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Research Memorandum 74-7

**TACTICAL PLANNING (OFFENSIVE AND DEFENSIVE)
MINIMUM ESSENTIAL INFORMATION REQUIREMENTS**

Michael H. Strub and Paul McConnaughey

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U. S. Army

Research Institute for the Behavioral and Social Sciences

October 1974

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RESEARCH MEMORANDUM 74-7

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TACTICAL PLANNING (OFFENSIVE AND DEFENSIVE)
MINIMUM ESSENTIAL INFORMATION REQUIREMENTS

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Michael H./Strub and Paul/McConnaughey

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10 ARJ-RIA-74-7

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TACTICAL PLANNING (OFFENSIVE AND DEFENSIVE) MINIMUM ESSENTIAL INFORMATION REQUIREMENTS

With the establishment by the Army Training and Doctrine Command (TRADOC) of the TOS (tactical operations system) User Requirement Committee (TURC) in November 1973, the Army once again underscored the need for Army tactical data systems to be sensitive to the users of those systems. A primary requirement is the determination of the commander's minimum essential information needs (CMEIN) in order to estimate data storage requirements for these systems.

Unfortunately, while the problem of establishing information requirements is easy to state, its solution is most difficult. ARI has recognized this difficulty and has been engaged in a long-term research program to provide suitable methodologies and techniques for dealing with the problem. McKendry, et al¹ developed a survey instrument consisting of 61 unstructured combat events, using a scaling technique previously employed by ARI.² McKendry, et al used this instrument to collect information requirements data from staff officers in the U. S. Seventh Army, Europe. One of the findings was that, during pretesting, respondents found it difficult to limit themselves to 30 initial events (as instructed) from the list of 61 events. During actual data collection, subjects were told that an upper limit of 30 was to be used as a guideline only and not as an unbreakable rule. Twenty-one of the 86 officer subjects exceeded the limit.

This finding and a followup study by Mace and Baker³ suggested the possibility that survey respondents may be inclined to consider everything critical. A later study was conducted by Strub⁴ to determine the validity of survey-generated information requirements.

¹McKendry, J. M., R. C. Wilson, D. J. Mace, and J. D. Baker. Application of a method for determining information requirements in a field Army. ARI Technical Paper 247. August 1973 (AD 767262).

²McKendry, J. M., P. C. Harrison, A. M. Birnbaum, and R. Sadacca. Estimating the value of surveillance information using error cost matrices. ARI Technical Research Note 184. June 1967 (AD 667390).

³Mace, D. J., and J. D. Baker. Information requirements in a field Army. ARI Technical Paper (in preparation).

⁴Strub, M. H. Tactical planning (offensive and defensive) information requirements: Comparison of survey questionnaire and laboratory exercise data. ARI Technical Paper (in preparation).

The method consisted of having survey respondents (sample 1) rate the importance of a set of structured information items from data bases used to support offensive and defensive tactical planning tasks in a simulated tactical operations system (SIMTOS).⁵ This permitted an importance value to be obtained for each item (importance predictor). The second step consisted of scoring the number of officers (sample 2) requesting each of these items of information during the course of satisfying certain tactical planning tasks in SIMTOS. This permitted a consensus value to be obtained for each item (consensus criterion). Assuming that the most critical information is also the information requested most frequently in a tactical combat operation, it is possible to determine the validity of survey data by comparing the rated importance of the information (predictor) with the number of requests for the information (criterion). Results from the Strub study tended, in general, to support the hypothesized tendency for survey respondents to reflect a response bias of rating everything critical.

The Strub study, then, suggests the value of using a tactical exercise simulator such as SIMTOS as a means for collecting data relative to actual information needs of the commander and his staff. At present, a paucity exists of analytic and research data concerning specific information requirements of the commander and his staff engaged in the planning and execution of a tactical operation. One report (unpublished) resulted from an ad hoc study group which met at the Combat Developments Command (now TRADOC) Institute of Combined Arms and Support (ICAS). The ICAS report represents the results of a committee approach to specifying information requirements.⁶

⁵For a further discussion of SIMTOS see Robins, J. E., L. Buffardi, and T. G. Ryan. Research on tactical military decision making: Application of a decision prediction concept in a SIMTOS environment. ARI Technical Research Note 246, in press.

⁶Letter, ICAS-DB, 13 Oct 1970, to Commanding General, US Army Combat Developments Command, subject: Commander's Minimum Essential Needs for Information.

STUDY OBJECTIVE

The present experiment was conducted in a controlled exercise environment to permit a determination of information requirements by officers who actually completed offensive and defensive tactical planning tasks. This approach has the advantage of allowing the experimenter to examine information actually requested as opposed to officer's statements or ratings of what he thought he would request. The purpose of the present experiment, then, was to identify minimum essential information requirements for offensive and defensive tactical planning. The criterion or basis of identification was the number of officers requesting the information during the course of offensive or defensive scenario play.

METHOD AND PROCEDURE

SUBJECTS

Eighty field grade officers (primarily colonels and lieutenant colonels) participated in the present experiment. Guidelines for subject selection were as follows: subjects must have been graduates of the U. S. Army Command and General Staff College at Fort Leavenworth, Kansas, and/or have had experience as a Battalion Commander, or above G3/S3 of a division or brigade. All subjects met at least one and in most cases both of these criteria.

APPARATUS

The experiment was conducted in AFJ's SIMTOS laboratory. The SIMTOS environment consisted of four experimental subject stations and an experimenter control station. Each subject station consisted of the following equipment:

1. Cathode Ray Tube (CRT) display and keyboard
2. Computer-driven typewriter
3. Work table (3' x 4') and chair
4. 1:50,000 Work Map (wall-mounted)
5. 1:500,000 (Offensive) or 1:250,000 (Defensive) Planning Map (wall-mounted)
6. Acetate tote boards (2)
7. Telephone (intercom)
8. Game clock (3:1 time)
9. Grease pencils and rag

The experimenter control station contained a CRT and keyboard through which the experimenter logged in subjects by number, designated whether an offensive or defensive scenario was being played, and initialized the subject's access to the data base. Thus it was possible for the experimenter to operate with the offensive scenario and defensive scenario on-line at the same time by designating a subject station as offensive or defensive at the experimenter CRT. The computer then sent the tactical information for the appropriate scenario to the designated subject station. The experimenter's CRT also allowed him to monitor information being reviewed at a particular subject station.

PROCEDURE

Each subject was briefed concerning the goal of the research, the items of equipment in his facility, his role in the experiment, and the general situation in which the scenario unfolds. He was also requested to note any information which he wanted but could not find in the data base and to make any comments or suggestions for improvements.

Each of the 40 subjects in the offensive scenario was asked to assume the role of the new G3 of an aggressor Combined Arms Army (CAA) within an Army Group (Okcidento) in eastern Europe. The political situation between east and west has been deteriorating rapidly. Army Group Okcidento has recently been directed to prepare for an offensive to the west at a date and time yet to be specified. The subject's role as CAA G3 was to complete offensive planning to accomplish the CAA mission as specified in Army Group Okcidento Operation Order (OPORD) which he was given to read prior to the start of the problem. His planning sequence was divided into two phases. In the first phase, he performed a mission analysis and recommended a form of maneuver. During the second phase he developed a task organization and prepared mission directives to his subordinate units.

Each of the 40 subjects in the defensive scenario was asked to assume the role of the new G3 of a U. S. Mechanized Division within a U. S. Corps on alert status in an assembly area in Germany. He was given first instructions by excerpts from a Corps OPORD and from guidance issued by the Mech Div Commander. His job was to prepare a presentation for the Commander's morning briefing. Specific tasks within his defensive planning included developing a course of action, task organization, and mission statements to subordinate units.

Both offensive and defensive data bases were similar in structure. During offensive or defensive planning activities, each officer was able to obtain tactical information by means of his CRT screen. Stored within the computer was detailed information relevant to all aspects of his problem organized under the following major categories:

G1 Personnel Element

G2 Intelligence Element

G3 Operations Element

G4 Logistics Element

G5 Civil Affairs Element

Fire Support Element (FSE)

Chemical, Biological, Radiological Element (CBRF)

Signal Element

Transportation Element

Engineer Element

The information was arranged in the computer in a manner that enabled the subject to review and select categories and subcategories of tactical data to successive levels of detail until a desired element of information was obtained.

Each display appearing on the face of the CRT was divided in half horizontally. The top half of the display consisted of either an information index or tactical data elements. The bottom half consisted of options available for the subject's ~~next~~^{next} move, as well as instructions for carrying out the desired retrieval.

Instructional materials used in the offensive scenario (including procedural instructions, OPORD, and task requirement sheets) are presented in Appendix A. A similar set of materials used in the defensive scenario appears in Appendix B.

CRITERION

The structure of the data base permitted measurement of all information requests by category as well as level of detail. Every information

request made by each officer was recorded by the computer. While the criticality of an information item may be said to vary directly with the number of officers requesting it, no universally accepted definition of information criticality exists. Therefore two operational definitions were used as criteria to permit a broader interpretation of the results. The first and stricter criterion for an item to be called critical or essential was a request frequency of 75% or more of the officers within each scenario (i.e., 30 or more). The second and less strict criterion for an item to be defined as essential was a request frequency of 50% or more of the officers within each scenario (i.e., 20 or more).

RESULTS AND DISCUSSION

Information items requested by 75% or more of the SIMTOS subjects for the offensive and defensive scenarios are presented in Tables 1 and 2, respectively. It is most interesting to note the striking similarity in information requirements despite the fact that the scenarios imposed different task requirements (attack vs. defense planning) and represented different echelons (i.e., the role of aggressor G3 was equivalent to a U. S. Corps G3 while the defensive role was that of a Division G3). As seen in Tables 1 and 2, the key areas of concern for the overwhelming majority of officers were enemy situation, task organization, and combat efficiency. These areas emerged from data bases which contained over 1000 items of information each.

The structure of the data base permitted examination of the specific questions of interest within each key area. Tables 1 and 2 reflect these questions, which include:

1. What are the enemy's ground situation and capabilities?
2. What enemy units am I opposing?
3. What are the enemy's air capabilities?
4. What are the key terrain and avenues of approach?
5. What is my task organization including organic, attached, and assigned support units?
6. What is my unit training status?
7. What is my unit personnel combat efficiency?

Table 1

INFORMATION REQUESTED BY 75% OR MORE OF SIMTOS
SUBJECTS IN OFFENSIVE SCENARIO

G-2 Intelligence

Enemy situation
Units opposing the CAA
U. S. Corps air support
First line ground enemy capabilities

G-3 Operations

CAA task organization (Divs, Arty, Air, Engr Support)
Units subordinate to AAA Regt
Units subordinate to Rocket Lnchr Regt
Units subordinate to Engr Pon Regt
CAA combat efficiency
CAA unit training status
CAA unit personnel

Table 2

INFORMATION REQUESTED BY 75% OR MORE OF SIMTOS
SUBJECTS IN DEFENSIVE SCENARIO

G-2 Intelligence

General enemy situation--ground
Tactical aspects
Key terrain
Avenues of approach

G-3 Operations

Mech Div organization (Bdes, Div Base, Attached Arty units,
assigned support units)
Bns subordinate to each Bde
Divarty units

Items of information requested by 50% or more of the subjects in the offensive and defensive scenario are presented in Tables 3 and 4, respectively. When the criterion is lowered to 50%, two trends are evident. First more detailed information concerning the three basic areas of interest identified in Tables 1 and 2 were requested. Secondly, the areas of interest are expanded beyond intelligence (G2) and operations (G3) elements to include information concerning personnel (G1), logistics (G4), civil affairs (G5), fire support (FSF) and engineering (ENGR). The pattern of similarities between scenario requirements at the 75% level persists at the 50% level although more specific items of information relevant to the offensive or defensive situation begin to emerge.

Interest in the enemy situation has expanded to include units opposing the Army Groups in the offensive scenario (Table 3) and to include air and NBC warfare information in the defensive scenario (Table 4). Interest in ~~enemy~~^{enemy} capabilities has broadened to include ground support, ground reinforcements, air and attack capabilities in addition to first line ground capabilities. Tactical aspects have increased from key terrain and avenues of approach to include observation, fields of fire, cover and concealment, and obstacles to movement.

Several new categories of information appear at the 50% level. Enemy order of battle information becomes critical in both offensive and defensive scenarios. Weather, particularly 3-day, precipitation, and fog forecasts, and counterintelligence information are frequently requested in the offensive scenario while stream fordability for a particular river in the problem (Saale River) and aggressor movement times to the international border are key defensive items.

More detailed friendly unit task organization information is deemed necessary at the 50% level. Offensive subjects are interested in the units within each of their divisions as well as their support units. Defensive subjects check the units within their Engr Bn, Armd Cav Sqdn, and all Arty groups. Interest in combat efficiency extends beyond training and personnel status to include morale and health status. Interest in unit location information appears for the first time at the 50% level in both scenarios. Aggressor offensive doctrine items pertaining to basic forms of maneuver and river crossing operations (Table 3) may be specific to the subject's role as G3 of foreign forces.

Table 3

INFORMATION REQUESTED BY 50% OR MORE OF SIMTOS
SUBJECTS IN OFFENSIVE SCENARIO

G1 Personnel

CAA authorized personnel strength

G2 Intelligence

Enemy situation

Units opposing Group Okcidento

Units opposing the CAA

US Corps air support

Enemy order of battle US Corps organization

Counterintelligence

Propaganda

Espionage

Sabotage

Weather

3-Day forecast

Precipitation

Fog

Key terrain between international border and objectives

Avenues of approach into final objective

Enemy capabilities

Ground--first line

Ground--support

Ground--reinforcements

Air

G3 Operations

CAA Task organization (Divs, Arty, Air, Engr Support)

CAA unit location

Regt, Divarty, Div Base subordinate to each Div within CAA

Units subordinate to Mxd Arty Bde

Units subordinate to AAA Regt

Units subordinate to Rocket Lnchr Regt

Units subordinate to Engr Pon Regt

CAA support units

CAA combat efficiency

CAA Morale status

CAA unit training status

CAA health status

CAA unit personnel

Basic forms of maneuver (aggressor offensive doctrine)

Double envelopment

Single envelopment

Table 3 (Continued)

Petration
Multiple penetration
Pincers
River crossing operations (aggressor offensive doctrine)

G4 Logistics

Class I Supply status
Class III and IIIA Supply status
Class V Supply status

FSE

CAA weapons

Engr Element

CAA hasty river crossing doctrine

Table 4

INFORMATION REQUESTED BY 50% OR MORE OF SIMTOS
SUBJECTS IN DEFENSIVE SCENARIO

G1 Personnel

Personnel effective, percent--Mech Div

G2 Intelligence

CAA enemy order of battle (Divs, Arty, Bde, and Air Regts)

General enemy situation

Ground

Air

NBC warfare

Stream fordability

Saale River

Tactical aspects

Observation

Fields of fire

Cover and concealment

Obstacles to movement

Key terrain

Avenues of approach

Aggressor movement times to international border

Enemy attack capabilities

G3 Operations

Mech Div organization (Bdes, Div Base, Attached Arty Units, assigned support units)

Mech Div location

Bns within each Bde

Divarty units

Units subordinate to Engr Bn

Units subordinate to Armd Cav Sqdn

Units subordinate to Arty (AD)

Attached Arty Units (Groups)

Units subordinate to Army Groups

Units subordinate to Arty Groups

Assigned support units

G4 Logistics

Mech Div availability of supplies

G5 Civil Affairs

Summary of civil affairs

Table 4 (Continued)

FSE

Friendly air support

Mech Div nuclear allocations

Friendly Weapons maximum effective range for crew served weapons

Engr Element

Mission

At the 50% criterion level, several information requirements emerge outside of the intelligence and operations elements. Offensive subjects request CAA authorized personnel strength while defensive subjects ask for the effective percent of their Mech Div. Supply status items appear as the only key items from the G4 logistics element. A summary of civil affairs is requested in the defensive scenario. In the FSE element, interest in weapons is expressed in both problems while defensive subjects also desire friendly air support and nuclear allocation information. No information from the CBRE, signal, or transportation elements was requested frequently enough to be considered critical for either scenario. Within the engineer element offensive subjects desired information on hasty river crossing doctrine while defensive subjects requested mission data.

CONCLUSIONS AND IMPLICATIONS

The present experiment has identified minimum essential information requirements for offensive and defensive tactical planning. These requirements were identified as a result of analyzing the information requests of highly experienced field grade officers who actually accomplished sets of offensive and defensive tasks in a controlled exercise environment. To this extent, the results of this experiment, should represent a close approximation to real world minimum essential information requirements.

However, because the data were gathered in a controlled exercise environment, certain restrictions must be placed on the generalizability of these requirements. The scenarios presented a single offensive and single defensive set of task requirements for a mechanized corps and mechanized division echelon in a potential mid-intensity conflict. The environment is pre-combat and reflects planning activity only. In the offensive scenario, each officer assumed the role of G3 in a foreign Army. In this role he might perceive information needs differently from those which would pertain were he to perform attack planning in the role of a U. S. G3. Finally, at the 50% criterion level, certain information items which barely attained the minimum request frequency might drop out were the experiment to be replicated; Other items which fell just short of the cutoff in the present experiment might achieve significance, upon replication.

Nonetheless, the minimum essential information requirements identified in the present experiment reflect a body of information items consistently requested by experienced Army officers. The hierarchical structure of the data base permitted the delineation of these minimum requirements by category and level of detail. Therefore, the information requirements identified here should serve as a point of departure for

comparison with information requirements identified by other means such as surveys and ad hoc analytic groups. The resulting synthesis should reflect the desired set of minimum essential information requirements.

APPENDIXES

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APPENDIX A--ADMINISTRATIVE MATERIALS FOR OFFENSIVE PLANNING SCENARIO

OFFENSIVE PLANNER'S BRIEFING

I. INTRODUCTION

The Behavior and Systems Research Laboratory (BESRL), an activity of the Chief of Research and Development, is studying tactical decision making behavior. The ultimate goal of the research is to relate command system design to information processing and assimilation, problem solving, and decision making behavior.

We would like you to help in this effort by taking part in some offensive planning activities today. Since we cannot provide you with a full complement of staff element personnel, an automated data system has been provided as a decision aid.

II. FACILITY ORIENTATION

CRT Screen

Map and overlays

Wall Displays

Work Table and Contents

Planner/Experimenter Communication Facilities

Experimenter Location/Role

III. Situation

1. Assume that you are the new G-3 of the 16 Combined Arms Army (Aggressor), within Army Group Okcidento. At present your unit is in an assembly area of eastern Europe. The political situation between east and west has been deteriorating rapidly. Army Group Okcidento has recently been directed to prepare for an offensive to the west at a date and time yet to be specified.

Your role as the 16 CAA G-3 will be to complete offensive planning to accomplish the 16 CAA mission as specified in Army Group Okcidento OPOD #15. The aforementioned planning is to be done employing current aggressor attack doctrine. Assume no contingency plans are available.

PRECEDING PAGE BLANK

2. In accomplishing your G-3 activities you have access to tactical information stored in the computer. When you request information it will be displayed on your cathode ray tube (CRT).

3. You will receive initial instructions by means of OPORD #15 which is on your work table.

Your planning sequence will be divided into two phases, i.e., Form of Maneuver, and Operations Plan Development.

You will be given commander's guidance, specific task requirements, and instructions at the beginning of each phase. At the end of Phase II you will be asked to complete a brief questionnaire.

4. During your planning activities you will be able to obtain tactical information by means of your CRT screen. Stored within the computer is detailed information relevant to all aspects of your problem organized under the major categories listed below:

G-1 Personnel Element

G-2 Intelligence Element

G-3 Operations Element

G-4 Logistics Element

G-5 Civil Affairs Element

Fire Support Element

Chemical, Biological, Radiological Element

Engineer Element

Signal Element

Transportation Element

NOTE: For your convenience aggressor attack doctrine information is located within G-3 Operations.

IV. INSTRUCTIONS ON CRT OPERATION

V. DATE/TIME AND QUESTIONS

For purposes of the study, today's date is 14SEP71, and it is now 0600 hrs.

Do you have any questions before we begin?

VI. INFORMATION NOT AVAILABLE

During the course of today's tactical problem please record on the attached forms categories of information you sought but which were not available to you in the computer data base, and any comments or suggestions as they occur.

Army Group Okcidento
PIRNA (US2545)
14001SEP

OPORD #15 (Excerpts)

Reference: Maps (HOF/PLAUEN/SCHNEEBERG - 1:50,000) and (Central Europe
1:500,000)

1. Situation

a. Enemy Forces

High level political changes in several Western European governments have resulted in a reassessment of the status of Berlin and existing corridors (air and ground) leading from the west to that city.

Pressure for expanded accession rights and disrespect for Eastern European authority along existing corridors has been supported by the United States.

During the past ninety days challenges have been extended to Circle Trigon (East European) jurisdictions all along the East/West International Border.

b. Friendly Forces

To counter these continuing challenges the Circle Trigon Government has conducted annual fall maneuvers in areas just east of the International Border. These maneuvers were concluded on 1 September; however all participating military units have been retained in maneuver assembly areas.

Negotiations between East and West, over access rights to Berlin, were terminated on 10 September with no settlement. Since that time the political and military situation has deteriorated rapidly.

Due to these repeated challenges to her sovereignty the Circle Trigon Government has decided to initiate an offensive to the west using three Army Groups to secure existing border jurisdictions. Circle Trigon Ministry of Defense has ordered Army Group Nord to attack across the

International Border in sector (north) with final objective--control of the Essen, Dusseldorf, Cologne corridor. Army Group Okcidento to attack in sector (center) with final objectives--secure Kassel, Erfurt, Schweinfurt triangle. Army Group Golfo to attack across International Border (south) with final objective--control of Frankfurt Mainz Corridor.

2. Mission

Army Group Okcidento attacks across International Border in sector Cretzschwitz (TS9747) to Cheb (UR1251) commencing on order, to secure Kassel (off map), Erfurt (PB4348), Schweinfurt (NA8045), triangle with the 2 Combined Arms Army (2 CAA), 16 Combined Arms Army (16 CAA), 1 Tank Army, on-line, with 11 Tank Army in reserve.

3. Execution

a. Concept of Operation

(1) Maneuver

(a) 2 CAA attacks in the north. Penetrates enemy positions in zone to seize Kassel (off map) Erfurt (PB 4348) Corridor, and protects Army Group right flank and prepares to continue attack to the west.

(b) 16 CAA attacks in center. Penetrates enemy positions in sector to seize control of the Hof Gap [Naila (PA9379), Helmbrechts (PA9469), Koditz (QA0380), Konradreuth (QA0373), enclosure], and prepares to continue the attack to the west, to seize Coburg (PA4070).

(c) 1 Tank Army attacks in the south. Penetrates enemy positions in zone to seize Schweinfurt (NA8045) protects Army Group left flank and prepares to continue attack to the west.

(d) 11 Tank Army in reserve reinforces right (north) flank.

(2) Fires

(a) Air - Priority of close ^{air} ~~are~~ support to 2 CAA, 1 Tank Army, and 16 CAA, in that order.

(b) Artillery - Priority to 2 CAA, 1 Tank Army, and 16 CAA, in that order.

b. 2 CAA

(1) Occupy, on approval, attack positions

(2) Commence attack, in sector, on order

- c. 16 CAA
 - (1) Occupy, on approval, attack positions
 - (2) Commence attack, in sector, on order
- d. 1 Tank Army
 - (1) Occupy, on approval, attack positions
 - (2) Commence attack, in sector, on order
- e. 11 Tank Army
 - (1) Army Group Reserve
 - (2) Prepare to reinforce right (north) flank.
- f. Arty
 - (1) FA:
 - (a) 5 Arty Div; (GSR) 2 CAA
 - (b) 121 SSM Div; (GSR) 1 Tank Army
 - (2) ADA:
 - (a) 320 SAM Bde; (GS)
 - (b) 325 SAM Bde; (GS)
- g. Aviation
 - (1) 161 ABN Div; (DS) 11 Tank Army
 - (2) 77 Air Army
 - (a) 26 Air Div (Bomb); (GS)
 - (b) 28 Air Div (Bomb); (GS)
 - (c) 30 Air Div (TAC); (DS) 2 CAA
 - (d) 32 Air Div (TAC); (DS) 2 CAA
 - (e) 34 Air Div (TAC); (DS) 1 Tank Army
 - (f) 36 Air Div (TAC); (DS) 1 Tank Army
 - (g) 58 Air Gp (Cargo); (DS) 2 CAA

- (h) 61 Air Gp (Cargo); (DS) 1 Tank Army
- (i) 66 Air Gp (Air Ob); (DS) 2 CAA
- (j) 71 Air Gp (Air Ob); (DS) 1 Tank Army
- (k) 78 Air Gp (TAC); (DS) 16 CAA
- (l) 81 Air Gp (TAC); (DS) 16 CAA
- (m) 90 Air Gp (TAC); (DS) 16 CAA
- (n) 101 Hel Gp (HV); Attached Army Gp Hq.
- (o) 102 Hel Gp (HV); Attached Army Gp Hq.
- (p) 103 Hel Gp (MDM); Attached 2 CAA
- (q) 104 Hel Gp (MDM); (DS) 1 Tank Army
- (r) 105 Hel Gp (LT); (DS) 16 CAA
- (s) 106 Hel Gp (LT); (DS) 11 Tank Army

h. Engineers

- (1) 76 Engr Regt; (GS)
- (2) 252 Amph Engr Regt; (GS)
- (3) 212 Engr Ponton Regt; (DS) 2 CAA

i. Signal

- (1) 305 Sig Regt
 - (a) 1 Bn (OP); (DS) 2 CAA
 - (b) 2 Bn (OP); (DS) 16 CAA
 - (c) 3 Bn (OP); (DS) 1 Tank Army
 - (d) 4 Bn (INTCP); (DS) 11 Tank Army
- (2) 306 Sig Regt
 - (a) 1 Bn (OP); (GS)

(b) 2 Bn (OP); (GS)

(c) 3 Bn (OP); (GS)

(d) 4 Bn (INTCP); (GS)

j. Motor Transport - 504 Motor Transport Regt; (GS) priority 11 Tank Army.

k. Medical - 81 Medical Regt; Attached Army Group Hq.

l. Military Intelligence - 66 MI Regt; Attached Army Group Hq.

m. Propaganda - 281 Prop Regt; Attached Army Group Hq.

n. Coordinating Instructions - Submit Combat Support requests to this headquarters by 142000SEP.

4. Administration and Logistics

a. ASR for Period 15 - 20 Sept.

(No restrictions)

b. Special Ammunition Load (SAL)

2 CAA

FR/NERONG/20KT

6

16 CAA

FR/NERONO/20KT

6

1 Tank Army

FR/NERONO/20KT

2

SSM/TONDRO/10KT

24

SSM/FULMO/50KT

4

11 Tank Army

FR/NERONO/20KT

6

(1) SASP 218: vicinity Dohna (VS2045)

(2) Special Ammunition Load can be drawn commencing 141800SEP, and will be completed no later than 142200SEP.

5. Command and Signal

Army Group Okcidento headquarters is located at Pirna (US2345), opens at 141200SEP.

DISTRIBUTION A

OFFICIAL:

/s/ Yakubovich

YAKUBOVICH

G-3

(FRAG ORDER)

Action-Immediate
Information-Priority

Date/Time-140600

From: CG Army Group Okcidento

To: CG 2 CAA
CG 16 CAA
CG 1 Tank Army
CG 11 Tank Army
CG 77 Air Army
All Army Group Okcidento Support Units

1. 77 Air Army - Commence Combat Air Patrol Flights 150200. Place all Tac Units on 5 Min. Status 150400.
2. Army Group Arty - Commence Preparatory Fires 150500.
3. 2 CAA, 16 CAA, 1 Tank Army - Commence Attack in Sector 150500.
4. 11 Tank Army, All Army Group Okcidento Support Units - Stand by for Instructions from this Command.

DISTRIBUTION A

OFFICIAL

/S/ Yakubovich G3 Army Group Okcidento

(FRAG ORDER)

TASK REQUIREMENTS (PHASE 1)

- (1) PERFORM MISSION ANALYSIS:
 - (A) STATE IMPLIED TASKS AND
 - (B) STATE COMPLETE 16 CAA MISSION ON RESPONSE SHEET #1
- (2) DEVELOP A FORM OF MANEUVER AND NOTE DECISION ON RESPONSE SHEET #2

!THE 16 CAA COMMANDER HAS DIRECTED THAT THE ABOVE BE COMPLETED NO LATER THAN 141200!

(WHEN THE ABOVE REQUIREMENTS HAVE BEEN COMPLETED PLEASE NOTIFY THE EXPERIMENTER VIA TELEPHONE).

COMMANDER'S GUIDANCE

**THE 16 CAA COMMANDER DIRECTS THAT PHASE 2 ATTACK PLANNING PROCEED ON THE BASIS OF YOUR G-3 RESTATE-
MENT OF THE 16 CAA MISSION, AND RECOMMENDED FORM OF MANEUVER.**

TASK REQUIREMENTS (PHASE 2)

- (1) DEVELOP AN OFFENSIVE COURSE OF ACTION AND PREPARE A 16 CAA OPERATION ORDER. (COMPLETE RESPONSE SHEETS 3 & 4).
- (2) AS A RESULT OF YOUR DECISION ON A COURSE OF ACTION, INDICATE ON THE 1:50,000 MAP OVERLAY THE FOLLOWING CONTROL MEASURES:
 - (A) BOUNDARY LINES BETWEEN 16 CAA FIRST ECHELON UNITS, IF APPROPRIATE
 - (B) INDICATE SECOND ECHELON FORCE CENTER OF MASS
 - (C) AXIS OF ADVANCE FOR PURPOSES OF CONTROL, IF APPROPRIATE
 - (D) PHASE LINES, IF APPROPRIATE
 - (E) OBJECTIVES, IF APPROPRIATE

NOTIFY EXPERIMENTER WHEN TASK REQUIREMENTS HAVE BEEN COMPLETED.

THE 16 CAA COMMANDER HAS DIRECTED THAT THE ABOVE BE COMPLETED NO LATER THAN 141800!

APPENDIX B--ADMINISTRATIVE MATERIALS FOR DEFENSIVE PLANNING SCENARIO

SUBJECT BRIEFING

I. INTRODUCTION

The Army Behavior and Systems Research Laboratory (an activity of the Chief of Research and Development) is studying tactical decision making behavior. The ultimate goal of the research is to relate command system display design to information processing and assimilation, problem solving, and decision making behavior.

We would like you to help in this effort by taking part in some very basic planning activities today. Since we cannot provide you with a full complement of staff element personnel, an automated data system has been provided as a decision aid.

II. EQUIPMENT DEMONSTRATION

CDC 211 CRT Operation and Utilization

IBM 1052 I/O Typewriter

Maps and Overlays

Wall Displays

High Speed Clocks

Work Table Contents

Communications

Experimenter Location-Role

III. SITUATION

1. Assume that you are the new G-3 of the 20 Mech Div within the 3d (US) Corps now on alert status in an assembly area in Germany. The political situation is deteriorating rapidly.

2. Assume that no contingency plans are available. You will be given first instructions by excerpts from a Corps OPOD and from guidance issued by the 20 Mech Div Commander.

PRECEDING PAGE BLANK

3. In accomplishing your G-3 activities you will need information stored in the computer. You will be able to obtain this information by yourself by direct request via the CRT. When this briefing is completed your CRT display will be activated. An index to the information stored in the computer will appear on the CRT and simple procedural instructions will appear on the CRT. Just follow the instructions on each display and the information you need will appear on the CRT.

4. Messages from various 30 (US) Army organization will be coming in from time-to-time via the high speed typewriter. These messages will cover a variety of activities.

As you retrieve information from the data base, you may feel there are inadequacies in the content or display of information. We have provided a user comment sheet at the back of the briefing paper. During the course of your planning activities please note any deficiencies or suggestions for improvement that occur to you. Such suggestions and comments have often proved of value in previous research.

For purposes of this study, today's date is 14 September, and it is now 2100 hours.

Do you have any questions before we begin?

(UNCLASSIFIED)

3d (US) Corps
KRONACH (PA6668) GERMANY
141800SEP

20th Mech Div
OPCRD 63
(Excerpts)

References: Map Western Europe (HOF PLAUEN 1:50,000, GERMANY 1:250,000)

1. CORPS SITUATION

a. Enemy Forces

During the past 3 months, the foreign policy of the Circle Trigon Government has become hostile toward the U. S. and her Allies. This hostility has resulted in increased military activity along the entire Circle Trigon Border. This activity is being accomplished under the cover of a normal training schedule.

b. Friendly Forces

To counter the threat posed by the Circle Trigon build-up, the 30th U. S. Army has been airlifted to the European theater to supplement NATO forces. The 30th (US) Army is occupying positions along the Circle Trigon Border with the 1st and 2nd (US) Corps on the north and the 3d (US) Corps in the south.

2. CORPS MISSION

3d (US) Corps to move to defensive positions immediately and defend in sector from REMPTSTENDORF (PB8801) to WEIBENSTADT (OA0654) for a period of 30 days to permit a build-up of NATO forces for a counter-offensive.

3. EXECUTION

a. Concept of Operations

(1) Maneuver

Corps to establish defense in sector with the 57th Mech Div on the north, 20th Mech Div in the center, and the 74th Mech Div in the south. The 56th Armd Division and the 26th (UK) Armd Div Corps Reserve, located VIC NORDHALBEN (PA 7883).

(2) Fires

(a) Air

Priority of close air support to the 57th Mech Div, and 74th Mech Div in that order, then to Corps counter-attacking forces on commitment.

(b) Artillery

Priority to 57th Mech Div, 20th Mech Div, and 74th Mech Div in that order, then to 20 Mech Div counter-attacking forces when committed.

(c) Nuclear

The bulk of Corps nuclear weapons will be allocated to the divisions in the FDA. Allocations with authority to dispense and expend will be provided if Circle Trigon forces employ nuclear weapons.

(3) 20 Mech Div

(a) Defend in sector immediately

(b) Prevent enemy from penetrating west of hills 715 (PA 8678), 795 (PA 8873) and 726 (PA 9066) on line red

(c) Establish GOP 150600SEP

(4) 57 Mech Div

(a) Occupy and establish initial delay position along Saale River in sector

(b) Establish GOP by 150600SEP

(5) 74 Mech Div

(a) Defend in sector immediately

(b) Establish GOP by 150600SEP

(c) Prevent enemy from penetrating west of line red

(6) 56th Armd Div

(a) Corps Reserve

(b) Priority of employment to 57th Mech Div sector

(7) 26th (UK) Armd Div

(a) Corps Reserve

(b) Priority of employment of 74th Mech Div sector

(8) ARTY

(a) FA:

(1) 61st Arty Gp: GSR 20 Mech Div Arty

(2) 62d Arty Gp: GSR 57 Mech Div Arty

(3) 63d Arty Gp: GSR 74 Mech Div Arty

(4) 2d Bn (155, SP) 631st Arty: Attch 20 Mech Div

(5) 1st Bn (155, SP) 632d Arty: Attch 57 Mech Div

(6) 3d Bn (155, SP) 634th Arty: Attch 74 Mech Div

(7) 1st Bn (Tgt Acq), 101st Arty: GS

(8) 1st Bn (SGT), 211 Arty: GS

(9) Bty A (SGT), 191 Arty: GS

(b) ADA:

(1) 401st Arty Gp priority to Corps Reserve, FDA,
Corps Command Post

(9) 301 Cml Bn (Smoke Genr): GS

(a) Priority to 20 Mech Div sector

(10) 51 Engr Bde: GS

(a) 51 Engr Bde supports 3d (US) Corps defensive operations employing 56th Engr Gp (CBT) on the north, 54th Engr Gp (CBT) center, and 55th Engr Gp (CBT) in the south

(b) Priority of effort in order, construct Corps blocking positions, preparation of obstacles and road maintenance

(11) Barrier and Denial

(a) Location Concept

Units will construct obstacles as required to cause maximum restriction to enemy movement. Roads or other high-speed avenues of approach will be blocked in depth. Barriers will canalize enemy attack into killing area.

(b) Destruction of Population Centers

Destruction of population centers and communications, transportation, utilities, mining, factories and port facilities will be held to a minimum.

(c) Operations requiring Army approval

- (1) Use of chemical contaminants requires specific Army approval
- (2) Any destruction that may have strategic impact will require Army approval prior to execution

(d) Consideration of future operations

Barrier and denial operations must not unduly restrict future Army operations particularly to the north

(e) Coordinating Instructions

- (1) Gaps and lanes in Army directed barriers behind FEBA to be closed only on Army order
- (2) Nuisance mines will not be authorized
- (3) Barrier construction may be initiated without future orders

Distribution: A

3d (US) Corps

OFFICIAL

/S/ Malone
MALONE
G3

(UNCLASSIFIED)

UNCLASSIFIED

MEMORANDUM

141830SEP

FROM: CDR 20 Mech Div
TO: G-3 20 Mech Div
SUBJECT: Development of G-3 Estimate

You are to prepare a presentation for the 150700SEP Commander's briefing. The briefing is to include the rationale underlying the preparation of the G-3 estimate. Base your estimate on the following considerations:

1. Form of Defense:

Considerations of terrain and relative mobility are most significant. The rugged terrain along the SAALE River obstacle provides good cover and concealment, excellent observation of the river valley and good to excellent fields of fire. Therefore, division planning will proceed on the basis of an area defense.

2. Mission:

(a) Our mission is to defend along the SAALE River line in sector. We must employ a general outpost.

(b) The Corps Commander has not specified the location of the general outpost. Organ. the general outpost with sufficient strength to provide at least 24 hou. delay and select a suitable location for recommendation to corps.

3. Organization of Defense Sector:

In order to accomplish the assigned mission, we will organize our defense sector and conduct the defense primarily to retain terrain in the forward defense area taking maximum advantage of the SAALE River obstacle. The ridge formed by hills 715-795-726 must be retained to support Corps counterattack operations. The division reserve must be located where it can block penetrations, counterattack to regain terrain, and add depth to the defense.

4. Course of Action:

In preparing your estimate, your recommended course of action should be based on the enemy capability of attacking in the 20th Div sector with two Mech divisions supported by artillery and air. The enemy may employ tactical infiltration. There are no indications that the enemy will use nuclear weapons.

(a) Standardized division forms have been provided to develop a course of action in the division sector.

(1) Allocate combat power to the echelons of defense:

(A) GOP

(B) FDA

(C) Reserve

(2) Specific type of resistance by each echelon of defense (delay, screen, defend)

5. Graphic Portion of Commander's Briefing

Indicate on your 1:50,000 map the location of the following:

(a) GOPL

(b) COP coordination point

(c) BDE lateral and rear boundaries and coordinating points

(d) Visualized FDA Bn positions

(e) Reserve forces location

(f) Visualized allowable penetrations

(g) Division-directed blocking positions

Write out on standardized forms provided

(a) Suggested 20 Mech Div task organization

(b) Mission statements to subordinate units

Contact Div commander by telephone when your briefing is complete. In any event, your briefing must be ready by 150630SEP.

Distribution: B

20 Mech Div

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Gen. B. G. Smith, Commander

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