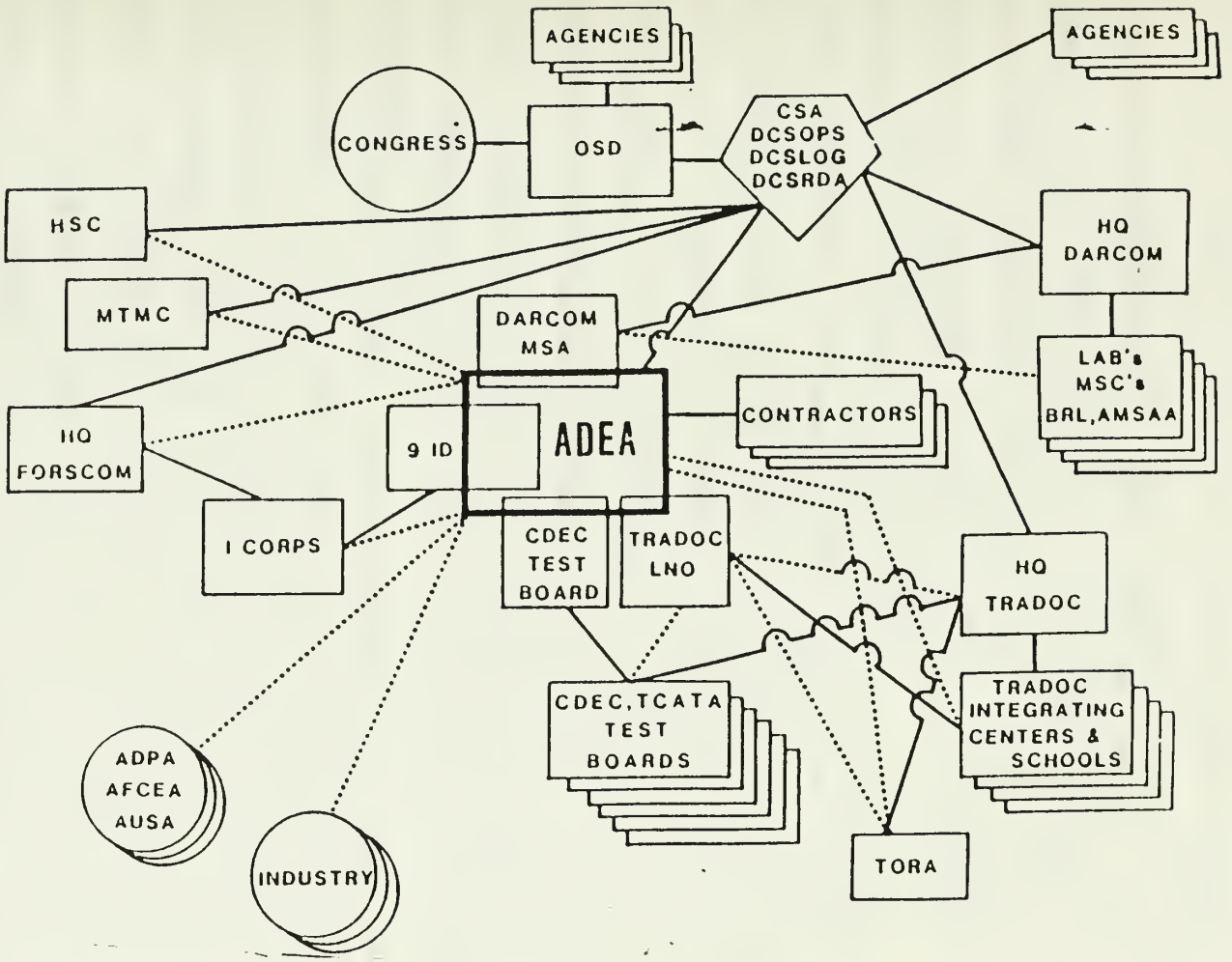

Figure 2.1 Description of ADEA's Environment.

III. THE CASE STRUCTURE

A. GENERAL

First, it must be made clear to the reader that HTTB was the name of ADEA prior to it becoming a field operating agency of the Army. So, the term "HTTB/ADEA" refers to the same organization and only reflects the fact that it had a name change during the first three years of its existence. Also, there are actually three cases for this organization. The case writer uses "the case" as the generic term to refer to all three cases (HTTB I, HTTB II, and ADEA).

Secondly, it must be made clear as to exactly what "the organization" is on which the case is based and written. It is somewhat a misnomer to say that HTTB/ADEA is "the organization" on which the case was based because of the unique command relationship which exists between the 9th Infantry Division and the ADEA organization. The uniqueness lies in the fact that the commander of the 9th Infantry Division is also the commander of the ADEA organization. Because of this fact, it would be more accurate to define "the organization" on which the case is based as "a composite of the 9th Infantry Division and the HTTB/ADEA organization" with more emphasis being placed on the HTTB/ADEA side. In view of this unique command relationship, writing a case based singularly on the HTTB/ADEA organization would deny

the student some of the true riches which this situation in the form of a case could offer. Thus, it is from this perspective the case has been written.

In view of how "the organization" has been defined, the case writer recommends that each student thinks of himself or herself as an OESO assigned to the 9th Infantry Division when attempting to find solutions to the case. This is a key point and should be made very clear to the student prior to his or her reading any of the cases.

The case writer, for the purpose of case development, has divided the curriculum into the four major areas of systems science, management science, behavior science and how the Army runs. Also, in Chapter Five the case writer has presented teaching notes by sections corresponding to these four major areas. The computer literacy and probability/statistics components of the curriculum are treated as sub-areas of management science.

In essence, the case is a source document which presents issues and circumstances relevant to each of the four curriculum blocks. The case was designed to become the common document from which the instructor can draw examples to highlight teaching points and from which the student can see how relevant and necessary the knowledge he or she receives is to solving an organization's problems.

B. THE CASE STRUCTURE

"The case" captures issues from the genesis of the ADEA/HTTB organization through the first three years of growth. Because of the long period over which the case is written, the best presentation of the organization's history and issues in case format could be obtained by writing three separate cases. Each case encompasses one Fiscal Year (FY) of the organization's existence. HTTB I covers the first, HTTB II covers the second and ADEA covers the third fiscal year. Based on the interviews done in the organization and the research of historical documents, the fiscal years provided logical break points at which to divide the data for development into a coherent case.

More specifically, the case writer has attempted to take from the organization's history incidences and issues which are applicable to the tasks, conditions and standards as reflected in the terminal learning objectives in appendix A. The case development went from "principle to situation." The principle was the Terminal Learning Objective (TLO). The TLO was then matched with a generic situation from the organization. Figure 3.1 describes the case's concept of development. [Ref. 10]

The case does not attempt to reflect an example for each of the terminal learning objectives. However, in instances where the writer thought certain points in the case were applicable to specific terminal learning objectives, he has

PRINCIPLE		GENERIC SITUATION		
BLOCK	TERMINAL LEARNING OBJECTIVE	HTTB I	HTTB II	ADEA
SYSTEMS SCIENCE	Apply and use a complex systems model to develop a preventive strategy for systemic change.	9ID joined by HTTB staff.	9ID and HTTB joined by I Corp. HTTB gets liason elements from other Army Agencies and Commands.	HTTB is changed to a Field Operating Agency of The Army & named ADEA.
MANAGEMENT SCIENCE	Identify uses of computer technologies.	9ID & HTTB communication process.	HTTB's use of CPM and PERT.	HTLD & I Corp automation mismatch.
BEHAVIORAL SCIENCE	Analyze group dynamics.	"We/they" attitude between 9ID & HTTB staff.	HTTB's use of work groups to design HTLD.	Examine which groups are key in ADEA's environment.
How The Army Runs	Identify the Army's PPBS process and its key documents.	Examine how 9ID makes input to the PPBS.	Examine how HTTB would submit first PARR.	Examine ADEA's budget & determine how can be increased.

Figure 3.1

Case Concept of Development

so indicated in the teaching notes found in Chapter Five The teaching notes are intended to be the case writer's method of communicating to the instructors how the issues in the case relate to their particular blocks of the curriculum. It is expected that the teaching notes would be read by each instructor prior to the case being given to the students.

The case writer's computations for the statistical problems in each case are listed as subsections in Chapter Five's teaching notes. This is done so that the statistics and probability instructors may know how the case writer did his calculations in the event they use slightly different procedures in making their calculations. The student's validation of the case writer's calculations will reinforce the probability and statistics concepts being emphasized in the curriculum.

C. SUGGESTIONS ON HOW THE CASES MAY BE USED

It is recommended that each instructor examine the teaching notes relating to his or her particular area. Then, the case of interest should be read. There may be situations in the case which illustrate material in their areas which the case writer has not identified in the teaching notes. This is because the case writer's goal was to design a case which reflected the needs of the curriculum while keeping it general enough to allow for expansion in the future.

If there is a desire for the students to read all cases during the period of the course, it is recommended that they be presented in the order of HTTB I, HTTB II, and ADEA. The reason for this is because the cases were written in this order and reading them in this order, when all are to be read by the student, will provide for a continous revealing of what went on in the organization over the three years "the case" covers. However, since each case has been written over a particular fiscal year of the organization's history, each can stand alone and be used to span the entire course if desired.

The case writer recommends that one of these cases, irrespective of which, be presented to the students at the beginning of the course. This will produce a common reference point from which the instructor may get examples of his terminal learning objectives. Then, as the student goes through each block of instruction, he/she will see, through the organization in the case, how all of the course content can be applied when solving one organization's problems.

The names and positions of several persons have been presented in all of the cases. This can allow for role sheets to be developed and used when the block on interview skills is taught.

Recognizing that the OE curriculum is a dynamic one, the case writer has endeavored to make this case as opened ended as possible. That is why the last of the three cases

(ADEA) is presented in a manner which requires the student to take a future perspective when approaching a solution to the ADEA's organization problems. Giving it this perspective will support any efforts in the future to survey ADEA for additional information to emphasize changes or new TLOs as they are added in the OE School's curriculum. The case writer encourages such an effort because the ADEA organization is a perfect source for the kinds of issues and problems the Army commanders are and will be facing in the future. In some instances, it is doing with technology the kinds of things Army commanders in the present and future will have to do in order to solve complex and integrated issues. Therefore, ADEA is of exceptional value to the OE School as a case study organization. Through it, the school may demonstrate to students how applicable its concepts and tools, specifically systems science, management science, behavioral science, how the Army runs, and computer literacy are to solving real Army problems.

IV. THE CASES

This chapter contains the case in its three part form; HTTB I, HTTB II, and ADEA. The content of this chapter is all the material the student needs to be given.

A. THE CASE OF HTTB I

"Pass in review!" As Major Bacon, the organizational effectiveness staff officer for the 9th Infantry Division, heard the commander of the U. S. Army Forces Command (FORSCOM) give this command to the commander of troops during the division change of command ceremony, he said to himself, "Major General Frank Simpson is not only assumming command of the 9th Infantry Division, but also of the High Technology Test Bed (HTTB) project—one of the Chief of Staff of the Army's (CSA) hottest concerns."

The HTTB project, now a year old, had been directed by the CSA after he assessed and found that the ability of the U.S. Army to quickly deploy and fight in contingency areas was unfortunately not very good. From his assessment, he concluded that the U.S. Army had become increasingly mechanized in order to counter the most dangerous threat, that of the heavily armoured Warsaw Pact Forces in Europe. He realized that the heavy divisions had great combat power and mobility, but they could not be quickly deployed to areas outside of Europe, where equipment had been pre-positioned

for their use. On the other hand, he felt the Light Infantry Divisions could be quickly deployed to any contingency area. But, they currently did not have tactical mobility once they were on the battlefield and their combat power was relatively modest. To improve the U.S. Army's power projection capability he directed the development of a new type of Light Infantry Division. Through using technology, he wanted this division to have utility in both contingency areas and in Europe.

The CSA decided that this capability was needed as soon as possible. However, he knew that if he attempted to design this new division through the Army's normal acquisition and procurement process it would take 10 years or more. The CSA decided that he could design, develop, evaluate, and field a prototype of this new type of division within five years if the real user (any infantry division which would potentially be in the HTLD configuration) and the developer (all the Army commands, agencies, and activities which get involved in the fielding of a new system or doctrine) were merged.

To accomplish this, he gave the commander of the 9th Infantry Division (the real user) the force design mission to design, develop, test, and make operational within five years a new High Technology Light Division (HTLD) which could complete a strategic deployment with all its organic soldiers and equipment in 1000 C-141 sorties. The evolving force was to be adequate for the execution of worldwide

contingency missions while retaining significant utility on the European battlefield. To assist the 9ID Commander in the accomplishment of this mission, the CSA directed the creation of the HTTB staff (the developer).

As the last unit passed the reviewing stand, MAJ Bacon began the short walk back to his office with only one thing on his mind—the conversation which he had with GEN Simpson three days earlier following his initial in brief by the G-1 staff. During that conversation, GEN Simpson made the following comments:

> "MAJ Bacon, prior to my coming out here to assume command of this division, I had an office call with the Chief of Staff of the Army. During our conversation, he made it very clear to me the importance of this High Technology Test Bed project. He said he would be expecting to receive an in process review on the HTTB staff's progress towards the design of the HTLD force structure. He specifically wants to see our proposed organization of the HTLD. He reminded me that he had requested that the proposed organizations, when totaled together, not exceed a 16,000 manning target.
>
> "So, when I arrived, one of the first questions I asked COL Jack Saul, the Chief of HTTB, was 'How are we coming along on the operational concept and organizational structure for the HTLD?' To my surprise, no force designs for any of the units are complete as of this date. This to me represents a problem. Since I have used Organizational Effectiveness in the past, and with good results, I must add, I want your office to help me sort out why the HTTB staff has not been able to develop, at least, a draft of what the O&O concept for the HTLD should be within the last year. Once that is done, I want you to help me develop a plan which will allow us to complete the HTLD's design and be ready to brief the CSA in six months.
>
> "Now I know my calendar will be full the first week, but I want you to get on it and come see me. I know you have been in the division some time, and I want to get your assessment of it, as well as what you may know about the HTTB staff."

As MAJ Bacon opened the door to his office, he thought to himself, "The General was correct about one thing—I have been in the division for a while." In fact, the current month of October marked the end of his second year in the division. What MAJ Bacon knew, and perhaps the General did not know, was that things were not the same in the division as they were when he first arrived.

When he joined the 9th Infantry Division it was, what you may term, a typical U.S. Infantry Division (light) in terms of it's composition and mission. It had an H Series TOE and an unclassified mission to be able to fight in an European scenario. See Figure 4.1 for 9th Infantry Division's current organizational structure.

The divisional units' ability to prepare for their mission was impacted on by a requirement to carry out post and installation support missions. Seasonally unit preparedness was disrupted by such things as ROTC support, Army Reserve summer training support, post guard support, etc. But, even in view of all of this, the units were able to train. Most of the units reflected this in the successful results they obtained on their annual Army Evaluation Program (ARTEP). Two other events which impacted on the unit's ability to train was the Army's overall Force Modernization Program, and the Army's effort to reinstitute its old Regimental System. The 9th Infantry Division had two infantry battalions which were being converted under this Regimental

System and would be frequently rotating unit assignments with a battalion in South Korea.

MAJ Bacon knew the problems facing 9ID and HTTB were interrelated. The interrelationship was due to the fact that the 9th Infantry Division was required to provide the soldiers and equipment in order that the HTTB staff could test any equipment or concepts which they were recommending for inclusion in the final HTLD design. There were 9ID commanders who thought the HTTB support was another "impingement on available training time". Of course, there were those on the HTTB staff who felt the 9ID units did not support their tests requirements enough.

Prior to going to the change of command ceremony, MAJ Bacon had pulled out the HTTB transition file and some files of other work he and SFC McClain had done in the division. As he opened the HTTB file, he remembered that the issue which was raised the most during the transition was the "shortage of personnel." The HTTB staff was initially authorized 38 personnel. The staff's structure was organized along the lines of the three tactical concepts of combat, combat support, and combat service support as seen in Fig. 4.2.

Each of the branches were essentially responsible for the execution of the CSA's mission statement for the general area specified in their branch title. For example, the combat development branch had responsibility for designing, developing, testing, and fielding of the HTLD prototype to all

the infantry battalions currently found in the 9th Infantry Division. The concepts division was, in essence, the idea branch. They assessed the relevance of a new idea which had a technical, military or conceptual nature. The test directorate was responsible for the quality assurance of the test reports prepared by the outside agencies. The HTTB had the authority to task Army testing agencies within the acquisition and procurement community to do tests for them of concepts and equipment. As necessary these tests were performed by such agencies as OTEA and CDEC utilizing 9ID troops while satelliting most of the time on 9ID units' training exercises. The financial management division was responsible for performing all resource management functions for the HTTB. The administrative and technical support branches were support arms to HTTB's efforts. The operations branch was concerned with such matters as training and physical fitness for the HTTB staff.

The number of persons in these staff elements ranged from 1 (as in the financial management division) to 8 (as in the combat support branch). In some instances Captains had been doing jobs that Lieutenant Colonels were supposed to be doing. During the first year, several persons had been added to the staff temporarily from other divisional/installation units. At the time MAJ Bacon did the transition for the HTTB staff, it consisted of about 55 persons——38 more than it's original

TDA authorized. The staff had made two separate requests to the Combined Arms Center for more personnel.

The TRADOC Commander had staff proponency for the HTTB staff as stated by the CSA when it was created. The TRADOC Commander had further placed operational control of the staff in the hands of the Combined Arms Center (CAC).

Because the HTLD unit in its final design had to be deployable in only 1000 C-141 aircraft, an aircraft liason team representing the Air Command, the Military Airlift Command and the Intelligence/AWACS Interface was attached during the first year of its existence for planning purposes.

The staff often sought developments from other countries which supported a particular concept they were interested in. This lead to the first Special Projects Officer (SPO) from New Zealand being assigned during this time period.

The breadth and scope of organizations over which HTTB had to plan and coordinate cut across many organizational boundaries within the Army. For example, their effort to identify, evaluate and recommend to the Department of the Army (DA) operational concepts, doctrine, and organizational training requirements required them to coordinate and staff all efforts through the Army Training and Doctrine Command (TRADOC) specifically its service schools. When ideas about new material requirements were proposed, they had to be coordinated with the Department of the Army Material Readiness Command (DARCOM). To be able to recommend "new technology"

they often sought "off-the-shelf technology" from industry—another point of coordination.

How to deal with the complexity of this staffing/coordination problem was one of the lessons the junior officers had to learn during the organization's first year. One of the HTTB branch chiefs during the transition workshop had said, "The HTTB staff has been asked to speed up the procurement process in order to field a prototype division in five years. Normally, it would take 10 or more years of coordinations between TRADOC, DARCOM, and FORSCOM in order to field the first unit. We are expected to conceptualize this new HTLD and then bring together what all of these three agencies and their subordinate agencies have to say about it as we design, test and field it". The test which HTTB conducted was controlled through HQ TRADOC to the test director (CG, 9ID).

MAJ Bacon's other source of data about what was going on in the HTTB came from the pre-workshop interview he and SFC McClain had done. MAJ Bacon interviewed the following branch chiefs: combat support, close combat, concepts, and test management. He and SFC McClain also did two group interviews of 15 persons each. They asked four questions of all interviewee's: "What are the major strengths of HTTB?, what should the first change in the HTTB be?, what issues and concerns should the new chief of HTTB know about?, and what

questions do you think the new chief should address?" See Exhibit 1 for all interview notes.

At the time of the transition workshop, the HTTB staff had completed only 4 major tests of equipment which they thought may potentially be included in the HTLD's structure. These HTTB test were conducted during the division's annual training exercise conducted at the Yakama Firing Center.[1]

The next folder on MAJ Bacon's desk contained notes from the goals and objectives conference he and SFC McClain had done for the previous CG. As he opened it, he remembered that during the conference it was the issue of test support to HTTB which most of the commanders raised. Attendance at the conference included the two Assistant Division Commanders (ADC), the brigade commanders, the division support commander, and all of the division separate battalion commanders.

During the conference, the participants were asked to develop a list of those issues which needed to be reviewed before the goals and objectives could be addressed adequately. They were then asked to prioritize them by voting. As he looked at the list, MAJ Bacon saw that 100% of the commanders had felt that "clarification of the HTTB goals" was top priority. See Exhibit 2 for a copy of the conference notes. As one commander said, "I want to know when do I sacrifice mission readiness for HTTB test support?"

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[1]Yakama is an auxilliary training installation located about 125 miles south east of Ft. Lewis, WA.

During a conversation with the division operation's officer immediately following the conference, MAJ Bacon had mentioned how the commanders were very much concerned with the issue of HTTB test support. The division operations officer (G-3), LTC Williams, stated he was not surprised. He was an old operations researcher and had done some computations which compared selected unit's Army Readiness and Evaluation Program (ARTEP) results with the number of days they had spent supporting HTTB test. Those were the next two pieces of paper which MAJ Bacon held in his hands. The first was a table of data which showed the relationship between the number of days a platoon spent supporting HTTB test and the number of ARTEP tasks it failed. See Table 1 for this data. MAJ Bacon at first thought these two sets of numbers were unrelated. But the G-3 had shown him that not only were they related, but how the number of ARTEP missions a platoon will fail can be determined if the number of days it spends supporting HTTB test is given.

He determined, using the data in Table 1, that the average number of days a platoon spent supporting HTTB test was 17. The average number of missions failed by the platoons was 22. He had even gone as far to say that he was 95% sure that the average number of missions which had been failed was between 55 and 65. He had also found that the standard deviation between the number of days each platoon spent supporting HTTB

test was 8. The standard deviation between the number of ARTEP missions each had failed was 11.

The G-3 had also done what he called a linear regression on the data points (see Fig. 4.3 for the regression analysis). He derived an equation by which he could compute the number of ARTEP missions a platoon would fail based on the number of days it spends supporting HTTB test. He had shown that as the number of days a platoon spends supporting test increases, the number of missions failed by the platoon would also increase. Based on the fact that he knew HTTB planned to do some 21 tests next summer during the division's annual field training exercise, he predicted that if a platoon spends 45 days supporting these tests it could expect to fail 60 ARTEP missions. He felt that it was not unrelistic for a platoon to spend this amount of time in support of HTTB tests during this time period. MAJ Bacon was not sure about the accuracy of all of these calculations. But, he thought to himself, "If the G-3 is correct, he makes a good argument for the commanders who are concerned about limiting the degrading impact which HTTB support has on the quality of their training time."

The next numerical data on MAJ Bacon's desk consisted of survey results which were obtained each month when the OE staff conducted a class on "situational leadership" for the Primary Noncommissioned Officers Course. They determined that this would be an excellent method by which to get an

idea of what the average junior NCO thought about what was going on in the division. When the HTTB staff first arrived, they added several new questions to the survey regarding it. One of the questions which they added related to the issue of training. The question asked was, "Has support of HTTB tests impacted on your squad/section's ability to train?" The appropriate response was either "Yes" or "No". They had collected data for 16 classes. See Table 2 for the soldiers responses to the questions.

Using nonparametric analysis on the data, specifically a sign test, MAJ Bacon determined, "If the number of junior NCO's who felt that HTTB support impacts on their squad/section's training ability was greater than those who did not." He concluded with 95% confidence that the number of junior NCO's in the division who felt HTTB test support impacted on their ability to train was in fact greater than those who did not.

The last folder on MAJ Bacon's desk contained notes from the role clarification workshop which had been done for the division chief of staff and the general staff earlier that year.

During that workshop several key points had been made by some of the division staff members. The division personnel officer (G-1) expressed that "the HTTB's mission to design a new light infantry division has created the managerial requirement for me to insure that the people envisioned to

be a part of it arrive by the time it is fully activated." "This", he said, "compounds my staff's work requirements." The G-1 staff was already responsible for planning personnel requirements associated with the Army's overall force modernization program due to take effect in six years. The problem he said was made worse because, "No one in the HTTB seems to know what this new HTLD is going to look like and this restricts my ability to begin any type of planning."

The G-4 stated that "The units are sacrificing the performance of maintenance on their regular TOE equipment in order to do maintenance on the surrogate test equipment assigned them. The commanders did not want "to fall on their face" when it came time for conducting test demonstrations with the surrogate equipment. He reached these conclusions based on the division maintenance team reports. He felt relatively sure that acts such as these by the units would show up in the unit's status readiness reports (USR). He did not know how to advise the maintenance battalions in direct support to these units on how they should prioritize their work orders when surrogate equipment maintenance conflicted with regular jobs. The unit commanders often requested that the surrogate equipment be worked on instead of TOE items which were often long overdue for schedule maintenance.

Along these same lines he said, "The division support commander has been complaining to me because he feels his

maintenance units are not equipped to provide support maintenance for these surrogate items such as motorcycles which are being tested by the light infantry battalions." Because these issues crossed over many units' boundaries, the G-4 did not know what recommendations for improvement to offer the Assistant Division Commander for support.

The division chief of staff told the general's staff the problems they faced could be solved if one of the ADC's was given oversight responsibility for the HTTB transition process. He believed that if transition responsibility was given to one of these individuals, he would have a focal point through which to resolve the problems without involving the CG. The deputy chief of staff for post and facility engineers, COL Mack, made another suggestion along these lines. He felt that the growing impact which HTTB support was having on training and the overall process of transitioning the 9th Infantry Division into its new HTLD structure could be test controlled if each of the ADCs played a role. He suggested that one ADC be the manager of "the division's current state" and that the other be designated the manager of "the transitioning state." The current state manager, as he saw it, would insure that the division's ongoing combat readiness was addressed properly as well as any of the other day to day mission requirements. The ADC in charge of the transitioning state would insure all efforts regarding the transitioning of the 9ID into the new HTLD structure were

properly executed with the big picture in mind. MAJ Bacon wondered if this would be a good time to offer either of these two recommendations to the new CG.

As MAJ Bacon closed the last folder on his desk, SFC McClain entered his office and said, "It's official now sir. The activation of I Corp Headquarters will occur here in three months. I guess we need to go see the new general and find if he would like for us to help plan a smooth integration of this new headquarters so that it's impact on the division will be minimum."

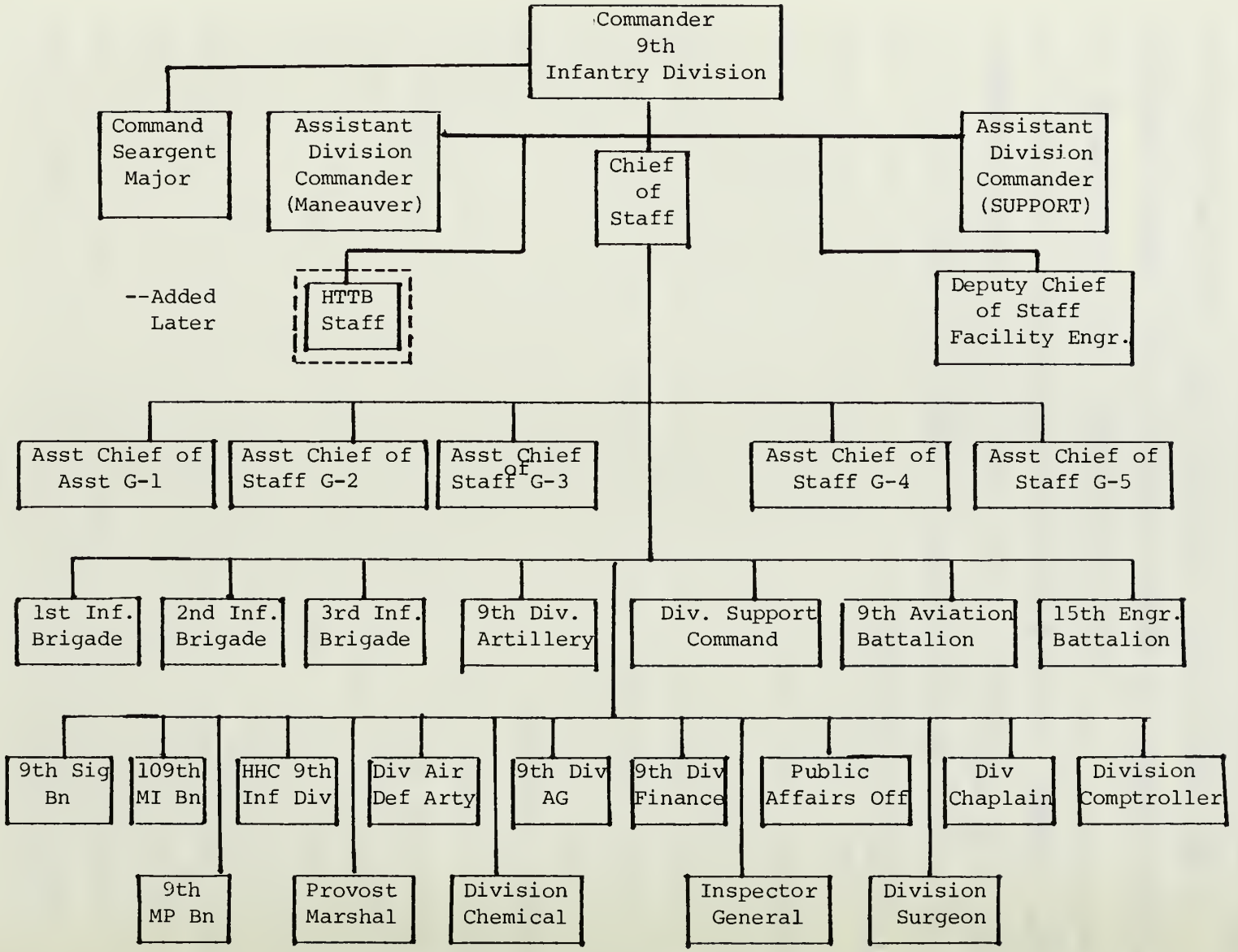

Figure 4.1 9ID Organizational Diagram

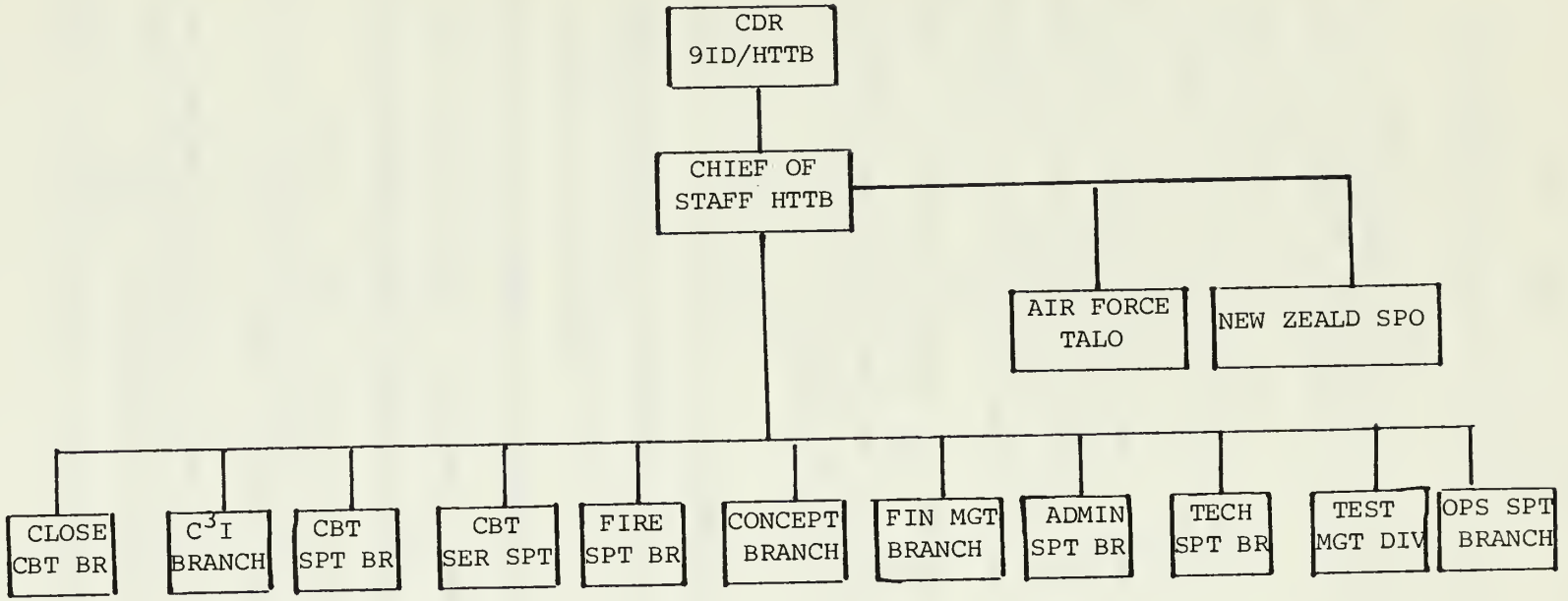

Figure 4.2 HTTB Organizational Structure

EXHIBIT ONE

GROUP AND INDIVIDUAL INTERVIEW RESULTS

The following are the comments members of the HTTB staff made when they were interviewed by the 9ID OE office in preparation for the HTTB's Chief of staff transition workshop as mentioned in the HTTB I case. The notes are presented in two sections. Section I contains the group interview results and section II contains the comments the four branch chiefs made during individual interviews. The number following each of the group interview responses is the number of persons who agreed with that particular statement out of a total of 30 persons.

I. GROUP INTERVIEW RESULTS

A. What are the major strengths of the HTTB staff?

1. Recognized license for creativity. (27)

2. A new CG who seems to be realistic about what the Division and HTTB staff can do. (25)

3. A mission which can have great impact on the U.S. Army if we do it right the first time. (18)

4. Money to meet mission needs. (27)

5. Rapport we enjoy with resource managers at higher headquarters to include DA Agencies. (25)

6. The importance of the program and the priority it carries. (17)

7. Data base support by the Army community is good. (22)

8. We have improved our relations with The Combined Arms Center (CAC). (18)

B. The first change in HTTB that should be made is:

1. Appoint a hard working XO with real power to speak for the Chief HTTB. (27)

2. Establish a formalized procedure to identify OPA requirements at an early date (1-2 years in advance). (24)

3. Establish a firm requirement for identifying equipment requirements, budgeting for them and coordinating all procurement actions. (19)

4. Establish a functional MIS. All HTTB personnel must be current on major actions and understand command's position and priority actions. (17)

5. Take on no new missions which further drain an already bleeding organization. (23)

6. Establish a road map. (15)

7. Stop functioning on a day-to-day basis. (27)

8. Start putting the fingers on TRADOC Schools and Centers who are not supporting us. (20)

C. Issues and concerns which the Chief, HTTB needs to know about:

1. Personnel staffing——we need the right people to certain jobs. (23)

2. Lack of 9ID staff's understanding of what interface with HTTB means to the Army, the Division and the test program. (21)

3. Inability of the PPBS system to provide adequate funding (primarily OPA). Insufficient lead time for production/acquisition of equipment early on. (20)

4. Finalization of the operational test plans in sufficient time to incorporate requirements in the PPBS. (22)

5. Too many bosses (completely out of control). (19)

6. HTTB has been set up for failure. (12)

7. Insufficient sharing of information between sections. (7)

8. Lack of HTTB assets to help itself (e.g., word processor). (27)

9. TRADOC and MACOM action officers need to improve coordinations for requirements. (22)

10. Clarification of the internal organization of HTTB is needed quickest. (23)

11. Equipment procurement procedures are not responsive to the HTTB effort. This is true at HTTB, CAC, DARCOM, FORSCOM, and DA. There is no established procedure. (27)

D. Questions the Chief, HTTB should address:

1. What is his mode of conducting daily business? (19)

2. How long will he be with us? (He's number 3 in the last twelve months). (27)

3. How far will we be backed up in turning around "bad" decisions that impact on our own work? (10)

4. What is our OPA (the next two fiscal years) status at DA? (26)

5. What is the status of the approval for our TDA? (29)

6. How to improve our joint functions with the 9ID? (22)

7. Can we have a Division/HTTB weekend? (27)

8. How do we get the key players in the Army on the same sheet of music with us? The MOU needs to be redone and all action agencies need to know what they are to do in support of us. (15)

9. What are his professional and personal idiosyncracies and desires? (13)

II. INDIVIDUAL INTERVIEWS

A. Close Combat Chief (LTC. Lee)

1. What are the major strengths of the HTTB staff?

a. Quality of personnel at operating level is outstanding.

b. Visibility and leverage that charter affords HTTB/9ID in the DOD community provides unparalled opportunities.

2. What should the first change made in the HTTB be?

a. Make managers at all levels responsible for products, not reactive actions.

b. Hold meetings no more than once a week versus daily.

c. Keep the Generals out of our day-to-day business.

3. My concerns for the new Chief HTTB are:

a. Establishment of an HTTB management scheme via Army regulation which applies to ARSTAFF & MACOMS as well as HTTB.

b. Better use of contractor service to perform analysis.

c. Use of computer systems and contractor effort for algorithm and software development in order to perform analysis and solve problems not amenable to green suit or manual solution.

d. Need to establish rational analysis and decision making procedures, e.g., test only that which needs to be tested, use CPM/PERT.

4. What is hindering your accomplishment of the mission?

a. Too many "squad leaders". The typical O-5 manager cannot manage effectively when he receives (and must try to reconcile) guidance from an O-6 and three General officers. However, in fairness to the Colonels and Generals in 9ID/HTTB, they cannot function much better when they are responding to two CAC Generals and one at TRADOC and several at HQDA.

5. Questions or issues the Chief, HTTB should answer:

"The same as those stated in response to question 3 above."

B. Test Management Division Chief (MAJ Evans)

1. What are the major strengths of the HTTB staff?

a. Talented personnel.

2. What should be the first change made within HTTB?

a. Obtain a clear charter of objectives for HTTB. That is, how are we going to do business. The current MOU is worthless.

3. My concerns for the new chief, HTTB are:

a. Many areas are one deep in personnel.

b. Lack of written policy. In three months I have seen several changes in emphasis due to lack of clear firm guidance. Every time a General speaks, there is a major change in direction. For example, the measure of effectiveness (MOE) surfaces after the test is run. Where was the concern before?

c. I perceive politics being played between General officers, major commands and major subordinate commands. Everybody wants the authority and prestige and control but nobody wants to do the work or have the responsibility.

d. Are we seeking answers to the right questions? Too much testing is being done in isolation from consideration of what the HTID configuration is to look like as a whole.

4. What is hindering your accomplishment of the mission?

a. Shortage of MTOE equipment, people, and time to train.

b. Shortage of time to evaluate what is to be done and how.

c. Lead time for finances and equipment grows while the time of testing is contracted.

5. Questions or issues the Chief, HTTB should answer:

a. Who is driving the train? What one person at Ft. Lewis can make a decision and have it carried out regarding the HTLD?

b. Is the program too ambitious for the assets available? Does the shortage in assets affect the kinds of questions asked? Are answers to the easier questions sought because the necessary questions are too hard to answer?

c. How to get the HTTB staff and 9ID staffs to start pulling together towards a common goal.

C. Combat Support Branch Chief (LTC Lindsey)

1. What are the major strengths of the HTTB staff?

a. Diverse background and quality of personnel working here.

b. It is working outside the established Army system and hence is able to cut across established command links. (A strength being quickly lost through abuse.)

2. What should be the first change made within HTTB?

a. Establish a guiding philosophy on the way HTLD will fight. This is very important for guiding the type of

concepts and equipment we actually test. It would be the ROC of the HTLD which does not currently exist.

3. My concerns for the new Chief, HTTB are:

a. That he is able to pace himself from the detailed work, achieve an overview and don't become overloaded with small and minute by minute reactions.

b. That he is able to wrest control of what is going on within HTTB back into his office and have the strength to protect/breakoff comfortable arrangements, i.e., he is the fount of our direction as far as we are concerned not the ADC(O) or the ADC(S) or whoever.

4. What is hindering you in the accomplishment of the mission?

a. Lack of a statement of what my mission is. It has never been articulated to me.

b. Resistance to change at USAES.

c. Paucity of support by 9ID.

5. Questions or issues the Chief, HTTB should answer:

a. How do we integrate the activities in the place rather than the separate work now going on?

b. Is what we are doing coherent with the overall philosophy of the HTLD concept?

D. Concept Branch Chief (LTC Jackson)

1. What are HTTB staff's major strengths?

a. Access to the CSA, high visibility and plenty of money.

2. What should the first change within the HTTB staff be?

a. Discontinue daily meetings.

b. Stop functioning on a day-to-day reactive basis.

c. Start putting the finger on the TRADOC Centers who are not responding to our needs.

3. My concerns for the new Chief, HTTB are:

a. That he will become overwhelmed by conflicts and out-ranked by Generals.

b. That his time will be eaten up and not allow him to direct HTTB.

4. What is hindering your accomplishment of the mission?

a. Failure to use past test results to get the information we need.

5. Questions or issues the Chief HTTB should answer:

a. How do we clarify with higher headquarters the responsibility and authority of the HTTB, to include CAC and the TRADOC centers?

EXHIBIT TWO

COMMANDER'S PRIORITIZED ISSUES

1. HTTB goals: define when HTTB takes priority over Mission Requirements. (11)
2. Heavy administrative and planning requirements or MSC staffs. (7)
3. Earlier notification of changes (timeliness). (7)
4. Units' time required by ROTC, Reserve support, Post guard, and BTMS attendance. (4)
5. What is the CG doing to protect units from VIPs, TATT, LAAT, IG, etc.? (4)
6. How to implement guidance when there exists personnel and equipment shortages. (4)
7. Do we need an air assault school? (3)
8. Problems around deployability. (3)
9. Integration of Division CPX, FTX, EDRE with unit training schedules. (3)

Table I

Regression Analysis Data

No. of Days Supporting HTTB Test	No. of Platoons Failing One or More ARTEP Mission
"X"	"Y"
5	3
6	6
9	8
13	19
14	22
16	20
17	25
18	29
20	30
24	31
27	32
29	35

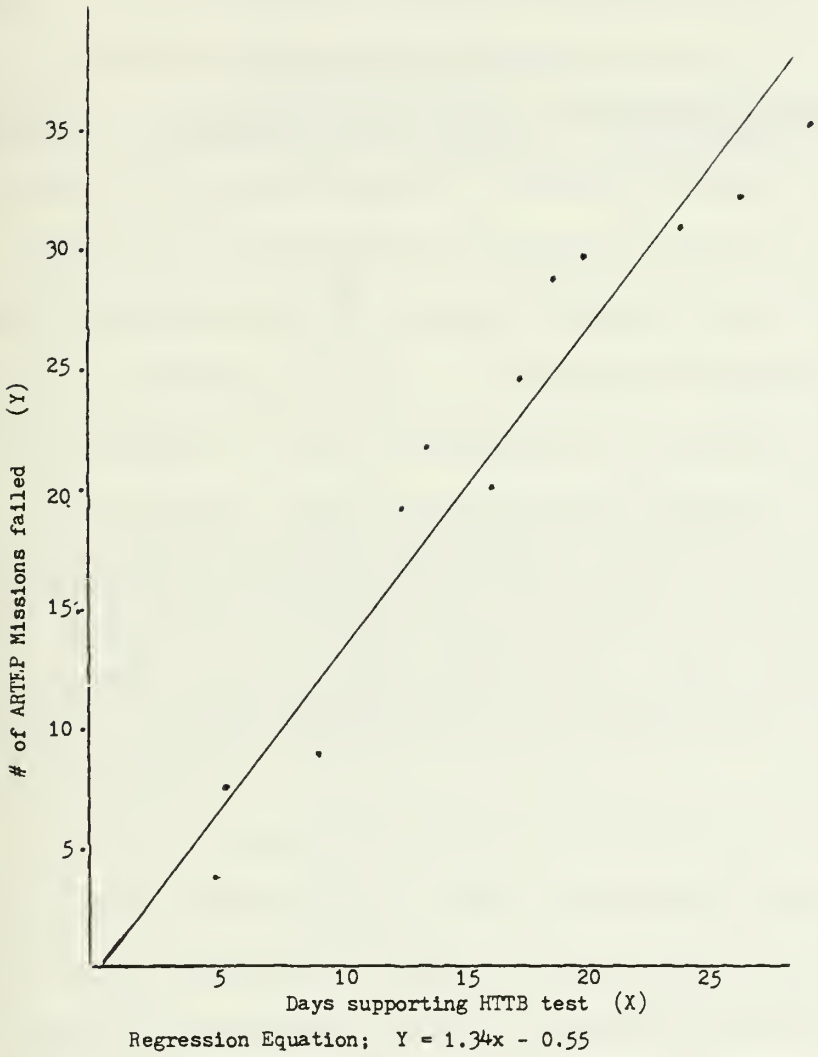

Figure 4.3 Linear Regression Analysis.

Table II

PNCOC Questionnaire Responses

Number Saying HTTB Support Impacts on Training	No. Saying HTTB Support Does Not Impact on Training	Sign Value
50	36	+
48	42	+
39	54	-
55	40	+
58	30	+
55	39	+
60	31	+
40	52	-
50	37	+
31	58	-
60	26	+
38	52	-
58	35	+
53	42	+
49	39	+
51	43	+

B. THE CASE OF HTTB II

Two years had passed since the Chief of Staff of the Army (CSA) had approved the High Technology Test Bed (HTTB) project. This project's objective was to increase the U.S. Army's ability to quickly deploy and fight in contingency areas through the design of a New High Technology Light (Infantry) Division (HTLD). The CSA charged the Commander 9th Infantry Division at Fort Lewis to design, develop and evaluate that Division and the HTTB was the staff element given the Commander, 9ID, to assist in executing this program.

The mission of the Commander 9ID and the HTTB Staff was

> "to develop revolutionary approaches in concepts, tactics and equipment that would facilitate a new kind of division; a High Technology Light Division (HTLD) with the tactical mobility, firepower and survivability of a heavy division and the airlift and sustainability requirements of a light division. This HTLD had to be capable of performing worldwide contingency missions while retaining significant utility on the European battlefield."

Control of test activities was exercised through HQ TRADOC to the Test Director (CG, 9ID). The Test Bed was commanded by CG, 9ID, with both TRADOC and FORSCOM elements OPCON. The CG, TRADOC, had direct tasking authority to 9ID for test activities, and was to keep the CGs of FORSCOM, DARCOM and I Corps informed. During the second year TRADOC and DARCOM provided a Chief; HTTB, and a Chief, Materiel Support Activity (MSA), respectively. TRADOC and DARCOM personnel were assigned to their parent organizations with their duty station at Fort Lewis, WA.

Major General Simpson assumed command of the 9th Infantry Division and the HTTB Staff Element in October as it began its second year of existence. When he assumed command, the immediate task he faced was to complete the design of the HTLD organization and the operational structure and brief it to the CSA within six months.

To accomplish this, MG Simpson approved a reorganization plan for the HTTB which had been submitted by COL Saul, HTTB Chief of Staff, one month after he assumed command (see Figure 4.4). The key aspect of this reorganization was the creation of the Program Manager's position (PM) within the Force Modernization Division. PM's positions were created for each type of unit to be designed in the new HTLD.

The HTTB staff organized work group conferences composed of representatives which they felt played a part in or had an interest in each HTLD design area. The PMs were inviting in persons from such agencies and commands as Headquarters DA, TRADOC, DARCOM, FORCOM, USAICS, Fort Sill Targeting Activity, CAC, Litton Data Systems, USA MICOM, Vought Corporation, USACMLS, USA CDEC, USA INSBD, CECOM, Signal School, Communications-Electronic Board, ADA Branch, Boeing Corporation, Roland, and USAES. The Close Combat Branch Chief referred to these group conferences as being "Mini-ROC's designed to formalize many of the needs identified during the design effort."

At the completion of these work groups a proposed organization was formulated and a draft evaluation plan was written

and presented to the CG. The proposed organizations, when totaled together, exceeded the CSA's 16,000 manning target for the HTLD. MG Simpson, in an effort to reduce not only the personnel but also the deployability requirements for the proposed HTLD, held a conference during March at the Alderbrook Inn where the Division leadership developed the basic force structure proposal for the High Technology Light Division (HTLD). Participants at this conference included the Division Commander, the Assistant Division Commander (ADC) for Operations and Support, the Chief of Staff, Major Subordinate Commanders, the Chief of the High Technology Test Bed and the Special Assistant to the ADC(O). Separate Battalion Commanders participated in the portions of the conference that dealt with their particular issues.

They reduced the organization to 15,977 men which were deployable in 1353 C141 sorties plus 8 C5A sorties. In conjunction with this effort, the operational concept for the High Technology Light Division was formulated also.

The HTTB Force Design and operational concept was presented to the Chief of Staff of the Army in April as scheduled. The CSA was also given factors which effected the design of the HTLD structure. They were the identification process of high technology equipment, the availability of the equipment, and the How-to-Fight effort conducted by the 9th Infantry Division.

Following the April presentation to the CSA the proposed organizational structure was sent to the TRADOC schools to be analyzed for personnel mix, combat sufficiency and concept issues.

From 29 April to July the TRADOC agencies conducted their own review of the HTLD which resulted in producing a division of 17,742 people with a deployability requirement of 1380 sorties. They briefed this organization structure to the Chief of Staff of the Army in August.

The major effort following the August In Process Review (IPR) was to still reduce the HTLD down to 16,000 men. Also, after the August IPR, automated unit reference sheets were developed so that transition tables of organization and equipment (TOE) could be formulated. Ten units were identified to be immediately formulated into modified TOEs. They were the Light Motorized Infantry Battalion (LMIB), Light Attack Battalion (LAB), Assault Gun Battalion (AGB), Scout Co., one Bde. HHC, 3 Forward Support Battalions, an Air Cavalry Troop, a Ground Cavalry Troop, and the Artillery Target Acquisition Battery. Transition E-dates were established for all the units in the HTLD design. These documents served as the forerunners of all unit TTOEs and eventually MTOEs which were developed at HQ, FORSCOM in September.

Even though the Chief of Staff of the Army had requested that he continue to attempt to get the HTLD structure down to 16,000, MG Simpson knew that his definition phase of the HTLD

design was nearing completion and that the implementation phase of HTLD's development had begun. "That", he said, "meant 9ID would be transitioning from its old structure into the new division for purpose of evaluation." He recognized that while he did this, he must operate within the envelop of officer-NCO shortages and personnel turnover which is characteristic throughout the Army. He knew that while transitioning into this new division, there would be new units replacing old ones, new equipment entering the units, and surrogate equipment being used. In addition, the routine functions of training, ARTEPs, inspections, etc., would have to continue. He had to maintain a deployable operational division throughout the transition phase. He had once said, "This is the obvious management challenge."

In an effort to meet this challenge and provide structure to the 9th Infantry Division's transition process he centralized transition management authority under the Chief of Staff 9th Infantry Division. He established the Assistant Chief of Staff, Transition as the primary 9th Division point of contact for transition actions which were to occur in the near term time period. He designated the HTTB as the principle 9th Division Agency for far term transition activities. He set up the Transition Steering Committee (TSC) chaired by the Commanding General. He also established the Transition Review Committee (TRC) co-chaired by the two Assistant Division Commanders. MG Simpson used these staff positions as

the management structure to direct the implementation of the 9th Infantry Divisions' transition into the HTLD configuration (see Figure 4.5).

The Assistant Chief of Staff, Transition (ACS,T), was the Chief of Staff's agent for coordinating and managing the execution of transition actions within HQ, 9th Infantry Division. The ACS,T was the principal coordinator of the TRC, and the executive agent of the Transition Steering Committee.

The High Technology Test Bed (HTTB) was responsible for coordination of transition related activities with DA, TRADOC, DARCOM, HQ FORSCOM staff, 9th Infantry Division staff, and 9th ID subordinate commands.

As the "Far Term" Activities Agency the HTTB had to establish combat and material development requirements, assess unit deployability profiles, coordinate development of training support literature, and other information and requirements relative to transition of HTLD units. They also had to coordinate support of evaluation and/or testing of transitioning units.

The Transition Steering Committee (TSC) was the overall policy/decision-making body for all transition issues. The TSC was chaired by the Commanding General and composed of the two ADCs, the 9th ID Chief of Staff and the Chief, HTTB. The TSC provided command guidance and strategic direction to the total transition process. The TSC was considered in permanent

session and could be called upon to make command decisions on time sensitive issues. The TSC took action on any issues which could not be resolved by a session or action of the TRC.

The TRC was composed of a general officer, MSC/Separate Battalion (Co) Cmdr. Chief HTTB. The Chairman of the TRC was the Chief of Staff, 9th Division. Formal TRC meetings were conducted monthly.

The basic job of the TRC was to conduct quarterly IPR's of selected unit organization issues. The Chief of Staff, with advice from the ACS,T and other principal staff, and HTTB were responsible for determining unit reorganization actions/issues to be briefed at the TRC. Any TRC member could nominate agenda items through the ACS,T to the Chief of Staff. Taskings or guidance resulting from the TRC was to be compiled by the ACS,T for signature by the Chairman and distributed to the agencies involved.

This management structure which MG Simpson established to direct the implementation phase of the 9th Infantry Division's transition to the HTLD configuration had not worked very well. This became evident during a Transition Steering Committee meeting where the CG was told that the Field Artillery Battery which he formally activated a month ago in November, in accordance with its planned E-date, would have to be deactivated because the full complement of officers required had not arrived on scheduled due to a delay in the personnel system. The problem was further compounded because

Litton Data System's Surrogate versions of the Lightweight Advanced Field Artillery Tactical Data System (LAFATDS) had not arrived. The program manager of the Fire Support Branch, Combat Development Division, of the HTTB Staff and the Litton Data System's project manager had (because of the need for slippage in the delivery dates of some spare parts and test equipment) agreed for the initial LAFATDS to be delivered 3 months beyond November's scheduled E-date. Since this was a key component in the Battery's new organizational structure, most of the units proposed training schedule was unable to be executed. All of these facts together led the Assistant Chief of Staff for Transition, LTC Matthew, to recommend to the CG that the recently activated Artillery Battery be deactivated immediately and converted back to its original structure and equipment.

MG Simpson gave approval for the deactivation. He immediately closed the meeting with the following remarks:

> "To me this action exemplifies the kind of backward step which we must minimize. When the CSA created this project he expected the 9th ID and the HTTB Staff to complete its mission in five years. It's now December. I've been commanding this outfit for 15 months and this HTTB project is a little over two years old. By this you can obviously see that the time clock for our expected date of completion is ticking away. Such uncoordinated and uncontrolled actions as these will not allow us to succeed. The CSA would not look favorably on our efforts if these are the kind of reasons we give for not getting the job done. Obviously the management procedures I approved for controlling the implementation phase of the transition are not working. I will examine them, and we will very quickly decide what needs to be done. Once this is done, I expect each of you to do everything possible to insure that such an event as this never happens again. Meeting adjourned."

After reflecting on the problem which had just occurred, and re-examining the previously described management procedures for guiding the implementation phase, MG Simpson felt that he needed to take a systemic view of the problem. He decided to use the Organizational Effectiveness Office to assist him in this effort. MAJ Bacon, the Organizational Effectiveness Staff Officer, was directed to, within three days, do an assessment of the situation and come back and let him know what the Commanders and Staffs thought the problems were, and the ways they thought these kind of problems could be eliminated. The CG gave MAJ Bacon his concept on how the problem needs to be approached.

> "The 9ID policy on organizing new units will be based on a 'total system' concept. A Unit or elements of a unit will not normally be considered organized and therefore pass from special staff cognizance, until the 'total system' is on hand. A total system includes equipment (component, and tools), ASL/PLL, publications, tech manuals, supply manuals, soldiers' manuals, SQT, ARTEP, etc., ammunition, training aids, new equipment training, material fielding teams, military and civilian manpower spaces, designated PMOS qualified soldiers, fielding and sustaining funds for new systems, documentation (TOE and MTOE), and MCA facilities. I know all unit organization actions do not have all of these facets, but each one must be assessed as either ready or nonapplicable components of a 'total system'. Requirements that are still being developed, written, under contract or pending procurement or not sufficiently available will normally be designated as requirements which render a unit not capable of performing, training, testing, field exercise, Force Modernization, or other assigned missions. In such cases unit organization actions/decisions will be early senior management review. You can expect the full cooperation from everyone because I have told them you are going to be working for me on this in an expeditious manner."

Because of the short time in which he had to respond to the CG, MAJ Bacon decided to interview only the key persons

in the current management structure for the transitioning process. He coordinated and scheduled one hour interviews with the following persons: the Assistant Division Commander for Support, the Division Chief of Staff, the Assistant Chief of Staff for Transition, the 3rd Brigade Commander, the HTTB Chief of Staff, and the HTTB Staff Executive Officer. He asked each of these persons two general questions: What are some of the reasons for the Division and HTTB Staff not being able to get the job done?, and/or what do you think could be done to make the management structure function more effectively and efficiently?

When Major Bacon arrived for his interview with the Division Chief of Staff, COL West, he found that COL West had requested LTC Matthew, ACS-T, to sit in with them because in COL West's words that "would allow him to kill two birds with one stone." Major Bacon asked the questions he had planned and after some moments of silence LTC Matthew said,

> "What is missing most in this whole transition management process is an overall integrated document covering a unit's transitioning activities. There are a lot of actions which are required to get a unit prepared to meet its E-dates. And, at present, those persons responsible for doing them are all acting individually.
>
> "I've been thinking about this problem for some time now, and what I've concluded is that we need to establish a requirement for each unit of 9ID to prepare what I call a Unit Organization Plan (UOP). As I envision it, this plan will be prepared by a team of functional experts hired by contract to work with each organization to meet the requirement. By functional experts I mean civilian personnel who for instance know all the ins and outs of how to get new personnel with new MOS's into a unit organization. In a similar way, I see the same kind of person

from the civilian contractor, who knows the peculuarities of their business, being a part of the team. I see the team working under my auspice along with the Transitioning Unit Staff and the HTTB Program Manager in order to develop and maintain a current unit organization plan. To be most effective the UPO development will have to be an interactive staff process conducted on a 60 day cycle.

"Such a document can very easily become the basis for preparing supporting management documents such as request for training publications and development of the personnel distribution plan (PDP). Currently the key/central management document is the unit's milestone schedule. Its weakness is like all milestone schedules and that is it is only a 'checklist' for events without an ounce of 'planning'. The UOP would be the document which has the 'planning' incorporated in it. Under this plan I have in mind, the milestone schedule would not be deleted, but only serve as a supporting document. And, because of its importance, the milestone schedule would be updated bi-weekly versus once a month as it currently is.

"If adopted, the UPO would become that document which integrates the actions of the two key elements in this transition's implementation phase, the HTTB Staff and the particular Division unit being transitioned into the new HTLD configuration. Under my plan the commanders would not be concerned, as they are now, with simply defining requirements related to new or displaced units, but they would assist in the development of the UOP and would approve each iteration before the UOP is forwarded to the 9ID Staff for analysis. The HTTB Staff would in conjunction with the Transitioning Unit Commander, assist in preparation and staffing of the UOP. The UOP development process will only be complete when the responsible Major Subordinate Commander (MSC)/Separate Battalion Commander has briefed and been granted TRC approval to terminate the process. Overall, the UOP provides a guide for planning, checking completeness of actions required, assisting Headquarters 9ID in identifying issues and insuring that the quote total system unit organization in the 9th Infantry Division occurs."

At that moment Major Bacon asked, "Sir, how will this UOP benefit the division special and primary staffs? LTC Matthew continued by saying,

"As I see it, the primary concerns of the Division Staff in this transitioning process are to monitor emerging unit organization requirements and associated milestones

from the point of view of supportability and issues avoidance. To date they have tailored their efforts to the milestone plan. This, by virtue of the fact that the milestone schedule was based on essentially no planning, made whatever actions they took potentially vulnerable to Murphy's Laws. The staff needs to monitor emerging unit organization requirements with a sense of active anticipation for what requirements that creates for them. Once such requirements are identified, they need to be incorporated in the UOP. That's how the UOP helps them. They are able to give input and analyze the unit's organization plan and get involved early on. This has not happened in the past and in my opinion, is one of the two key reasons for the deactivation of the Artillery Battery.

"You see, each of the general or special staffs have oversight for specific areas a unit attempting to transition by its established E-date must consider. Each of these areas, even if the best of planning is done, have the potential for key events to fall through the crack. This is evident to me because of the things which failed to occur in many of the staff areas and fostered the deactivation of the Artillery Unit.

"For example, the Division Logistics Officer (G-4) did not examine the facts and assumptions the unit followed when it did its planning. At a minimum his staff should have examined them for logistical personnel, ammunition, repair parts (ASL/PLL), special tools, equipment transfer/turn-in, and indirect requirements such as base operations in terms of personnel and facilities. As a result the unit logistic officer asked "How do we get additional storage requirements for the new equipment?" and "What are the procedures for turn-in of excess items?" Such questions and problems as these should be addressed and solutions sought well in advance. Requiring the G-4 through the UOP to evaluate and analyze initial logistic assumptions would reduce the potential of errors in the area of maintenance.

"One other thing we learned is that the Adjuntant General needs to determine long lead time SC/PMOS requirements and demands for MOSC that have not been developed. The personnel requirements have to be top loaded or fed in PERSACS. If this is not done, corrective action must be coordinated with Forces Command (FORSCOM). Prior to activation of the unit, the AG had not published a 9ID distribution plan (PDP) which reflected the organization requirements. The need for this became evident when the AG staff found that some of the Artillery Units to be tested

would require SC/PMOS which were shortages. Also, many of the soldiers required by this unit were not planned for so as to arrive with the necessary training before the unit's MTOE "E" date.

"One of my big problems personally has been to get the Comptroller involved in providing technical assistance in the analysis and costing for new organizations. I had been attempting, to no avail, to convince him that the CG wanted the transition funding requirements to be integrated with the Force Modernization Funding where applicable. The other day he told me the CG had asked him if we had saved any money by doing this in view of the funds expended towards the activation and sudden deactivation of the Field Artillery Battery. Also, had the Division Intellegence Staff assessed whether the new unit would need any additional REDTRAIN or OPFOR support equipment, they would have discovered that the Lightweight Advanced Field Artillery Tactical Data System (LAFATDS) does need additional funding so as to develop OPFOR or REDTRAIN devices in order to test the unit's effective use of it. The Comptroller would have had to insure that the fund requirement was submitted to the I Corp Comptroller for inclusion in his AFCO submission to FORSCOM. Had they been required to analyze the Unit's Organization Plan for such support they perhaps could have identified and responded to these requirements.

"The Assistant Division Engineer serves as a unique example of how the UOP would be beneficial to the Division Staff elements. We knew for a long time that the guns the Artillery units would be getting were much larger and would require a much larger motor pool parking space. Their failure to coordinate development of installation MCA programs to support new Unit Organization Requirements is exhibited by the fact that the Field Artillery Batteries have no place to park their large guns now which is closed in and secure. Had the Assistant Division Engineer been a part of the UOP planning process and analyzed it for potential engineer requirements, we would at least known when this unit's parking spaces will be hard surfaced and enclosed with fencing.

"The Division Operations Officer's (G-3) Staff can also benefit by being involved in this development of the Unit Organization Plan. Their failure to review the unit's proposed training schedule allowed the unit not to include some of the training requirements the CG specifically wants transitioning units to stay on such as individual SQT skills and ARTEP tasks. If the unit submitted its proposed master training schedule as a part of the UOP and the G-3 Staff

analyze it for congruence with the CG's objectives then these kind of unacceptable training schedules would not be prepared.

"The Division Personnel Officer also can benefit by being part of this analysis effort of the Unit's Organization Plan. If the G-1 Staff had reviewed the organizations personnel requirements to see if they were supportable from an officer personnel standpoint then we would have known that the required officers would not be able to arrive by the scheduled E-date for the Artillery Unit.

"In terms of one last point, my experience in this job for twelve months now has shown me that even if everyone did exactly what he was supposed to do——the problem would not go away. The key management challenge here is the fact that all of the actions are interrelated. A slip in the date the equipment will arrive will effect the personnel, who, if they arrive as scheduled, will not have anything to do. And, if the equipment arrives but proper maintenance facilities are not available, you have new equipment being damaged or potentially stolen."

Major Bacon asked if there were any more comments either one of them would like to make. The Chief then said,

"Even though I agree with all the LTC Matthew has said, I would like to say one thing in defense of the Division Staff. These staff elements of mine are not only having to consider the transition effort but they must also continue to provide support to all the other Division Units. The G-3 needs to insure all units have ARTEPs scheduled, resources available to support them, and time to train. The G-4 has to insure all the normal logistics for a Division like this are executed. And most importantly the G-1, for example, must insure that the soldier is not forgotten about and taken care of through all of this.

"This last point was brought to my mind this morning because of a paper I received from the G-1. You are aware that this Division's immediate higher Headquarters, I Corp, was activated here. With the arrival of I Corp came other impacts. This paper examplifies one of them."

Major Bacon asked, "What is it?" The Chief of Staff then said,

"When Corp arrived an additional demand was placed on the already limited number of quarters available to all ranks. The result has been that more soldiers have been forced to move out into the civilian community to seek housing. With our pay, as stated by the President, '5% behind the civilian sector', the Corp Commander was worried that many of our lower enlisted would be living in inadequate housing. He charged the Corp G-5 to examine this issue. Apparently the Corp G-5 took a random survey of 220 military families living in the civilian community and checked to see what the status of living was like for them. These two pieces of paper summarize what he found. This first table (Table 3) shows by rank the number of military persons surveyed, their annual salaries to include BAQ, the number years of service, and monthly BAQ rate for each. He has defined 12 different family types. For example, an E-4 with 2 years service whose monthly BAQ rate is $216.00 and annual income is $10,212 is one of the total 25 families who make up Family Type 4.

"This next table (Table 4) is a matrix presentation of Military Wage Earner salary (MW_i), Dependent Wage Earner salary (DW_i), the number of children in each family type (C_{fi}), the total numbers by families by family type (N_{fi}).

"Yet this next table is the key one (Table 5) for on on it you see where the Corp G-5 took the data from the previous tables and did some simple calculations and shows that 'our Military Wage Earners are o.k. and experience no significant hardships'. However, the Division G-1 took the same day and has shown through his statistical calculations that our Military Families living off post are not doing well and predicts that things will get worse if our 5% raise is not approved and more personnel are forced to live off post due to shortage of quarters.

"At present I'm unsure what to do with this information. I'm sure the G-1 has not lied and he assures me that the Corp G-5's calculations are correct, but that he made the wrong interpretation of the data. Even though these two seem to contradict each other, the point that came to my mind from this is that we must not forget our soldier during all of this transitioning process."

Those comments concluded MAJ Bacon's interview with COL West and LTC Matthew. In five minutes he was to interview BG Harris, the Assistant Division Commander for support and

co-chairman of the Transition Review Committee.

After reporting in and asking the questions he planned, GEN Harris made the following comments:

"An organization structure is effective if it assists individuals in the attainment of organizational objectives, and if its structure aids the accomplishment of organizational objectives with a minimum of unsought consequences or costs. In our case, the HTTB is the TDA organization attached to 9th ID to program manage in detail the myriad of components for transition such as new equipment, tactics and doctrine, etc. The ACofS, Transition was created as a separate special staff agency by the CG--a formal communications and coordination mechanism between the 9th ID and HTTB. The ACofS Transition Charter is to be an all source clearing house for transition issues between HQ DA, FORSCOM, 9th ID staff, HTTB, subordinate units. The execution of our Transition plan is done along traditional command lines of responsibility. The problem with all of this from the top to the bottom is that DA MACOMs are not organized to handle 'jamming' a new Division through their resourcing systems; the HTTB and G Staff are required to do traditional business in a nontraditional manner in order to get the job done. This effect cascades down to the lowest unit level; informal chains of decision and action often supercede the formal; and 9th ID/HTTB staffs receive conflicting or uncoordinated guidance from DA/FORSCOM/DARCOM/etc. Guidance is communicated to transitioning units through numerous channels such as Cmd, HTTB (PM) and Staff. Commanders and staff spend a lot of time sorting out where the 'truth' lies.

"Staffing has been a source of problems for us during the management of this transition process. By and large, the CG has had tremendous success in being able to staff 'high leverage' positions with people of his choosing. He has created his 'top team' based on personal knowledge of the key players. But the high annual turnover rates of NCOs (30-40%) has had a tremendous adverse effect on unit's ability to plan and execute. Normal officer and NCO on-post PD job rotations add to the confusion. As one commander told me he 'can't tell today's players without a scorecard'.

"Another area of contention for us has been in the control of the process. It's true a Committee System of Transitioning Management has been established. TSC sets the charter. TRC provides Commanders and Staff with mechanism to force action up or down. The Transition War Room

is designed as a TOC where vertical and horizontal communications mechanism within the Division can continuously occur. The HTTB PMs continually monitor the progress of their areas of responsibility providing input to CG through Chief HTTB. However, we need accurate Quantitative Analysis plans and Quality Control mechanisms to detect actual or potential deviation from plans. In our environment external agencies (out of our span of control) are able to adversely impact on transition activity—forcing 9th ID to 'scramble-alert' informal backup systems to change the formal system. Further, 9th ID does not control the resourcing agencies that will ultimately determine the HTLD's fate. We try to influence the bureaucracy but major battles are won or lost by playing a limited quantity of trump cards.

"Somehow I think our planning needs to be done better. We have diverse planning functions (Acquisition and Procurement) conducted by staff elements under traditional areas of authority. For example, training by G-3, personnel by G-1/AG and equipment by the G-4. A good aspect about our process is thoughts that the HTTB provides new equipment fielding plans to ACofS Transition and the ACofS Transition overlays the developed plans to identify actual and potential disconnects between Force Modernization, Training, Restationing, and Personnel. The ACofS Transition also maintains the HTLD milestone calendar, Training 'Horseblanket', Transition Schedule, and the New Equipment Fielding Schedule. This good quality of our planning is so often overshadowed because the 'Full Plate' of the normal unit training activities required to maintain combat readiness is heavily impacted on by adding additional helpings of transition activities. Units and Staffs become 'event' driven. Commanders have little or no flexibility in their training plan due to 'full plate' effect. They lose their ability for reinforcement or corrective training. They are working overtime just to accomplish the routine.

"We've learned that the Transition Schedule is fluid and dynamic because transition dates are tied to equipment delivery schedules which are not firm. The Field Artillery LAFTADS, the assault gun, and the HMMV are examples of how this can go wrong. Slippages in one dimension will continue to cause a 'domino' effect in the others.

"In spite of the fact that the CG and subordinate Commanders have taken great effort to clearly communicate the importance of the transition effort, it is very difficult for a unit that is consistantly jerked at the end

of the 'transition' string to understand the 'big picture' concept. More importantly it is extremely difficult for soldiers to understand what is going on (big picture) in this volatile environment. In this division leadership is burdened with a double dose administrative workload. The leadership is taxed to the maximum to keep unit morale and espirit at a pitch.

"One thing I think we must keep aware of is that we do not let this process overwhelm our people. To get the job done we've had to remove some of the traditional structures in order to respond to the changing rules of the game. I've observed that this has placed many outside their 'comfort zone' in the way we do business."

This was the last interview Major Bacon had scheduled for the first day. He went back to his office to analyze the information he had received the CG's concept of how the problem should be approached.

The next day he interviewed the Chief HTTB, COL Saul, and LTC Smith, XO HTTB, and COL Chapman, the 3rd Brigade Commander. During his interview COL Saul made the following remarks:

"I am glad that the General has gotten your Staff involved in this. Not long after I took over 17 months ago in the Month of August, it became clear to me that not everyone understood the enormity of this mission the HTTB Staff and the 9th Infantry Division had been given. My staff at that time was still trying to just design the units which would eventually compose the HTLD. As you know, HTTB evaluates emerging operational and organizational concepts under the auspices of CG, 9ID. In addition, HTTB facilitates 'near term' enhancements which comprise the expedited 9ID assimilation of current production items and product improvements that use materiel fielding plans as their primary introduction documentation. Additionally, HTTB is used as a medium to evaluate emerging operational, organizational and materiel concepts to enhance mobility, firepower, C^3 and deployment of the light division. Learning all of what this mission entails is essential if such incidence as the one with the Field Artillery Battery deactivation is not to occur again.

"HTTB is now resourced to do what was apparent yesterday, but still struggling with what has to be done tomorrow to make operational the envisioned capabilities of the key

fighting echelons of the HTLD. In essence what happens is that in the process of doing what we know has to be done we have revealed to us something else just as important which has to be done. Let me give you an example of this.

"The HTTB Staff had gone out and actually done tests on several concepts and equipment items and selected them as being viable for inclusion in the HTLD design before it realized that it had no formalized way to make this requirement known to the acquisition and procurement community. So last year, around the time I arrived, we established the Quick Reaction Package (QRP) program. Under this program, after equipment needs for the fielding of the HTLD are identified, in order to initiate research, development and acquisition of this equipment, the HTTB PMs pass the QRP (need statements) to TRADOC and DARCOM for their input. The QRPs are then passed to DA for approval and funding. However, depending on the item or concept many other Army Agencies can become involved in the review. For example, if it's a new kind of missile system, the USA Missile Command gets involved, and things can be stopped or slowed down anywhere along the way. The QRP is in essence a Mini ROC or equivalent to the mission essential needs statement which proceeds our normal development process."

"Is this what happened to the Field Artillery LAFTADS System?" asked Major Bacon.

"In a way, yes. But the whole story around the Field Artillery Battery illuminates some of the kinds of problems we face when doing our business. Let me tell you about it.

"First of all, from October of last year to September this year the Fire Support Branch was a one man operation. During October of last year there were several ongoing actions concerning the Division Artillery for the HTLD which primarily oriented toward equipment and deployability. One driving concern from the Command Group and DIVARTY was centered on the MLRS and M198. This was primarily generated around the weight of the two systems. During this period of time the HTLD DIVARTY was structured almost identically the same as a light division unit in the Army's Force Modernization Plan. The only unique organization was the DTAB. Also, issues concerning how to fight concepts were being analyzed.

"During November primary actions involved preparation for work group conferences on the HTLD. Actions regarding a lightweight (LT.WT.) replacement for MLRS were surfaced during the month.

"During December the first QRP was prepared for the HTLD by the Fire Support Branch. The requirement was written for a Lightweight Howitzer and was the first of several that followed later.

"During January the first briefing was given to the CG concerning the transition of the DTAB. Litton Data Systems submitted an unsolicited proposal to satisfy the 9th Division needs as stated by the QRP document for a Lightweight Advanced Field Artillery Tactical Data System (LAFATDS). The first Mini ROC (QRP) conference was hosted by CAC at Fort Lewis to discuss and revise the Phase I series of QRPs. Representatives from DCD Fort Sill, CAC, DARCOM, and FORCOM were present. Three QRPs were conceptually approved and forwarded to CAC after the conference. They were LT.WT. DS Weapons System, LT.WT. Field Artillery Tactical Data System and the LT.WT. MLRS. The first IPR to the CG 9th Division was in January. The first CPM was prepared by the Fire Spt Br and given to the Deputy Chief FDD.

"During February a Fire Spt working group was held at Ft. Lewis to develop the HTLD organizational structure and prepare the master evaluation plan. Litton Data Systems briefed their proposal for the LT.WT. AFATDS to MG Simpson. Vought Corp visited Ft. Lewis and presented their varients to meet the requirements for the 9th Division's LT. WT. MLRS.

"As you know during March the Division's 0-6 seminar on the HTLD structure was held at the Alderbrook Inn. During the seminar, everything which was accomplished during the February work group was ignored and several other proposed organizations were surfaced. The CG did not like any due to the excessive number of C-141B sorties required. The alternative structures were scrubbed and re-presented to CG on 11 March. While the FA Branch Chief was on leave in late March, a decision was made by the CG that the DIVARTY HTLD structure would consist of 3 DS Artillery Battalions structured as composite units (2x8 M198 and 1x6 MLRS). There would be no GS Battalion. The TAB would become a battalion size organization. This would be the organization presented to the CSA for approval and follow on analysis. Late in March representatives from Lockheed Corporation and the project managers office for RPV Acquila met with the Fire Spt Branch at Ft. Lewis to discuss the use of an RPV with the DTAB evaluation in October.

"During April primary emphasis was centered on the HTLD equipment transition listings. Members from Telos Corporation visited and were given an HTLD Data Systems overview.

Meetings were held with representatives from the USMC Developments Firepower branch to discuss mutual equipment needs and possible joint efforts. An overnight working session was held at Yakima to prioritize items for the five years of the PARR and establish a transition listing for HTLD. People don't seem to get the budgeting process. This action is still ongoing.

"During May an FTX took place at the Yakima Firing Center. Representatives from the office of Secretary of Defense were at Ft. Lewis to discuss funding and review items needed by HTLD to determine what support they could give in acquisition. May was the test period at YFC. Also, a meeting took place at Dallas, TX concerning the LT.WT. MLRS and variants to meet the requirements.

"During June a meeting was held at Ft. Lewis with representatives from CAC, TRADOC, USAFAS, DA, and DARCOM to finalize the QRP documents. One QRP from the fire support branch was rewritten, the LAFATDS requirement. The QRP was written initially to replace in total TACFIRE. Due to political opposition from USAFAS and PM LAFATDS the QRP was written again so that it would not oppose the ongoing AFATDS project. The 9th ID QRP was changed to reflect an interm solution with TACFIRE as the objective system.

"During July the main concern was centered on issues that had been surfaced concerning the HTLD structures. These issues were generated from CAC and TRADOC schools. Part of the Artillery issues were answered by a fire power analysis that was done by Fort Sill which favorably compared the HTLD DIVARITY with a unit in the Force Modernization Plan. All of this was done in preparation for the CSA IPR in August. Vought Corp and PM MLRS representative briefed the CG on their LT MLRS alternatives. The CG prepared the M667 and M548 varients but refrained from selecting one of these two until the CH47D lift analysis was further refined.

"The CSA IPR took place on 5 August 1982. Some additional actions were generated from the IPR but in general everything was favorable. The DTAB structure and transition issues continued to be refined during the month. Primary problems centered on a workable O&O concept. Unit top loading for TTOEs began during August. Manuever units were to be loaded first, others to follow. On 12 August, Litton Data Systems briefed MG Simpson on their revised proposal to meet the 9ID LAFATDS QRP. The proposal was looked upon favorably but there was still much political opposition to overcome. Magnavox Corporation presented briefings and demonstrated their data systems. Several demonstrations were given and most of the concerned division elements were represented.

"In September, a meeting was held at HQ DARCOM to discuss the AFATDS QRP and how to meet the requirements. Representatives from PM AFATDS CAC, TRADOC, USAFAS, and DA were in attendance. No decisions were made but several alternatives were raised.

"It was during August that we began to set E-dates following the CSA provisional approval of the units and their compositions. The Artillery Battery was one of these units. Operating under the assumption that the LAFATDS QRP would be approved we felt the E-date was realistic.

"What I've told you is those actions we took to insure the Field Artillery was ready for activation. It's important to recognize that in order for this Battery to be ready for activation each of the division general staffs, and DIVARITY itself should have been taking specific actions during this same time period. You know the results, it was activated in November and deactivated 3 weeks ago, 2 months later.

"What we have afloat is a process where several staffs, HTTB, 9ID General Staff, and the unit staffs are performing a multitude of individual actions. Even though the Assistant Chief of Staff for Transition is supposed to be that integrating link, he is constrained because the staff assisting him is only 3 deep, himself, a 1st Lieutenant, and a Master Sergeant. There is not enough knowledge there about how the Army runs to identify potential problems and cut them off ahead of time. So you see, the solution to 9ID/HTTB's and now I must include I Corp, problems can not simply be to re-examine our procedures for the implementation phase to this transition process. The 9ID community must come to realize that together we have been given a mission to do which in requirement mimicks the Army's entire acquisition and procurement process. This is no simple task. It requires a multitude of coordinations with agencies throughout the Army and the Civilian Community."

Those comments concluded Major Bacon's interview with COL Saul. He then went to interview the HTTB Executive Officer LTC Smith. Major Bacon asked his planned questions and LTC Smith gave the following comments:

"The greatest single problem has been the very nature of the work and complexity of the processes contrasted with the limited time and manpower resources available. The HTTB is accelerating the force development process involving three major commands, HQDA, OSD, the Congress, and civilian industry. An average of three General Officers (or

equivalent) visitors per week is hosted by HTTB and while this facilitates coordination in terms of a wider understanding of the HTLD, it does diminish the time available for productive work. HTTB is examining every functional aspect of the HTLD division and equipment ranging from off-the-shelf items to those in exploratory development. The necessity for fielding a prototype divison in five years adds a time urgency to everything that is done. Through the HTTB TDA has nearly doubled, the work expanded considerably in volume, complexity and urgency and the few staff officers, mostly relatively junior and unexperienced, had a difficult time in coping with this stimulating, but difficult, work environment.

"Special Project Officers (SPOs) are hindered in performing their respective projects due to their limited access to classified and unclassified U.S. documents based on AR 380-25. To complicate matters further, the SPOs cannot attend conferences and briefings at Fort Lewis, and throughout the Army community, without the express consent of TRADOC Disclosures Branch. Once TRADOC approves a visit by a SPO to attend a conference or meeting, the SPO must be escorted by a U.S. Officer of equal rank to the SPO. Currently, TRADOC and HQDA are working to resolve the problems with the SPOs.

"In the process of trying to do all of this, we as an organization have been dealing with a lot of the typical management problems. For example, in August of last year the Deputy, FDD, was replaced by a New Zealand officer, MAJ Neil Bradley, who had been acting as program manager for the Engineer Battalion throughout the summer. FDD received liaison officers from the Field Artillery School, the Air Force, the Log Center, the Infantry School, and from the Soldiers Support Center.

"Some of our significant problems in regards to fielding of the HTLD are: resolving the issue of systems integration for all vehicles such as the Light Motorized Scout Vehicle, the Assault Gun, and the Fast Attack Vehicle; assessing the survivability for individual crews, and equipment against ballistics and environmental threats; and a sense of cooperation and teamwork between all involved still needs to be improved upon as major evaluations, and follow-on transition to the HTLD occur.

"As you perhaps know one of our tasks is to assess new ideas of a technical, military or conceptual nature for implementation in the HTLD. The assessment of new ideas has necessitated a search for appropriate methods of simulation.

At this time this search has not resulted in our selection beyond the possible use of the CORDIVEM model being developed as part of the Army Model Improvement Program (AMIP). We could use a lot of help in this area. Starting in February, TMD received its first installment of word processing equipment. This equipment was updated and replaced during the summer months with state-of-the-art word processing equipment. Continuation of this updating/replacement program is scheduled for first of next year.

"Perhaps the area that has internally given us the most trouble is around our Financial Management Division (FMD). It's not so much the FMD itself as it is getting all the Divisions to understand how to play the Army's money game. During our second year of existance the approved operating budget increased 171%. That is from $6.8 million to $18.4 million. The work load to manage this increased in direct proportions to the available funding. Coordination meetings, liaison visits and TDY trips also increased. These visits, meeting conferences and workshops were necessary to establish the framework for determining the total funding resources for both testing and fielding the HTLD. Through months of anguish, frustration and agony, we were able to develop and formulate a cohesive and comprehensive funding program to achieve the mission objectives of the HTLD as directed by the Chief of Staff, U.S. Army. A problem we are still addressing centers around the lack of personnel to adquately maintain required resource documents and data concerning HTTB test efforts.

"As the Test Bed grew in size, many of the individuals who helped lay the initial cornerstones for the organization were being reassigned. Their departures presented a void in the ongoing developments of institutionalizing the Test Bed as a viable test activity within the TRADOC Test Community. Newcomers brought with them new ideas and concepts. They also brought the need for increased financial awareness and funding flexibility. Our higher command was initially reluctant to grant the funding flexibility required to insure test objectives were met. And without flexibility, innovations were curtailed.

"The activation of I Corps Headquarters presented the requirement for the FMD to further coordinate its actions and efforts. Though the coordination was telephonic in many instances, a pause in normal operations occurred. Further, what was considered business as usual in dealing with other activities of the 9th Infantry Division and Fort Lewis proper, was now elevated one echelon above. We have not only liaison with the 9th Infantry Comptroller but coordination with I Corps and Fort Lewis activities such as

Post Comptroller, Directorate of Industerial Operations and Directorate of Facilities Engineers, to name a few.

"It would be proper for me to mention what I think some of our significant achievements have been. The shape and form of the prototype organizations is clear. Test plans, evaluation plans, resources, training and doctrinal needs have been developed or needs identified. At the action officer level, there is a commonly understood sense of purpose and desired objectives. A solid foundation is in place for progress and achievement toward the HTLD in our third year."

That concluded Major Bacon's interview with LTC Smith. He next interviewed COL Chapman, Commander of the 3rd Infantry Brigade—the one divisional unit which was being tested in the HTLD configuration. Most of his units supported all the tests and were being converted as prototypes for the HTLD using surrogate equipment. When he was interviewed he made the following comments in regards to Major Bacon's questions:

"What I think we need most is a Transition Working Group (TWG). The formation of a Transition Working Group of action officers from the Division Staff, Transitioning Units, and HTTB which would meet bi-weekly in the Transition War Room to identify/resolve unit specific issues without total TRC involvement, except for final information/decision briefings, is critically needed. We need a Forum for low level issue resolutions that cuts across lines of staff interest.

"We already have in place the Management Structure to support this idea. The Chairman of the TWG could be the Assistant Chief of Staff for Transition. The meetings would follow an established, timed agenda. Both HTTB, Unit representatives, and 9th ID Staff POCs would be allocated time on the agenda to present issues for resolution/discussion.

"The TWG would address unit organization of units with E-dates that fall in the next 270 day window. The purpose of TWG, in essence, would be early identification and resolution of issues at the lowest action level possible. When issues exceed TWG authority, I would expect them to be carried forward to a special or monthly TRC meeting for

decision. The CG, since the FA Battery deactivation, has been speaking about a total systems unit organization process. This addition to our current Management Structure for Transitioning would allow this to occur more efficiently."

At the moment of those words the interview with COL Chapman was terminated because he received a call from the CG's office with the message that he wanted to see him as soon as possible. Major Bacon returned to his office to further analyze the information he had received. He had only one day left before he would have to go back and brief the CG.

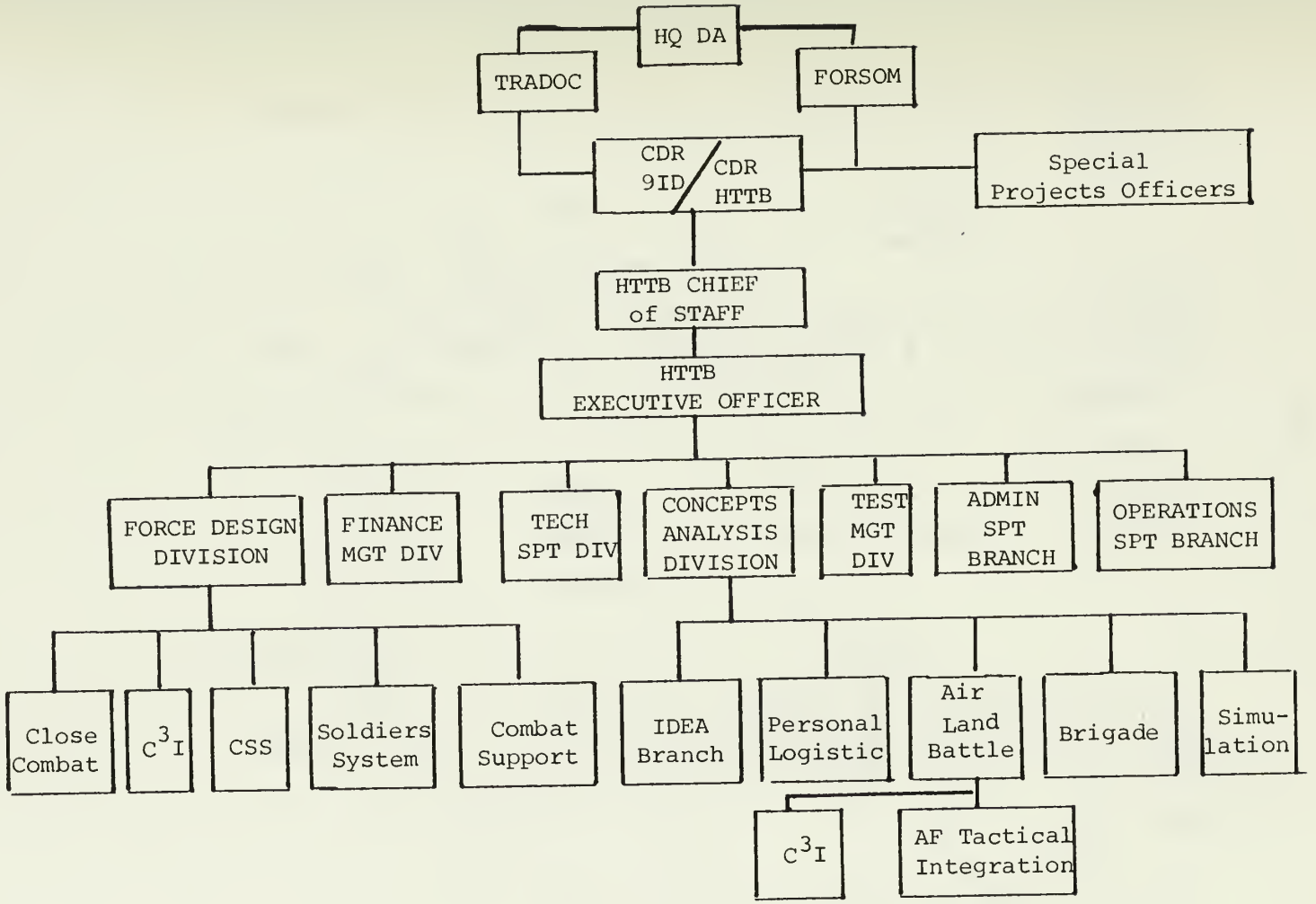

Figure 4.4 HTTB Organizational Structure

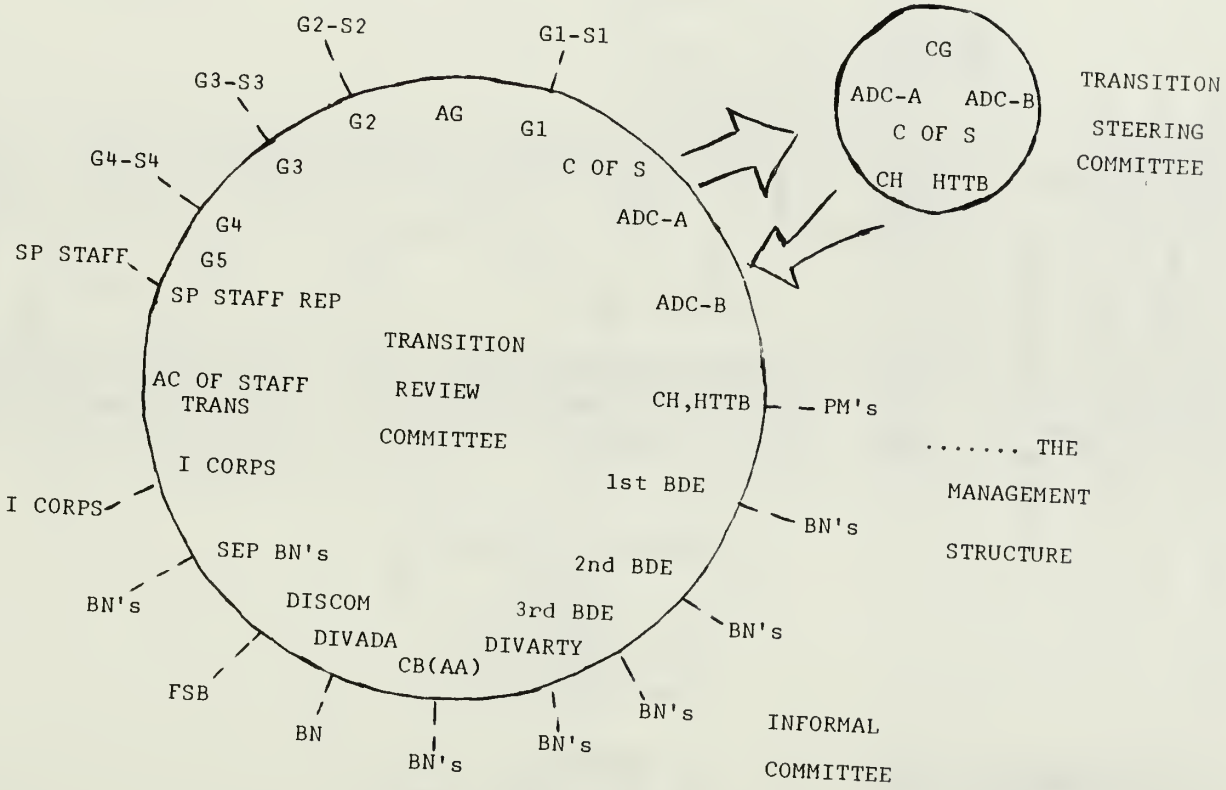

Figure 4.5 9ID Transition Management Structure.

Table III

Family Income Data

No. of Random Families Chosen	Rank of Military Head of Household	Years of Service	Monthly BAQ Rate	Yearly Salary + BAQ
3	E-1	2	$ 189.00	$ 8,604.00
20	E-2	2	189.00	9,324.00
10	E-3	2	189.00	9,600.00
25	E-4	2	216.00	10,212.00
40	E-5	2	246.00	10,888.00
40	E-6	4	268.00	13,908.00
40	E-7	2	291.00	13,944.00
40	E-8	8	313.00	18,732.00
20	W-1	2	290.00	13,908.00
8	O-1	2	257.00	14,760.00
3	O-5	16	448.80	36,156.00
1	O-6	26	493.50	48,468.00

Table IV

Military Family Household Income Matrix

Family Type		F_1	F_2	F_3	F_4	F_5	F_6
MW_i	$	8,604	9,324	9,600	10,212	10,888	13,908
DW_i	$	0	--	--	10,000	10,000	--
C_{fi}		4	1	0	4	6	0
N_{fi}		3	20	10	25	40	40

Family Type		F_7	F_8	F_9	F_{10}	F_{11}	F_{12}
MW_i	$	13,944	18,732	13,908	14,706	36,156	48,464
DW_i	$	7,000	--	7,000	0	15,000	15,000
C_{fi}		4	0	2	3	5	3
N_{fi}		40	40	20	8	3	1

Symbols: "0" means a non-working dependent spouse

"--" means an unmarried military wage earner

Table V

Corp G-5/Division G-1 Data Interpretation

The Corp G-5 says our Military wage earners are o.k. and experience no hardship due to off post living because.....	The Division G-1 Staff says our Military wage earnings are not o.k., and if they do not get the planned pay raise or more quarters built they will be hurting because.....
1. Average Family Income is $ 17,592.00	1. Average Worker Income is only $ 11,089.00
2. The percent of working wives per family is only 58% and,	2. Average per capita Income is only $ 4,006.00
3. Their contribution to Family Income is only 29%	3. The percent of wives that work is 92% and,
4. The average breadwinner makes $ 15,524.00	4. The wives percent of Income is 38%
5. 43% of the children live in a home where the family income is between $ 20,212.00 and $ 20,944.00	5. 46% of the children live in a home where the head of the household makes less than $ 10,884.00

C. THE CASE OF ADEA

The Army Development and Employment Agency (ADEA) was activated at Ft. Lewis Washington as a Field Operating Agency of the Deputy Chief of Staff for Operations and Plans two and a half years after the birth of its predecessor organization, the High Technology Test Bed (HTTB) Staff. Now six months after the activation, COL David, the new ADEA Chief of Staff, knew his staff organization faced many challenges in the future as a result of this change.

Two and a half years ago the Chief of Staff of the Army (CSA) established ADEA's predecessor organization, HTTB, (a staff of 32 personnel), to develop concepts, doctrine, organizations, technology and material requirements for a new type of light infantry division.

During its three year existence, HTTB designed motorized infantry forces into a High Technology Light Division (HTLD) capable of fighting enemy armored formations in maneuver warfare. They also began to transition 9ID into this configuration. The currently approved structure for the HTLD is at Figure 4.6. Since this design is an evolutionary one, changes are expected but only minor ones.

Even though the ADEA Organization (while known as the HTTB Staff) had grown significantly in size as well as making important accomplishments towards the design of the HTLD, COL David knew that with its new designation came new challenges. The most important being what its future was going to be. How

was it to resolve its problems with a future perspective based on its increased mission?

The decision to make ADEA a Field Operating Agency followed a DA In process Review (IPR) of HTTB. Subsequent to this IPR the Vice Chief of Staff of the Army (VCSA), who was believed to be in line to become the next CSA, submitted the recommendation to the current CSA. He approved it and issued General Orders No. 47.

As a result of the IPR two significant actions were directed to occur. The FORSCOM Commander was directed to assess the impact of the newly activated Corp on the HTLD/9ID and vice versa. I Corp., 9IDs next highest headquarters, had been activated after the ADEA (then HTTB) staff started on its design of the HTLD Division. They had been left out of most of the planning effort but yet they would be the support headquarters for 9ID/HTLD if they went to war. During the In process Review (IPR) it became apparent that work needed to be done in this area. The second action directed to occur was for a manpower survey to be conducted within the ADEA Staff Organization.

Four months after ADEA's activation and with the assessment of I Corp's impact on the HTLD and the manpower survey completed, COL David felt it was time to plot ADEA's future course. The results of these two actions had given him a lot to think about as did all his personal knowledge about the organization since coming on board.

The manpower survey report made the following comments:

"The ADEA mission is to, in an accelerated manner, identify, evaluate and recommend to Department of Army operational concepts, doctrine, organizations, materiel requirements, technology, and training developments which will improve the combat power, deployment capability, mobilization, and sustainability of light infantry divisions in the Total Army. This includes supporting the fielding of the 9ID as the prototype, sustainable light division and using the 9ID as a means to upgrade the Total Army's light infantry forces (see Fig. 4.7 for ADEA's current structure).

"Overall factors currently affecting ADEA manpower requirements include an expanded and continuing mission, the wide breadth and scope of developmental areas addressed, a shortage of key personnel and continued high level MACOM, Department of Army, Department of Defense and Congressional interest. ADEA's mission, as a Field Operating Agency of HQDA, is expanded from that assigned to the High Technology Test Bed (HTTB). HTTB, the precedent organization, was constituted with a mission of limited scope and duration in mind, that is, to develop and field a prototype High Technology Light Division (HTLD) within five years. The original mission is included in an expanded mission that causes ADEA to be more future-oriented and to address the major impacts on the concepts, plans, programs and procedures for all light divisions. ADEA, in response to the needs of Total Army light divisions, must focus and draw together the combat, training and materiel development activities within TRADOC and DARCOM. Areas addressed by ADEA include the gamut of developments for light infantry maneuver forces, fire support, aviation, combat support and combat service support. The wide breadth and scope of these areas give rise to an extremely complex matrix for direct coordination and interface which includes TRADOC Schools and Centers, DARCOM MSCs and Laboratories, FORSCOM, HQDA, officials of OSA, OSD and OMB and Congressional staffers.

"This figure (Fig. 4.8) graphically depicts the numerous agencies that are involved in the complex force development process. There is the relationship between the materiel support activity and the elements of DARCOM, which are involved in the materiel development process from initial requirement definition, to obtaining test equipment, through permanent fielding of operational equipment.

"There is linkage with Forces Command which is involved with transitioning of 9ID units, materiel allocations, unit readiness for combat, and stationing. There are elements of

the Training and Doctrine Command which are involved in development of operational concepts, writing of doctrine, design or organizations, and evaluation and testing of HTLD Units. At the lower left is represented the routine contacts with industry and military-industrial organizations that assist in their contact with industry. These relationships are critical because their mission requires them to make maximum use of off-the-shelf commercial items. The center depicts use of contractors who perform studies as well as detailed work in the Distributed Command and Control System (DCCS) Program.

"Finally, the top shows how they are a Field Operating Agency (FOA) of DCSOPS and work through OSD and the Congress in order to get the authorization to purchase the major equipment items for fielding in the division. They also receive advice and assistance from the Army Science Board, the Defense Science Board, Defense Advanced Research Projects Agency (DARPA), and Defense Nuclear Agency. The main point in this chart is to show that ADEA is the catalyst at the center, merging the efforts of the Materiel Developers (DARCOM), Combat Developers (TRADOC), and Real Users (FORSCOM). The matrix involves ADEA managers from Program Manager to Chief of Staff level and, along with the scope and impact of the assigned mission, drives the general ADEA requirement for mature people with broad, extensive military and/or R&D backgrounds. ADEA is charged by the Chief of Staff of the Army with finding new ways to accelerate the Army's force development process, an area where OSD and Congress have shown vigorous interest. Continued high level visibility and support for ADEA programs and procedures will be necessary to effectively and efficiently speed-up force development efforts in the Army. ADEA is currently authorized only 62 percent of the personnel required for completion of its assigned mission. Most ADEA positions, e.g., Program Managers, Studies Officers and Concepts Officers, are generally one deep and responsible for singularly unique sets of products.

"Table 6 depicts HTTB/ADEA TDAs before and after the manpower survey. Authorized enlisted personnel went from 19 to 9 personnel causing a major shortfall in areas such as administrative and operations services. The large increase in the number of civilian personnel was due to the exchange of several military slots in the Test and Evaluation Division and the Resource Management Office to civilian positions and the authorization of new secretarial/clerical positions.

"The ADEA Force Development and Test and Evaluation processes are highly dynamic efforts in which it has proven difficult to forecast a specific workload very far into the

future. This is particularly true for Force Development Testing and Experimentation (FDTE) and Innovative Testing, the categories of testing to which a major part of ADEA's testing effort is devoted. FDTE and Innovative Testing address materiel, doctrine, organizational and training concepts which require validation by field testing. Such concepts are often developed on short notice and require implementation on an urgent basis to improve the combat capability of light infantry divisions. Such tests are often planned, conducted and reported in less than 18 months and on occasion in six months or less. Equipment delivery schedules change, priorities of equipment issue are revised and programs are delayed resulting in changes in test schedules. Other evaluation techniques, such as studies and simulations, are also subject to the same short notice. While ADEA will provide input for the Army PPBS cycle and be more future-oriented than HTTB, much of its Force Development and Test and Evaluation effort will continue to be near-term and reactive in nature--success will hinge on the development and support of ADEA--peculiar procedures that allow greater flexibility in executing near-term force development activities."

The I Corp Commander and the 9ID Commander decided that the best way to assess the impacts of I Corp and 9ID on each other was to have an Interface Conference between I Corp, 9ID and ADEA. Many issues were brought forth as a result of this conference. The attendees to the conference included representatives from each of Corp and Division primary staffs, special staff officers from Division, ADEA staff and selected personnel and commanders. The conference was planned and run by the Corp and 9ID organizational effectiveness officers. The purpose of the Interface Conference was to begin a structured and detailed assessment of the impact of an HTLD on a Corps and on the installation. It was a process to allow coordinated identification, analysis, and resolution of key issues to occur.

Many at the conference felt that the Division must foster a real mid-level command interest in the Division's Readiness vs its transition efforts. Everyone knew that the Division CG was extremely interested in readiness and expected that matters in this area would improve. They felt readiness must be defined in relationship to the Division's transition effort. Most commanders agreed that development of a Master Schedule enumerating projected major field exercises and tests would assist in the balancing act required to satisfy readiness as well as transition's requirements. One commander commented that "This is an attitudinal/mind-set issue." Along these same lines they felt the lines of communication between HQ I Corps, 9th ID and ADEA must be formally tailored to accommodate the transition project. They pointed out that literally every staff agency is involved in the transition problem and that relationships between I Corps, ADEA, 9ID had not been formally developed to coordinate actions. As an example, they cited the fact that the AR for ADEA Charter was still in draft. "Conflicting mission of ADEA, FORSCOM, I Corps and 9th ID will hinder smooth transition," is the way one commander had stated the issue.

The Division's Deputy Chief of Staff of Facilities and Engineer (DFAE) pointed out that the Status of Environmental Impact Statements and the fielding of the HTLD was an issue yet unresolved. They stated that "the new HTLD is expected

to have a significantly different impact on the Ft. Lewis environment than a light division will."

Perhaps the most significant of the issues they raised was the one indicating that there was no long-term Stationing Plan for Fort Lewis. The development of a workable stationing plan is dependent upon the creation of a master schedule of events for I Corps/9ID, the "growth plan' for I Corps, and the final structure of 9ID. Any stationing plan developed they felt should take into consideration near, mid and long-term considerations, such as units that are to be activated/deactivated, and ROTC and Reserve unit requirements. Since a long-term stationing plan did not currently exist, they said, "A coordinated, comprehensive schedule of unit events superimposed on a time line must be developed before starting work on a long term stationing plan." Another interesting question the DFAE asked was "Is There a need for temporary structures at Ft. Lewis to support 9ID's transition?" He said there was a 700 series regulation that authorizes the construction of temporary facilities, but presently there were no programmed funds for temporary facility construction. In more specific terms they remarked that there may not be facilities available for ROTC and Reserve Component Support as a result of 9ID's transition efforts and I Corps' expansion. The DAFE also said there was a "need to identify short and long term ROTC and Reserve Component facility requirements at Ft. Lewis." The anticipated activation

of new units on the installation such as Special Forces, the Corps Growth Plan, and 9th ID Transition will impact on availability of facilities. Currently there were no funds programmed for construction of more facilities to support ROTC/Reserve unit training.

Even in the light of the fact the ADEA had recently become an Army Agency, the question "Will the HTLD/ADEA be returned to the inventory of divisions available for deployment or will it remain a 'Test Bed' in a constant state of flux for the foreseeable future?" was asked. To the surprise of everyone, the exact answer was not known. The feeling was that if the HTLD remains a "Test Bed", then Corps does not need to worry about tactical employment until a deployable division is fielded. If the HTLD was to return to the inventory, then it was necessary to begin resolving Corps interface issues now.

There also was a need to determine who actually manages, controls and approves the automation of equipment and software. The AMO was currently bypassed or "overrun" and the interface was poor. There needed to be a detailed definition of the Installation's deployment transportation requirements to be added by the HTLD transition. The Division would have to identify changes in the movement data base that will be generated by changes in organization and equipment. Along these same lines the Division NBC element needed to be automated along with a comparable Corps automated NBC system.

The Division DCCS had an ADP system in NBC but there was no comparable system within Corps' NBC. I Corp did not know how the integration of the Distributed Command and Control System (DCCS) into the HTLD would impact on its tactical communication capabilities.

Nearly everyone at the conference felt that there was no integrated schedule of events to enable staff agencies to plan forand monitor the progress of major actions that affect command and staff activity. Currently there existed more than one schedule of events. For example, there was the HTLD Transition Plan, Force Modernization Plan, FTX Activity Plan, Facilities Plan, 5-Year Range Improvement Plan, and the Unit Activations/Deactivations Plan. Without an integrated schedule everything appeared as a significant event which competed for scarce personnel, planning resources, funds and time. They concluded that in order to maintain an integrated schedule, automation was essential.

The Corps G-3 did not know if the Corps slice of equipment would be compatible or interface with HTLD equipment such as the TACFIRE, and Engineer. He pointed out that the HTLD needed an 8" gun for nuclear/chemical delivery. But the equipment had not been integrated for Corps/Division interface. Also several functions such as AG, Mess, etc. that were normal to other Army Divisions had been stripped out of the HTLD. But non-divisional units normally assigned to the Corps to support a "typical" division are not

sufficient to support a HTLD. A side issue of this was that the HTLD was being designed to meet a particular ramp strength rather than having certain capabilities.

From a daily training perspective the identification of installation range facility requirements needed to be done. As of conference date neither I Corps' or 9ID's staff had completely defined the scope of this issue. A distinction had to be made between ranges that are needed for force modernization or to support the transition effort. The Comptroller was quick to add that the creation of new ranges needed to be included in the PARR estimate.

The Corp Comptroller noted also that since Corp had not been involved upfront in the HTLD planning the upcoming fiscal year resource programs would need to be reviewed for necessary reprogramming to accommodate previously unidentified transition problems. Also, the five year fiscal program submissions needed to avoid the shortfalls encountered in the current FY budget planning process. He also highlighted the fact that there had been many cuts in the numbers of organic Division support personnel. The 9ID's transition office was currently developing appropriate schedule "X's" to regain some of these lost positions for the HTLD. He felt the Corp needed to force plan in order to offset the adverse affects of CSS personnel reduction in the 9th ID. This would require input from numerous staff cells.

There also was the problem of whether I Corps needed to reconstitute medical assets to supplement medical care because the preventive medicine capability in HTLD was limited. The medical structure within the Division limited 9ID's ability to reconstitute medical assets.

The DISCOM Commander stated that the 9th HTLD does not have assets to transport ordnance (conventional and special ammunition). There was a shortfall of lift/haul capability within the division that exceeded standard light division and 9ID (HTLD) had a unique ammo packaging system due to uniqueness of weapons systems. Of special concern to him was the addressing of the GS maintenance support for IEW equipment. The O&O concept for the MI Bn in the New Division called for organizational and DS level maintenance for the IEW equipment (sensor and jammer systems) to be performed at the MI Bn and GS was to be done at COSCOM level. However, for non-standard equipment, DARCOM was planning on contractor support at all levels. His question was "How will this concept be integrated into contingency planning?" He also noted that supply support for locally produced non-standard items of equipment had to be addressed. Some of HTLD equipment was produced locally in a "Skunk Works" shop as a means to test the idea before going for full contracting. He felt the development of complete, comprehensive support packages for locally created equipment/systems was essential

if the 9th ID is going to meet its day-to-day contingency/ deployment missions.

There was even an impact on the Chaplains. They predicted they would not be able to meet their Installation mission as a result of projected personnel losses under the HTLD design. The Chaplain's office needs the officer/enlisted cuts restored in order to support present and future requirements. Currently actions were in progress to regain the personnel cuts which had been approved at the CG's Alderbrook II Conference.

From his own experiences COL David knew there were some issues ADEA had to address on its own. Now that ADEA was an Army Agency its ability to task other agencies would increase. But many in its environment had begun to feel the pinch of this added support to ADEA. For example, during a recent coordination visit with the USAIS, the CG, USAIS, commented to COL David that "USAIS support for HTLD is coming entirely out-of-hide from an organization which is already over-committed." He asked that they consider carefully any further requests for USAIS support. He also asked for their cooperation in assisting their preparation of a brief article for the Infantry Magazine on how USAIS is assisting in the development of HTLD."

Then there was the growing problem of how to select the best alternative pieces of equipment from among several being offered by different contractors upon completion of

tests. One of his analysts had proposed using a decision theory technique. He had provided him with an example of how it should work based on the results of their recent test of three night vision devices. Contractor A had made three different sizes: light, medium, and heavy. Contractor B had made just one night vision device for testing. Fig. 4.9 is a matrix which reflects the probability of detecting a target with each of the night devices by Contractor A (1,2,3) and Contractor B (#4). Based on this data, and under the assumption that the full moon will occur, the analyst said Night Device (ND) #1 should be selected, because it has a 0.9 probability of detecting a target. However, based on past climatic data of the Mid East Region (one of the potential areas of deployment for the HTLD) it has been found that the probability that each of the moon conditions (full moon, half moon, zero moon illuminating) will occur is (0.4) , (0.5) , and (0.1) respectively. When these probabilities were considered, the analyst said the 3rd ND of Contractor A was the best choice because it has an expected return for detecting a target of 0.69 . Contractor B's version is worse with a value equal to 0.50 . The analyst also pointed out that if the probability of the moon conditions were unknown then Contractor B's version would be the best because it has a value of 0.50. The closest ND of Contractor A, under these assumptions, was ND #2 with an expected value of 0.40 . Finally, he

pointed out that if he looked rationally at the problem, that is assume that each moon condition is equally likely to occur, then the best system would be ND #3 of Contractor A, with an expected return of 0.56 .

He also felt that ADEA needed to become more concerned about examining the implications of the maintenance results they observed on equipment during testing. During a recent test the "corrective maintenance task times" were observed for the Fast Attack Vehicle (FAV). He felt they needed to answer from data like that in Table 7 such questions as what's the range of the data?, what's the mean task time?, what's the mean frequency of occurrences?, and what's the standard deviations of each also? Examining such information as this would allow them to get involved early on in the integrated logistic support system for these new weapon systems.

One of the final areas COL David knew ADEA would have to address was that of budgeting. HTTB had been budgeting, but on a limited bases. Table No. 8 shows HTTB's current budget levels. This budget was limited parly due to the fact that HTTB was originally expected to last for only five years, the time frame in which the CSA expected HTLD to be designed and fielded. The ADEA needs to assess these figures and see if any reprogramming would be needed or supplementals requested. He felt ADEA's expanded mission would have some impact on what their budgeting plan should be.

In discussing the future with his Executive Officer, COL Davis had said,

> "From now through November we will redesign HTLD. On 1 December we will recommend to CSA our new design. In the first half of next year we will transition and train a Brigade slice of the HTLD to prepare for laser strike, a Division FTX next August. In March, the year following that, this Brigade slice will participate in JRX Border Star at Ft. Bliss against 3d ACR. This will be an 'external evaluation' of the 3D Brigade and its slice by TRADOC. By fall of that year HQDA will make decisions on the final organization and operational concept of HTLD. In 3 years, 9ID will complete its transition to a prototype HTLD."

Probably the last unknown for ADEA, and probably more specifically for COL David, was the fact that the 9ID had just gotten a new CG, MG Kennedy, two weeks ago. Trying to find out how he should address these problems with him would be one of COL David's first concerns. He knew very little about MG Kennedy except that he was known to take a very analytical approach to things. This came across very sharply during his initial inbrief by the ADEA Staff. He repeatedly asked where could computer applications be made in their work, and if they had attempted some of the various management techniques such as Critical Path Methods, and PERT. During one of their informal talks COL David had started describing to MG Kennedy how the I Corp Commander, the previous CG, MG Simpson, had discovered many of the interface issues facing the Corp and Division by utilizing the Organizational Effectiveness Staff. His reply to that was, "I'm my own OE Officer."

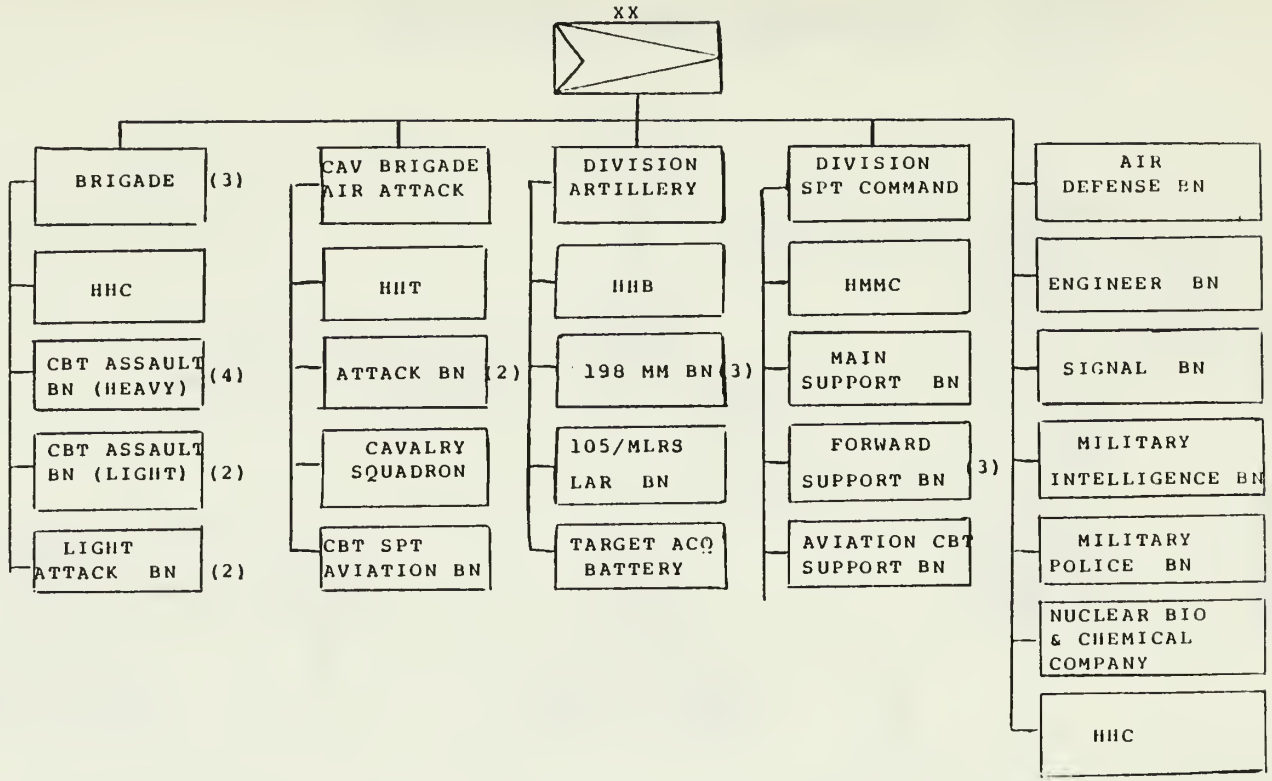

Figure 4.6 Currently Approved HTLD Structure.

Table VI

HTTB/ADEA TDA's Before and After

Manpower Survey

	Authorized/ Required HTTB Feb '83	ADEA Requested	ADEA After Manpower Survey
Officer	61	67	58
Warrant Officers	1	1	1
Enlisted	19	21	9
Civilians	24	77	45
	105	166	113

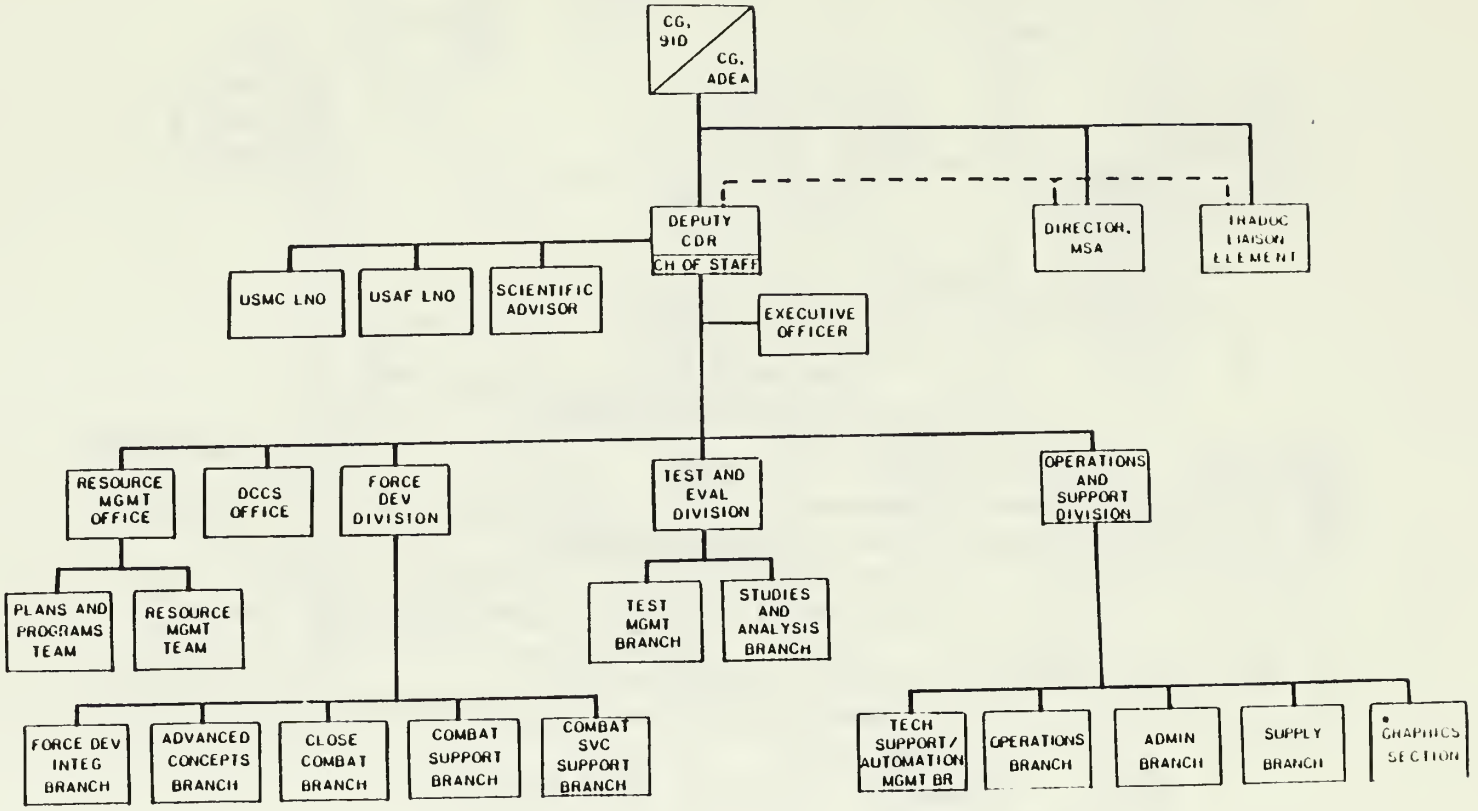

Figure 4.7 ADEA Organizational Structure.

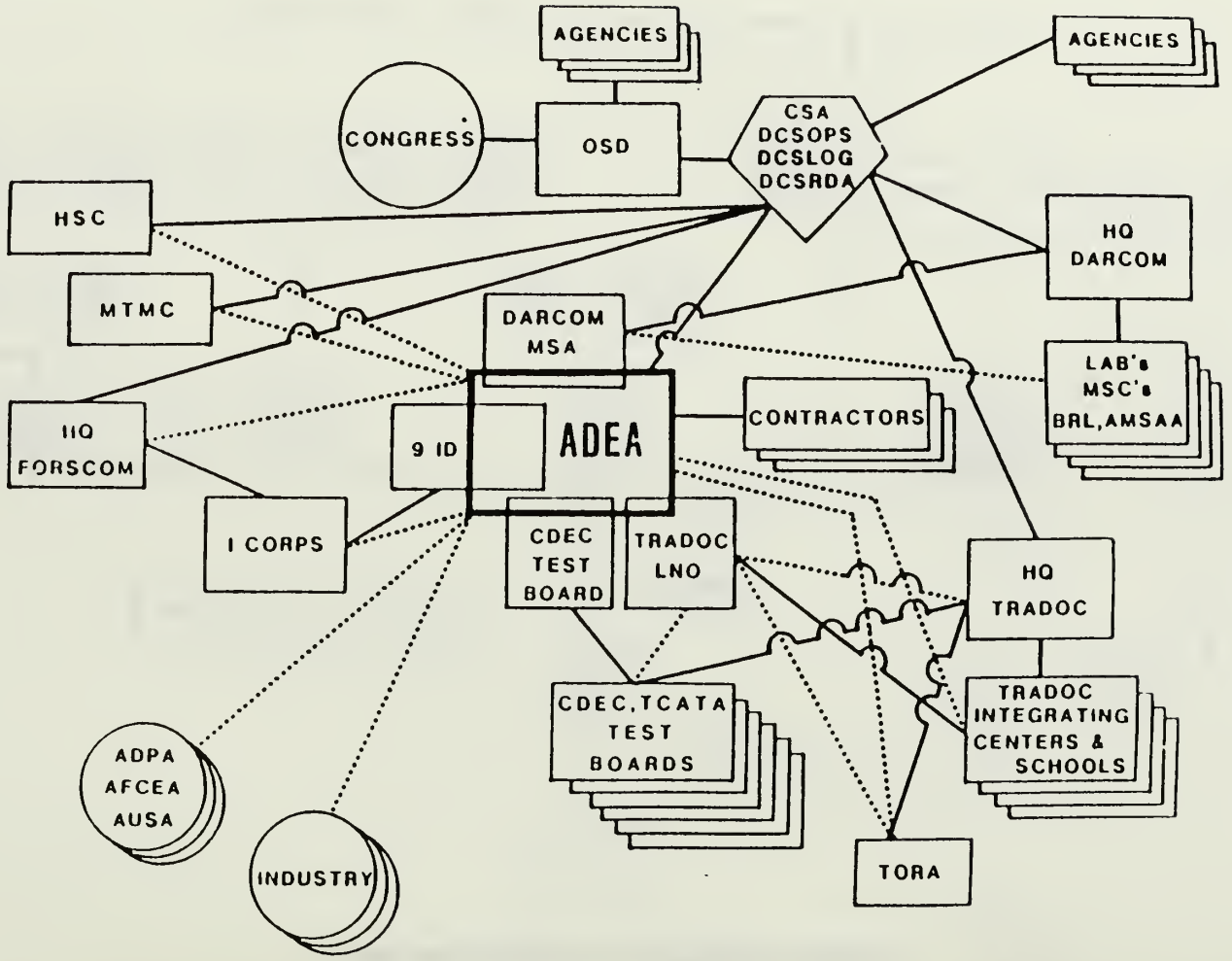

Figure 4.8 Organizations Participating in ADEA's Environment

Probability State of Moonlight Will Occur =	0.4	0.5	0.1
Type of Moonlight	FULL MOONLIGHT	HALF MOONLIGHT	ZERO MOONLIGHT
Contractor A: Night Device 1	0.9	0.4	0.1
Night Device 2	0.7	0.5	0.4
Night Device 3	0.8	0.7	0.2
Contractor B: Night Device 4	0.5	0.5	0.5

Figure 4.9

Probability of Detection Matrix

Table VII

Corrective Maintenance Task Times and Frequency of Occurrence for Two Fast Attack Vehicles

FAV I		FAV II	
Task Time (Min)	Frequency	Task Time (Min)	Frequency
41	2	37	4
39	3	25	10
47	2	35	5
35	5	31	7
23	13	13	3
27	10	11	2
33	6	15	8
17	12	29	8
19	12	21	14
35	2	25	12
17	6	19	10
12	2	21	12
15	4	23	13
37	1	29	9
27	10	13	3
33	3	9	1
31	6	--	--

Table VIII

HTTB/ADEA Current Funding

	OMA	RDT&E	PROC
TESTING			
TRADOC	26.8		
(HTTB FLW)	(22.9)		
(CAC, OTHER)	(3.9)		
FORSCOM (9ID)	.5		
DARCOM (HQ)	9.9	7.3	
BASEOP & EQUIP OPS			
FORSCOM (9ID)	5.3		
FIELDING			
DARCOM (HQ)[2]		21.0	38.5
TOTAL	42.5	28.3	38.5

1. $8.1M for Surrogate Lease;
   $1.8M for Support (Total 9.9 OMA).

2. Fielding process began in FY'82 with reprogram of $20.35M.
   FY'83 reprogram action on-going; 11 systems total $59.5M; $49.6M unfunded pending OSD action (unfunded).

3. SPECIAL DC 31 FUNDS

D180 RDT&E	$7.3M	RDT&E (Same as identified above)
DNA	$1.3M	RDT&E (Not included in above)
C31 Deception	$1.7M	RDT&E (Not included in above)
CSS	225K	OMA (Not included in above

V. TEACHING NOTES

A. GENERAL

The purpose of this chapter is to present the instructors of the various blocks of instruction with discussion questions, a brief analysis of each question and assignment questions which could be used when assigning the case to the students for the first time.

Each case's discussion questions are presented in separate sections of this chapter along with their respective analysis and assignment questions.

The discussion questions and the analysis of each correspond to the four major areas by which the case writer has divided the course curriculum: systems science, how the Army runs, management science and behavioral science.

Ideally this chapter should be the starting point for the instructor when using either of the cases. The assignment questions serve to give the student an initial way to think of the case as he or she reads it for the first time. The discussion questions are provided to give the instructor a more specific idea how the case relates to his or her area of instruction and should be used by each in guiding the discussion of the case as it relates to their block. The case writers analysis goes one step further to help the instructor relate the case material to specific learning

objectives within his or her block of instruction where applicable. Finally, it is once more mentioned that the student should assume the role of an OESO for the 9th Infantry Division when providing a solution to the problems in the cases. This does not eliminate the student's responsibility to assess the HTTB/ADEA organization because the 9th Infantry Division Commander is also the commander of HTTB/ADEA.

B. HTTB I TEACHING NOTES

The HTTB I case presents those issues which were associated with the High Technology Test Bed (HTTB) staff from its beginning through the first year. Some exemplary issues of that period were lack of enough people, enormity of the assigned mission, the leadership not fully aware of what was required to accomplish the mission, lack of an adequate structure to guide the staff's process [Ref. 11], and the perception by the commanders of the 9th Infantry Division that supporting HTTB was a distractor to their ability to train. [Ref. 12] During the time period the HTTB staff was basically attempting to define itself, its purpose, and how it was to interact with its environment.

A specific note must be made in regards to Exhibit One of this case. Exhibit One contains the actual interview notes which the 9ID OE staff collected when it did a transition workshop for the HTTB chief of staff. [Ref. 13]

Because these notes were lengthy, the case writer chose to make them an exhibit. The note to be made is that this exhibit could be removed from the case and used by the personal skills block of instruction to exercise the students on their individual and group interview skills. Individuals could be selected to role play the various persons who were individually interviewed, and groups could be forced to role play the groups. Then other students could be selected to role play as OESOs and conduct interviews to collect the data presented in Exhibit One. Otherwise, the notes should be left as an exhibit to the case.

1. Discussion Questions

a. SYSTEMS SCIENCE

(1) Identify the Army units/agencies in the staff environment?

(2) What is unique about the command relationship for the commander of the HTTB?

(3) How would you apply a complex systems model to develop a preventive strategy for systemic change in this organization?

(4) How should the 9ID commander's management strategy change now that the HTTB staff has been assigned to him?

b. HOW THE ARMY RUNS

(1) Was the CSA correct in assuming that a merger of the real user (9ID) and the developer (HTTB staff)

would significantly reduce the acquisition time and thereby allow this new light division to be fielded sooner?

(2) Which blocks of the Functional Life Cycle Model the HTTB staff become involved in?

(3) In designing this new high technology light division (HTLD), the HTTB staff created new positions requiring persons with new skills such as maintenance technicians at the direct support level. How would it go about acquiring these new personnel?

c. MANAGEMENT SCIENCE

(1) Could computer systems be of help to the HTTB staff in the management of its operation as many on the staff think?

(2) Would CPM/PERT techniques be of any help to the HTTB as one of the branch chiefs thinks it could?

(3) Seventeen persons out of the thirty interviewed felt that a functional MIS was needed by the HTTB staff. What would have to be some key considerations by the staff in developing one?

(4) Are the statistical calculations made by the G-3 and the OE staff accurate?

(5) What methods would you use in presenting the information to the CG as an OESO?

d. BEHAVIORAL SCIENCE

(1) Based on the interview notes, how would you analyze the individual as a system in this organization?

(2) How may the individual goals of members of the HTTB staff and the 9ID conflict as each try to accomplish their mission?

(3) What does it seem like the leadership of the 9ID and HTTB staff have been concerned with? What will the new CG and HTTB chief of staff have to do differently in order to help this organization?

2. Analysis of Discussion Questions

a. SYSTEMS SCIENCE

(1) All of the organizations and agencies in the HTTB staff's environment are presented throughout the case. The key ones the student should recognize are TRADOC, DARCOM, (and all of their subordinate agencies which are involved in the procurement and acquisitions process) and the civilian contracting agencies. In order to develop a model of this organization, the student must have properly defined the organization's environment. This teaching note relates to terminal learning objectives (TLO) 20 and 21 in appendix A.

(2) The unique thing about the command relationship in this organization is that the commander of HTTB is also the commander of the 9th Infantry Division. As the commander of the 9th Infantry Division (9ID) he reported to the FORSCOM commander. Now that the I Corp commander has arrived, as stated in the case's last paragraph, that would change and he would have to report through his (I Corp

commander) to the FORSCOM Commander. As the HTTB commander, he was responsible for reporting through the commander of the Combined Arms Center to the TRADOC commander. This fact is also key to the student's development of a model of this organization.

(3) This question seeks to get the student to think in terms of TLO 21 as stated in appendix A. This question should lead the student to develop a model which will allow him or her to assist a commander of two organizations who's missions, diametrically opposed by definition, require the same personnel resources in order to be accomplished.

(4) As the 9ID commander, the CG's strategy basically revolved around being combat ready. Asking this question should lead the student to recognize that the commander must rethink his method of management in order to accomplish the missions of both of these organizations because his current method does not take a systems integrated perspective of the two.

b. HOW THE ARMY RUNS

(1) Requiring the student to answer this question will cause him or her to use the knowledge gained about how the Army's acquisition cycle works.[Ref. 14] This note supports TLOs 5 and 7 as stated in appendix A.

(2) This question can begin to illuminate how this organization must consider several components of the

Functional Life Cycle Model (FICM). In accordance with the model it is clear that the HTTB is involved in force development, acquisition, training requirements, distribution and deployability as it designs this new light infantry division. [Ref. 15] This note supports TLO 15 as stated in appendix A.

(3) This question will require the student to examine in more detail his or her knowledge about how the Army acquires personnel and develops programs to train them in order to meet the requirements of newly designed units. This note supports TLO 12 as stated in appendix A.

c. MANAGEMENT SCIENCE

(1) This question, as well as numbers 2 and 3 in this section, is aimed at getting the student to consider the possible ways in which computers could assist the HTTB staff in doing its job. It should cause the student to use some of the knowledge gained during the computer litercy block of instruction. This note supports TLO 28 as stated in appendix A.

(2) See comments for #1 above.

(3) See comments for #1 above.

(4) The intention of this question is to get the student to find the errors in the G-3's computations. The basic variables such as the means, variances and standard deviations are correct. However, the G-3 has made some errors in his approach and conclusions about the problem. His estimate that a platoon will fail 60 missions is in error because

he has used as a value for the number of days the platoon will spend supporting the HTTB test (X) which is clearly outside of the range of the "X" data he used in doing his linear regression. The student should examine whether the sample sizes of the data the G-3 and the OE office used were large enough in order to make any worthwhile conclusions about the populations. It is also recommended that the instructor have the students do a rank-sum test (also called a Mann-Whitney or U-test) on the OE staff's survey results and see if they can draw the same conclusions the OE staff did as stated in the case. [Ref. 16] This note supports TLOs 29 and 34 as stated in appendix A. The instructor can also review part three of this section to see how the case writer's calculations were made. [Ref. 17]

(5) This question is aimed at getting the student to begin considering how he or she would go about presenting this data back to the CG. This note supports TLO 33 ad stated in appendix A.

d. BEHAVIORAL SCIENCE

(1) The discussion of this question should lead the student to realize how important it is to consider the way persons within the two organizations interact. This note supports TLO 22 as stated in appendix A.

(2) This question should cause the student to examine how the goals and needs of members in the organizations can potentially conflict and become the source of

Problems. Many of the commanders in the organization did not like to support the HTTB largely because it impacted on one of their goals to be combat ready. This note supports TLO 24 as stated in appendix A.

(3) This question is directed towards getting the student to focus on what direction the CG and chief of staff HTTB should go. What the leadership should do at this time should come out of their discussion of this question.

3. Case Writer's Computations for the HTTB I Case

This section shows how the case writer made his calculations for the two statistics problems in the HTTB I case. Section A gives the calculations for the linear regression and Section B gives them for the sign test.

a. LINEAR REGRESSION COMPUTATIONS

(1) The means (X,Y) were computed using the following equations:

$$\bar{X} = \frac{\sum_{i=1}^{12} x_i}{n} \quad \& \quad \bar{Y} = \frac{\sum_{i=1}^{12} y_i}{n} \quad .$$

(2) The variances and standard deviations were computed using the following equations:

$$S_X^2 = \frac{\sum_{i=1}^{12} (x_i - \bar{X})^2}{n-1} \quad \& \quad S_Y^2 = \frac{\sum_{i=1}^{12} (y_i - \bar{Y})^2}{n-1} \quad .$$

(3) In order to do the curve fit (linear regression) on the data, and the inference about the confidence interval for the mean of the distribution it was assumed that the n random variables having the values $Y_i (i=1,2,\ldots,n)$ were independently normally distributed with the means $\alpha + \beta x_i$, and the common variance σ^2. The following determinations were made in deriving the linear equation model:

$$\sum_{i=1}^{12} x_i, \quad \sum_{i=1}^{12} y_i, \quad \sum_{i=1}^{12} x_i^2, \quad \sum_{i=1}^{12} x_i y_i$$

Simultaneous Equations:

$$\Sigma y_i = na + \Sigma x_i b$$

$$\Sigma x_i y_i = \Sigma x_i a + \Sigma x_i^2 b$$

$$a = \frac{(\Sigma y_i)(\Sigma x_i^2) - (\Sigma x_i)(\Sigma x_i y_i)}{n(\Sigma x_i^2) - (\Sigma x_i)^2}$$

$$b = \frac{n(\Sigma x_i y_i) - (x_i)(\Sigma y_i)}{n(x_i^2) - (x_i)^2} \quad .$$

(4) The prediction of the number of ARTEP missions which will be failed based on the number of days spent supporting HTTB test (assumed in the case as 45) is:

$$Y = -.55 + 1.34(x)$$

$$Y = -.55 + 1.34(45)$$

$$Y = 59.75$$

b. SIGN TEST COMPUTATIONS

(1) As indicated in Table 3 of the case each pair of data was replaced with a plus sign when the entry in the first column was greater than the entry in the second column, and vice versa when the first column entry was smaller than the second column entry. This resulted in 12 plus signs and 4 minus signs.

The test was to determine whether "12 successes in 16 trials" would allow the rejection of the null hypothesis (namely, that the true average number of junior NCOs who feel HTTB support impacts on their ability to train is the same as those who do not) or the alternative hypothesis $p \neq 1/2$.

By using a binomial table it was found that the probability of "12 or more successes" was $(1 - .9616) = 0.0384$. It followed from this that the null hypothesis can be rejected at the significance level $\alpha = .05$.

Note:

The case writer used the normal approximation to the binomial to compare with the above results. The conclusion was the same as indicated by the following computations.

$$n = 16$$

$$p_o = \tfrac{1}{2}$$

$$\mu = \sqrt{16(\tfrac{1}{2}x\tfrac{1}{2})} = 2$$

$$z = \frac{x-np_o}{\sqrt{np_o(1-p_o)}}$$

$$z = \frac{12-(16)(\frac{1}{2})}{\sqrt{16(\frac{1}{2})(\frac{1}{2})}}$$

$$z = 2.00$$

Since $z_{.05} = 1.96$ and the z statistic above is equal to 2.00, the conclusion is the same, namely there is a difference between how the NCOs think.

4. Assignment Questions

a. As Major Bacon what would you recommend to the CG?

b. How would you answer the two questions the CG asked in the case?

c. What kinds of things would you have to consider in your plan for integrating the new Corp Headquarters?

C. HTTB II TEACHING NOTES

The HTTB II case describes what occurred in the HTTB staff and its environment during its second year of existance. [Ref. 18] The key events in this case around which

discussions can be made are the CSA inprocess review, and the activation and sudden deactivation of the Field Artillery target acquisition battery. [Ref. 19] The case also presents the student with the method the organization used to manage the transition process. [Ref. 20]

The case reveals what the CG's management strategy was through the many pronouncements which persons, who were a part of the 9ID and HTTB staff, make in the case. The comments which the assistant chief of staff for transition and the 3rd Brigade commander made were actually implemented as part of the 9ID/HTTB transition management strategy. [Ref. 21]

1. Discussion Questions

a. SYSTEMS SCIENCE

(1) What organizations/units are a part of the HTTB staff's environment?

(2) What are the command relationships for the commander of the HTTB?

(3) How would you apply a complex systems model to develop a preventive strategy for systemic and integrated changes in this organization?

b. HOW THE ARMY RUNS

(1) How does what the HTTB staff do with automated unit reference sheets relate to the development and use of modified tables of organization and equipment (MTOE)?

(2) How would 9ID dispose of any excess equipment which was not a part of the new HTLD's structure?

(3) How would the doctrine and literature to support the way the HTLD would fight be developed by the HTTB staff?

(4) How does the process of converting the 9ID into the new HTLD structure cut across many functional boundaries?

(5) What would have been necessary to correct the inadequate motor pool parking facilities of the Field Artillery units?

(6) What reasons could explain why the officer did not arrive in the Field Artillery unit prior to its activation?

(7) How would the HTTB's budgeting process interface with the Army's Planning, Programming, Budgeting, and Execution (PPBES) phases?

c. MANAGEMENT SCIENCE

(1) How could the HTTB staff use such management techniques as CPM/PERT to help them in controlling and planning what a unit was ready for activation?

(2) How would you evaluate the management structure the 9ID/HTTB organization used for managing the transition process from a systems integration perspective?

(3) Is the UOP recommendation a good one?

(4) Is the off-post housing cost a real problem? Who's right——the Corp G-5 or the Division G-1?

(5) What problems did BG Harris associate with the management structure?

b. BEHAVIORAL SCIENCE

(1) What do you think was MG Simpson's motivation for reexamining the management structure?

(2) How does the HTTB executive officer seem to be viewing the organization's problems?

2. Analysis of Discussion Questions

a. SYSTEMS SCIENCE

(1) The organizations which are a part of the HTTB's environment include all the Army agencies which are involved in the acquisition and procurement process to include the civilian contractor services. All organizations/agencies in its environment are listed throughout the case. There are special project officers assigned in the organization from other countries——as such other countries are part of its environment. This note supports TLOs 20 and 21 as stated in appendix A.

(2) This question is aimed at getting the student to recognize that the commander of the HTTB staff is also the commander of the 9ID. It is further aimed at causing him or her to realize that as a dual hatted commander he has two separate chains of command to report through. As the commander of the HTTB staff, he reports through the

commander of the Combined Arms Center to the commander of TRADOC. As the 9ID commander, he reported through the recently included I Corp commander to the FORSCOM commander. The student must recognize this if he or she is to develop a realistic model of the organization. The student needs to see that as an OESO for the 9ID one could not solve either of these organizations' problems separately.

(3) This question is intended to get the student to start strategically discussing these two organizations. The model the student develops should allow them to prescribe what this organization's long range strategic management planning ought to be like. The creation of the project manager's position should give the student the first indication of the matrix nature of the HTTB organization. Figure 5.1 shows this matrix relationship between the program manager and the many agencies and organizations he coordinated with in order to design the particular unit in the HTLD which he was responsible for. If the student does not get this from reading the case, the case writer recommends that the instructor provide him or her with this information. This note supports TLO 21 as stated on appendix A.

b. HOW THE ARMY RUNS

(1) This question is presented to increase the students discussion of the Army's TOE and MTOE concepts as stated in TLOs 3 and 6 in appendix A.

(2) This question is presented to get the student to discuss how surrogate equipment fits into the Army's procurement and acquisition process. It supports TLO 13 as stated in appendix A.

(3) As well as designing this new HTLD, the HTTB staff was also responsible for evaluating the potential effectiveness of these units. This required the development of "how to fight doctrine and manuals." Having to answer this question will cause him or her to further discuss what is presented in TLO 6. The Air Land Battle was a key concept in the development of these manuals.

(4) This question aims at getting the student to discuss how the systems integration perspective is important when solving this organization's problems. How this transitioning process crossed over many boundaries is explained by the assistant chief of staff for transition in the case.

(5) This question is given to allow more discussion on how the Army's military construction program works for a divisional unit.

(6) This question will allow for more discussion of how the Army acquires and prepares personnel to fill spaces generated during the force structure process. This note supports TLO 12 as stated in appendix A .

(7) The HTTB staff had to submit its first budget for inclusion in the POM during this time period.

Agency \ Program Mgr. for	Light Motorized Infantry Bn	Division Support Command	Engineer Battalion	Assault Gun Battalion	Divarty
FORSCOM					
TRADOC & Service Schools					
DARCOM					
I CORP					
9 Inf Div					
Civilian Contractors					
Other Contractors					
Office of Sec. of Defense					

Figure 5.1 HTTB Matrix Organization

Discussions of this question should amplify the lesson materials in TLO 2.

c. MANAGEMENT SCIENCE

(1) This question is aimed at getting the student to discuss the possible ways which the HTTB staff could make use of CPM to control the multitude of actions which required completion prior to a unit being ready for deactivation from its current 9ID configuration and activation into its new HTLD structure. The HTTB staff did have some staff elements which used CPM as a method to control the many actions which were associated with transitioning the 9ID units. This note supports TLO 28 as stated in appendix A .

(2) The case explains the structure the CG established in order to manage the transition process. Having the student discuss this question will allow him or her to see the interrelatedness of the problems.

(3) This question is designed to get the student to evaluate the UOP recommendation as stated in the case from a systems integration perspective.

(4) This question is aimed at getting the student to do some number crunching for the statistics block of instruction. The problem in the case is intended to illustrate how statistical techniques can be employed on the same set of data and yet render two totally opposite sets of conclusions. [Ref. 22] This question should allow for a

discussion on how to interpret the conclusions others draw from data. The instructor can refer to part three of this section to see how the case writer did his calculations. [Ref. 23]

(5) The problems with the organization's management structure, as defined by the Assistant Division Commander, were structural inefficiencies, planning, control and staffing.

d. BEHAVIORIAL SCIENCES

(1) This question is designed to allow the student to discuss the leadership in the organizations using some of the knowledge he or she has learned about individual and organizational behaviors.

(2) This question is asked to see if the student will recognize that the executive officer was the only one who mentioned some of the HTTB organization's strengths. It is also asked to get the student (future OESO) to recognize that he or she must examine the organization to see if it has any strengths which, if exploited, could help the organization.

(3) This question is asked in order to generate some discussion about how the OESO should go about deciding how to do an assessment. This note supports TLO 33 as stated in appendix A .

3. Case Writer's Computations for the HTTB II CASE

This section contains the case writer's computations for the statistical problem in the HTTB II case. The definition of subscripts and variables are presented first.

MW_i Military Wage Earner

DW_i Dependent Wage Earner

C_{fi} Number of children in each family

N_{fi} Total number of families by Family type

F_i Family type.

a. AVERAGE FAMILY INCOME

$$A_F = \frac{\sum_{i=1}^{12} (MW_{i1} + DW_{i2})Nf_i}{F_{total}}$$

$$= \$ 17,592.00$$

b. AVERAGE WORKER INCOME

$$A_W = \frac{\sum_{i=1}^{12} MW_{i1} + DW_{i2})Nf_i}{W_{total}}$$

$$= \$ 11,089.00$$

c. % OF WIVES THAT WORK

$$= \frac{\text{Working Wives}}{\text{Total \# of Wives}}$$

$$= 129/140 = 92\%$$

d. AVERAGE PER CAPITA INCOME

$$A_p = \frac{\sum_{i-1}^{12} (MW_{i1} + DW_{i2})N_{fi}}{P_{total}}$$

$$= \$4,006.00$$

e. % FAMILIES WITH WORKING WIVES

$$= \frac{\text{\# of Families with Working Wives}}{\text{Total Families}}$$

$$= 129/220 = 58\%$$

f. WIVES % OF INCOME

$$= \frac{\text{Wives Total Income}}{\text{Two Income Total}}$$

$$= \frac{1,130,000}{2,931,592} = 38\%$$

g. WIVES CONTRIBUTION

$$= \frac{\text{Wives Income Total}}{\text{Total Income}}$$

$$= \frac{1,130,000}{3,870,284} = 29\%$$

h. AVERAGE BREAD WINNER SALARY

$$A_B = \frac{\sum_{i-1}^{12} (DW_{i1})(N_{fi})}{F_{total}}$$

$$= \frac{3,415,484}{220} = \$15,524.00$$

i. % OF CHILDREN WHERE HEAD OF HOUSEHOLD MAKES LESS THAN $10,884.00

$$\frac{\sum_{i-1}^{6} MW_i}{\sum_{i=1}^{12} C_{fi}} = 15/32 = 46\%$$

j. % OF CHILDREN WHOSE FAMILY INCOME IS BETWEEN $20.212.00 and $20,994.00

$$\frac{\sum_{i=4}^{7} C_{fi}}{\sum_{i=1}^{12} C_{fi}} = 14/32 = 43\%$$

4. Assignment Questions

a. As Major Bacon what problems would you brief the CG about?

b. What courses of action would you recommend?

D. ADEA TEACHING NOTES

The ADEA case describes what occurred in the High Technology Test Bed organization during its third year of existence. It was at the end of the third year that this case was written. The most significant event to occur during this time was the activation of the organization as a field operating agency of the Army (FOA) and the change of its name.

The interface conference mentioned in the case actually occurred. [Ref. 26] The issues enumerated by the numerous characters in the case were real. [Ref. 27] The case writer has attempted to show how these problems crossed over many boundaries through using the titles of the different persons rather than the names of the characters.

1. Discussion Questions

a. SYSTEMS SCIENCE

(1) What are the command relationships for the ADEA commander in the case?

(2) How would you apply a complex systems model to develop a preventive strategy for systemic change and future planning in the 9ID/ADEA organization?

b. HOW THE ARMY RUNS

(1) How could I Corp/9ID/ADEA go about solving their stationing problem?

(2) Understanding that I Corp was responsible for installation and facilities at Fort Lewis, how would funding have to be done in order to support their stationing plan?

(3) Why would new range construction have to be included in the PARR?

(4) How could reprogramming assist I Corp in obtaining additional funding for their fiscal resource progress in order to accommodate the unanticipated transition problems?

(5) How could ADEA become more involved in the integrated logistic support process early on?

c. MANAGEMENT SCIENCE

(1) Do you think the interface conference was a good management technique by which to address the problems between 9ID, I Corp, and ADEA?

(2) In what ways do 9ID envision using computers and automation for which I Corp is not prepared to support?

(3) Could a management information system be used by the three organizations? If so, how would it be established?

(4) Are the computations made by ADEA's analyst correct, and would the technique he recommends be a good one for the ADEA organization to use?

d. BEHAVIORAL SCIENCE

(1) How would you as a newly assigned OESO to the 9ID approach your duties given the new CG's last comment in the case?

(2) What effect might the CG's statement have on other individuals and groups of individuals in the division and ADEA staff?

2. Analysis of Discussion Questions

a. SYSTEMS SCIENCE

(1) The purpose of this question is to get the student to see how significantly the command relationships

for dual hatted 9ID/ADEA commander have changed now that ADEA has become a field operating agency of the Army. As the ADEA commander he now reports directly to the Office of the Deputy Chief of Staff for Operations and Plans (ODCSOPS). This is different from when the organization was designated as the HTTB. At that time, he reported through the Combined Arms Center and TRADOC commanders to the OSCSOPS. As the commander of 9ID the command relationships remain the same. He still reports through the I Corp commander to the FORSCOM commander which in turn reports to DA. An interesting observation along these lines is that, as the ADEA commander, the 9ID commander can report directly to the CSA as can his boss the FORSCOM commander.

(2) The purpose of this question is to get the student to think of the organization as a system and to explain how he or she would model the organization using some of the knowledge gained from TLO 21 as stated in appendix A .

b. HOW THE ARMY RUNS

(1) The purpose of this question is to reinforce TLO 15. Specifically, it should also allow for more discussion of how the Army's Military Construction Plan relates to a Corp and Divisional unit. This note also supports TLO 4 as stated in appendix A .

(2) This question basically relates to the one above. It is also intended to allow for discussion of how the Army's Construction Plan relates to the Army's Program, Planning, Budgeting, and Execution System (PPBES). This note supports TLO 4 as state in appendix A .

(3) This question is asked in order to foster more discussion of how divisional units' input get into the Army's PPBES process. This note relates to TLO 2 as stated in appendix A .

(4) The purpose of this question is to allow for discussion of how the 9ID can interface with the PPBES system in order to get more funds.

(5) The purpose of this question is to allow for more discussion on the Army's integrated logistic system and how it relates to the procurement process and force development structure. This note relates to TLO's 9 and 10 as stated in appendix A .

c. MANAGEMENT SCIENCE

(1) The purpose of this question is to allow for a discussion of what management techniques are good for problem solving and decision making in this organization.

(2) Because I Corp had not been included in the designing of the HTLD, it was not prepared to support the many ways in which automation and computers were to be used in the HTLD structure. The NBC problem in the case is a good example of the kinds of problems it faced in this area.

The purpose of this question is to allow for more discussion on how computers and automation could help these organizations solve this problem.

(3) This question will allow for more discussions on how, in particular, a MIS may help the communications between these three organizations. How such a system could be established may also be discussed. This note supports TLO 1 as stated in appendix A .

(4) The purpose of this question is to get the student to validate the statistical calculations. It also allows for more discussion of the concepts of probability. This note supports TLOs 29 and 31 as listed in appendix A. The instructor is also referred to section three for the case writer's calculations. [Ref. 28]

c. BEHAVIORAL SCIENCE

(1) The purpose of this question is to allow for more discussion on how individual behaviors can impact on an organization. This could also lead to a discussion of how the OESO will have to be ready to deal with commanders whose value systems may be the same as that expressed by the commander in the case. The last comment in the case by the CG was supposedly a true statement. At the time the case was written there was no one assigned as the OESO to the division. The two that were there had gone to units within the division and the OE NCO had been made a part of the EEO office. The amount of OE work he did was very minimal and

none for the CG. This note supports TLOs 22 and 23 as stated in appendix A .

(2) The purpose of this question is to get the student to discuss what effect the CG's preception of being his own OE would have on others in the division or ADEA. This note relates to TLO 24 as stated in appendix A.

3. Case Writer's Computations for the ADEA Case

This section contains the case writer's computations for the decision theory problems in the ADEA case. The comments made by the analyst were based on calculations for decisions under certainty, risk, uncertainty as a pessimist, and as a rationalist. The comments are presented in this section in the same order in which they are stated in the case for cross reference. For easy reference, the matrix of data as shown in the case is presented first.

Probability Type of Moonlight will occur =	0.4	0.5	0.1
Type of Moonlight	FULL MOONLIGHT	HALF MOONLIGHT	ZERO MOONLIGHT
Contractor A: Night Device 1	0.9	0.4	0.1
Night Device 2	0.7	0.5	0.4
Night Device 3	0.8	0.7	0.2
Contractor B: Night Device 4	0.5	0.5	0.5

a. DECISION UNDER CERTAINTY

Under the conditions that type of moonlight 1 (full moon) will exist with certainty, the best pay off (night device giving the best results) is night device one with a probability of 0.90.

b. DECISION UNDER RISK

This calculation was based on the given probabilities for the occurrence of each of the types of moonlight. As such, it is called a decision under risk. To determine the night device which gives the best results, the expected return E(R) of each of the night devices (ND) over all the types of moonlight were computed as follows:

$$E(R) = (0.9)(0.4) + (0.4)(0.5) + (0.1)(0.1) = 0.57$$

$$E(R) = (0.7)(0.4) + (0.5)(0.5) + (0.4)(0.1) = 0.57$$

$$E(R) = (0.8)(0.4) + (0.7)(0.5) + (0.2)(0.1) = 0.69$$

$$E(R) = (0.5)(0.4) + (0.5)(0.5) + (0.5)(0.1) + 0.50$$

As these calculations show, the night device with the greatest return is night device 3 of Contractor A.

c. DECISION UNDER UNCERTAINTY

Here the assumption followed is that the probability of the type of moonlight which will occur is not known. Hence, the decision to be made is one under uncertainty. The second assumption is that no matter which device I select, the hand (type of moonlight) nature deals me will

be the worse. With this assumption I am in essence taking the position of a pessimist.

In order to find the best night device under these assumptions, the strategy is to determine for each night device it's minimum value and then select from these the maximum value. Applying this to the matrix in the case you get the following results:

the worst value for ND 1 = 0.1

the worst value for ND 2 = 0.4

the worst value for ND 3 = 0.2

the worst value for ND 4 = 0.5

As a pessimist then I would choose the best of these worst values which is 0.5 for ND 4 .

d. DECISION AS A RATIONALIST

Using this method it is assumed that the hand nature will deal me is equally likely to occur. This assumption allows me to assign equally likely probabilities to each of the types of moonlight. Applying this to the matrix of data in the case you get the following results:

$$E(R) = (1/3)(0.9) + (1/3)(0.4) + (1/3)(0.1) = 0.446$$

$$E(R) = (1/3)(0.7) + (1/3)(0.5) + (1/3)(0.4) = 0.533$$

$$E(R) = (1/3)(0.8) + (1/3)(0.7) + (1/3)(0.2) = 0.566$$

$$E(R) = (1/3)(0.5) + (1/3)(0.5) + (1/3)(0.5) = 0.500$$

The night device with the highest expected return is number 3 from Contractor A.

4. Assignment Questions

a. What are the key problems facing I Corp, 9ID and ADEA?

b. How would you as a newly assigned OESO to 9ID respond to CG's last comment in the case?

VI. CONCLUSIONS

The cases developed in this thesis are intended to be used as a part of the Organizational Effectiveness Course and School's curriculum starting in July 1984.

The set of cases will contribute to the curriculum in the following manner:

1. It will for the first time provide a structure by which all the individual blocks of instruction can be integrated and discussed from the perspective of one military organization.

2. It will serve as the common reference point from which instructors may illustrate terminal learning objectives of their blocks.

3. It will be the only vehicle by which the student, as a potential OESO, can make a "conjoint" practical "application of the Behavioral, Management and Systems Sciences" in order to learn how to assist the commander in finding solutions to problems he faces.

4. It will provide the curriculum with a case study based on an organization (Army Development and Employment Agency) which illustrates the kinds of issues and problems the Army commands are and will be facing in the future——for which the OESOs they are training must be prepared to assist in solving.

APPENDIX A

TERMINAL LEARNING OBJECTIVES

The following terminal Learning Objectives (TLO) were taken from the current OE School curriculum. The TLOs are presented by sections corresponding to the following major subject areas: How the Army Runs, Systems Science, Behavior Science, and Management Science (to which the two key sub-areas of computer literacy and probability/statistics belong). Only the "tasks" are listed. The instructor can easily cross reference each task with its appropriate "conditions" and "standards" using the course's Syllabus of terminal learning objectives.

A. HOW THE ARMY RUNS

1. Explain the management of the Army computer-based management information systems.

2. Identify and define the Department of Defense and Department of the Army Planning, Programming, Budgeting, and Execution System (PPBES) phases and key documents.

3. Explain the BOIP, QQPRI, and TOE development process.

4. Explain the Structure and Compositions System (SACS) that produces the following: Logistics and Composition System (LOGSACS) input, Personnel Structure and Composition System (PERSACS) input, and the Army Stationing Plan (ASIP).

5. Explain the purpose of test and evaluation in the material acquisition process.

6. Explain the Army Authorization and Document System (TAADS), the Vertical Army Authorization and Documentation System (VTAADS), the Force Accounting System, and the development and use of Modified Tables of Organization and Equipment (MTOE), and Tables of Distribution and Allowance (TDA).

7. Describe the key terms in the acquisition of material process.

8. Explain the procedures and documents which lead to requirements determination in material acquisition.

9. Explain Integrated Logistic Support (ILS).

10. Explain the Department of Army Force Development/ Force structure process and the techniques and systems that support this process.

11. Explain the Total Army Equipment Distribution Program.

12. Explain and discuss how personnel are acquired and prepared to fill the spaces generated during the force structure process.

13. Explain how the Army and Federal Government dispose of property.

14. Explain the Force Modernization Training Concept.

15. Explain the Functional Life Cycle Model of the Army (FLCMA).

16. Describe the Army as an organization and the structure and the functions of the Army Staff.

17. Explain the Army Senior Management System.

18. Explain the organization and mission, and functions of the installation staff.

19. Explain the Life Cycle Systems Management Model (ICSMM).

B. SYSTEMS SCIENCE

20. Application of basic systems models to the diagnosis and prescription of organization's current and desired states.

21. Apply a complex system model to develop a preventive strategy for systemic change.

C. BEHAVIOR SCIENCE

22. Analyze the individual as a system.

23. Analyze how an individual processes information.

24. Analyze group dynamics.

25. Describe and differentiate classical organization theory and design from modern organization theory and design.

26. Demonstrate knowledge of the fundamental subject areas of Organizational Behavior.

D. MANAGEMENT SCIENCE

27. Define Decision Support Systems (DSS).

28. Evaluate the use of the Decision Support Systems in a complex organization.

29. Apply the concepts of probability.

30. Apply nonparametric graphic procedures and data sets to illustrate features of variables and relations among them.

31. Perform trade-off analysis involving alternative choices, objectives, future benefits, and uncertain outcomes.

32. Explain the concept of microcomputer networking as it relates to the subject of Distributed Data Processing.

33. Apply basic methods to collect data.

34. Analyze quantitative data reduction techniques to interpret relevant information.

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