

EXDET III

A Student-Level Experimental Simulation  
on  
Problems of Deterrence

Barton Whaley

with

Peter C. Ordeshook and Robert H. Scott



CENTER FOR INTERNATIONAL STUDIES  
MASSACHUSETTS INSTITUTE OF TECHNOLOGY  
CAMBRIDGE • MASSACHUSETTS

October 1964

EXDET III

A Student-Level Experimental Simulation

on

Problems of Deterrence

Barton Whaley

with

Peter C. Ordeshook and Robert H. Scott

Center for International Studies  
Massachusetts Institute of Technology  
Cambridge, Massachusetts

October 1964



## Table of Contents

Preface

I. Introduction

A. The Research Problem

B. Game Design

II. Findings and Recommendations

A. Quantitative Analyses

B. Conclusions and Recommendations

III. Game Histories

A. Blue-Pink (Saturday) Game

B. Blue-Pink (Sunday) Game

C. Green-Salmon (Saturday) Game



## Preface

This paper reports the third experiment in the so-called EXDET (i.e., "experiments in deterrence") series conducted at the M.I.T. Center for International Studies in 1963-64 for Project Michelson of the U.S. Naval Ordnance Test Station, China Lake, California.

The first chapter of this report briefly describes the research problem and game design of the EXDET III experiment which took place at M.I.T. on 27 and 28 May 1964 in classrooms lent by the Sloan School of Management. The second chapter outlines the course of play and describes the experimental outcomes. The third and final chapter consists of narratives of the three separate games comprising the experiment.

Mr. Barton Whaley designed and supervised the game and also the preparation of this report. The game histories and quantitative analyses were prepared by two members of the game's Control Group, Peter C. Ordeshook and Robert H. Scott.

Lincoln P. Bloomfield  
Director, Arms Control Project



## I. INTRODUCTION

### A. THE RESEARCH PROBLEM

The student experiments in the EXDET series are primarily intended to support the senior exercises in the concurrent DETEX series. These latter games are role-playing simulations of international political-military crises, using academic and government experts, and involving problems associated with the control and use of various weapons systems<sup>1</sup> of the strategic deterrent type.

The specific objectives of the EXDET III game were to develop more systematic techniques appropriate to both student experiment, and professional exercises and to replicate with students a crisis problem previously used with professionals to see what, if any, marked differences occurred.

A basic decision was taken that this student game would keep closely to the role-playing, multiple-team format of the professional exercises. By preserving this general format it was possible to use the EXDET III student game to systematically pre-test the several questionnaires and message and planning forms being considered for use in the subsequent professional exercises.

Furthermore, adhering to the general DETEX format also made it possible to employ either a previously used scenario or one under consideration for future use in a DETEX exercise. In fact, it was decided to use this EXDET III game for a replay of the DETEX II exercise which took place the previous February.

---

<sup>1</sup>For a general description of the technique employed in the Center's professional crisis-gaming exercises see Lincoln P. Bloomfield and Barton Whaley, The Political-Military Exercise: A Progress Report (Cambridge, Mass.: Center for International Studies, M.I.T., 16 August 1963, multilithed).



## B. GAME DESIGN

The participants were drawn from an M.I.T. undergraduate class in "arms, arms control, and foreign policy." Class time was set aside for a general briefing on the scenario, background papers, and rules of play, as well as for an opportunity for the participants to read through these materials.

The format and rules of play were borrowed intact from the previous EXDET II experiment. Thus the participants were to be divided among four pairs of teams. Each pair consisted--as before--of a U.S. and a Soviet team. Similarly, each team had three members: a Chairman (U.S. President or Soviet Presidium Chairman), a Secretary of State (or Foreign Minister) and a Secretary of Defense (or Defense Minister).

As it had proved effective in EXDET II, Control was again to be divided into two two-man sub-groups, each monitoring one of the separate two-team games. The Game Director was freed, as before, to keep a general watch on the pre-programmed Control inputs.

The substantive materials for EXDET III were drawn entirely from the previous DETEX II professional exercise. That is, the teams entered the game with the scenario and the detailed background papers on Polaris, Polaris communications and the Hot-Line which had been<sup>1</sup> used in DETEX II.

---

1

Only inconsequentially amended and corrected versions of the DETEX II scenario and background papers were used. See the DETEX II report, pp. IV-1 through IV-6 for a synopsis of the scenario.

To further enhance the replication aspects of this experiment, it was also decided to introduce as many of the Control messages from DETEX II as possible while remaining responsive to the unique needs of the different teams. The Move Period A messages from Control were thus fully pre-programmed, with the subsequent game documents generated by Control in DETEX II serving as a reservoir for use when and where appropriate. Such messages included those dealing with U.S. and Soviet executive-to-military communications as well as a fair amount of traffic between the teams and the "UN", "China", "NATO", and the other political organizations and nations simulated by Control. To a marked extent this procedure resembled the pre-programming of messages used in EXDET II. The only significant difference between the DETEX II and EXDET III games was that while the former had covered five move periods, it was decided beforehand that the latter would play through only the first three of these.

As in EXDET I and II, this game involved the use of Control functioning in the same real-world time as the teams (in contrast to the senior DETEX series in which Control's portion of any given move period preceded that of the teams). This approach was possible in the EXDET series because the pre-programming of much of Control's decisions and messages freed Control sufficiently to supply immediate responses to the teams. This technique of simultaneous team-Control play also permitted the use of continuous play between move periods, as it eliminated the necessity of having the teams take time out breaks while Control digested the team decisions from the previous move

period and planned and drafted its inputs for the next Move Period. Those breaks which did occur were therefore no longer an inherent constraint of the game design but merely an option exercised by Control both to provide relaxation for the participants and--where move periods involved a Control-specified jump in clock-time--to permit the players to adjust psychologically to a subjective jump in time.

An innovation, also regarding the use of time in gaming, was that the ground rules specified that during move periods the game clock ran at a normal rate of speed, ticking off real minutes and hours. Previous games had not made this point explicit and players had made varying personal judgments as to the nature of time during a move period, for example, some assuming time was stopped while others assumed that a move period represented a much longer time than their wristwatches showed. The consequences for the simulation of communication procedures are discussed below.

Following up the successful innovation in EXDET II involving pre-programmed interruptions of the Hot-Line communications procedure, it was decided that part of the pre-programming of the EXDET III game would involve alternately opening and closing this unique channel of communications. The procedure adopted was to start play with the Hot-Line open and continue until Move Period B during which it was cut, to be restored in Move Period C.

The battery of post-game questions developed at Northwestern administered to the players in the DETEX II game was again given to the EXDET III participants. These questionnaires are currently

being analyzed by the inter-nation simulation group at Northwestern  
<sup>1</sup>  
University.

The EXDET III experiment was conducted during two week-days (27 and 28 May 1964). On Wednesday, two pairs of three-man teams simultaneously played against Control for three move periods. On Thursday a different pair of teams replayed the same game. The original intention of having--as in EXDET II--four pairs of teams was thwarted at the last minute when the number of students who appeared at game time on the second day of play was sufficient only for one pair of teams that day.

---

<sup>1</sup> In addition, the CRISIS-COMMUNICATIONS Project directed by Professor Ithiel de Sola Pool at M.I.T. is currently engaged in a systematic content analysis of the messages generated by the DETEX II game and a comparison of these messages both with those produced by other (non-M.I.T.) games as well as those available from the actual crisis immediately preceding World War II. If this succeeds in throwing fresh light on the DETEX II exercise, serious consideration should be given to analyzing other DETEX and EXDET games by this technique.

## II. FINDINGS AND RECOMMENDATIONS

### A. QUANTITATIVE ANALYSES

To analyse the results of the three games statistically is difficult because the sample sizes are small. With an average of only twenty-five messages sent by each team, plotting anything but the total number of messages sent is inconclusive. (see Table I) What can be done, however, is to combine our quantitative and qualitative analyses and use the statistics to supplement these analyses. In future, multiple games of the same nature might be run in order to increase the sample size.

One of the primary observations about the activity of the three Soviet teams which can be made from the data presented in Table II is that they all showed a high rate of activity in the first move period, a lower rate of activity in the second move period, and an increase of activity towards the end. In the Soviet case these moves were a combination of diplomatic messages and military deployments as seen in Table I.

The results for the three American teams are not nearly so consistent. (see Table III) However, we can see from Table I that each U.S. team made a more concerted effort to obtain more information than did any one of the Soviet teams. In general, the American teams felt more need for information than did the Soviet teams. While two of the Soviet teams ordered the sinking of Polaris submarines immediately, their American counterparts spent Move Period A contacting various government agencies for information. The three Soviet teams

**TABLE I: TEAM STATISTICS**

	<u>Wednesday</u>				<u>Thursday</u>		<u>Move Period</u>
	Blue	Pink	Green	Salmon	Blue	Pink	
Total	8	9	6	10	11	5	A
Messages	3	5	6	6	10	4	B
	3	6	7	9	9	13	C
Hot-Line	2	4	1	1	2	1	A
Messages	0	0	0	0	0	0	B
	2	2	0	0	1	0	C
Internal	5	3	4	9	6	3	A
Messages	2	5	3	3	7	3	B
	1	2	4	7	2	9	C
Diplmte.	2	4	2	1	5	2	A
Messages	0	0	3	3	3	1	B
	2	3	2	2	5	4	C
Information	5	0	4	3	5	2	A
Requests	2	2	1	3	6	1	B
	0	1	0	7	2	3	C
Hardware	0	3	0	5	1	1	A
Moves	0	2	1	0	0	2	B
	1	1	2	0	0	6	C

Note: Plotting the above statistics would be meaningless since the samples are so small.

TABLE II: TOTAL MOVES MADE FOR SOVIET TEAMS DURING THEIR THREE MOVE PERIODS.

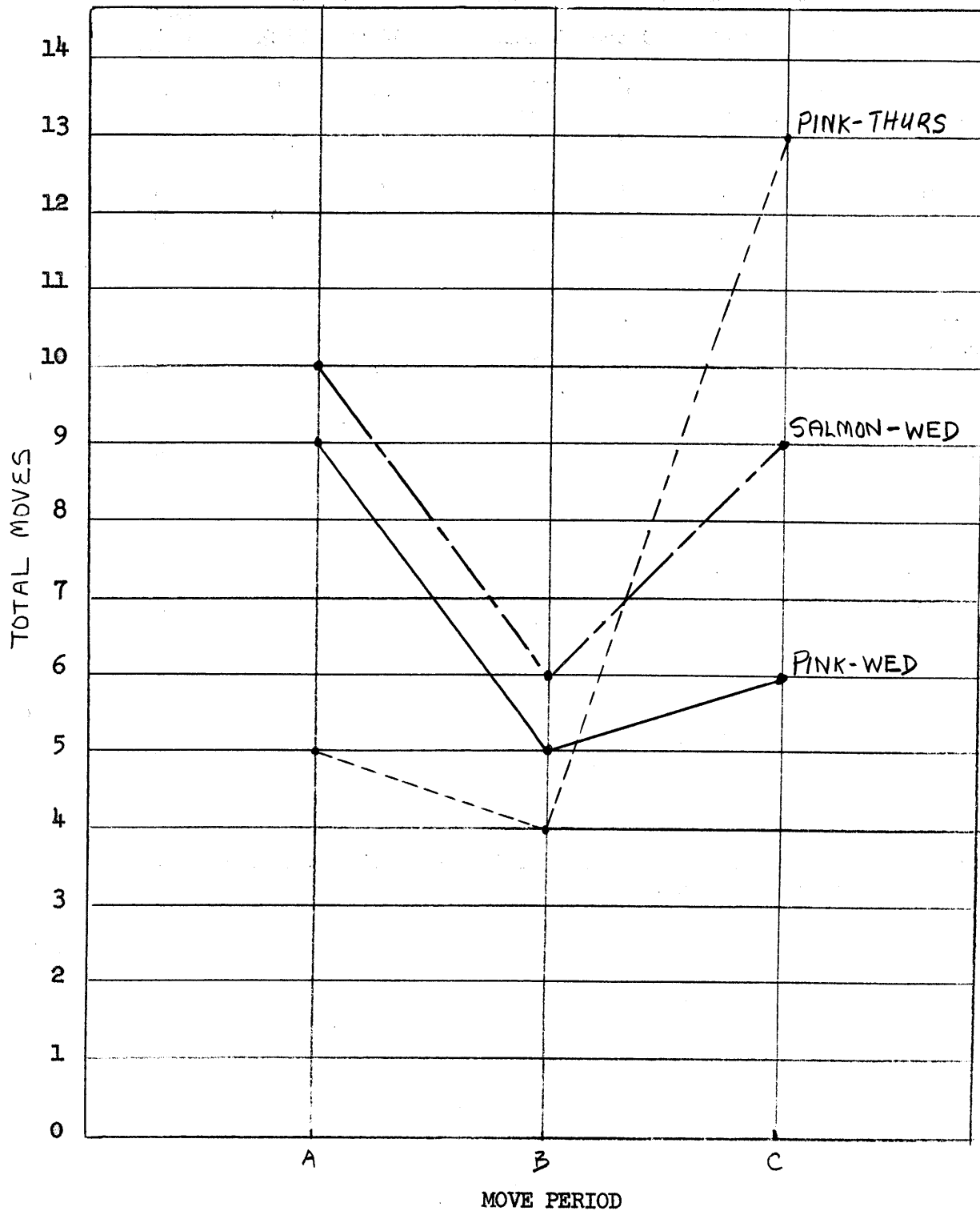
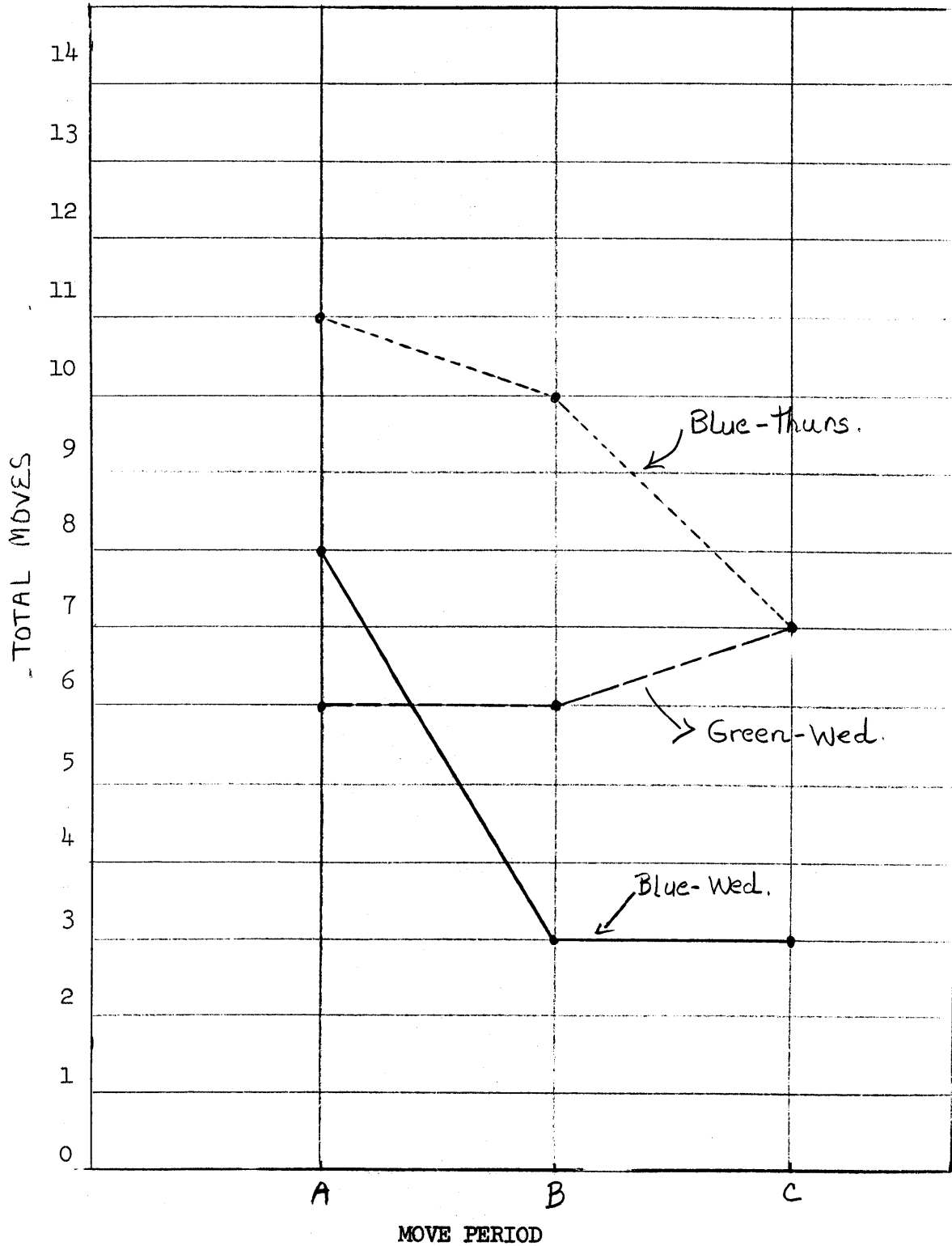


TABLE III: TOTAL MESSAGES SENT BY THE THREE AMERICAN TEAMS DURING THEIR THREE MOVE PERIODS





made a total of twenty military moves while the corresponding U.S. teams made only five such moves. On the other hand, the U.S. teams sent a total of 25 messages asking for information and the Soviet teams sent a total of 22 of which 13 originated from the one Soviet team which did not order the sinking of any submarines.

Particular attention should be paid to the Blue-Pink game on Thursday during which the American team assumed a very defensive attitude. This team, by mere coincidence, was dominated by a committed "ban-the-bomb" chairman. Nearly fifty per cent of this team's moves were diplomatic and only one military move was made during the entire game--the returning of SAC during the first move period. This defensive attitude was immediately and correctly sensed by the opposing Soviet team which made 13 moves during the final move period of which six were military moves.

For all the teams, the second move period represents a lull in activity while waiting for information. In general, the following can be said about the first two move periods:

1. The American teams felt that their information was inadequate, and sent an initial flurry of messages requesting information. The second period can best be described as a "wait-and-see" period.
2. The Soviet teams, although feeling similar anxieties from the lack of information, seemed to feel that military moves were more appropriate.

It is hard to say at this point whether the Soviet teams were less conservative than the American teams because they were acting "objectively", or whether their moves were biased by their judgment of

Soviet psychology. These alternatives deserve further study.

The final move period displayed the variety of possible outcomes to a much greater extent than did the first two. As has already been pointed out, the final game appeared to be reaching its peak activity at this point while the first two games experienced a marked decrease in tension by the last move period. Although the Wednesday Blue team was in constant fear that one of its own submarines had fired the missile, its volume of messages decreased from eight in the first move period to only three in the third and last. The Wednesday Green team continued to have a high message output rate for all three periods but the emphasis was on internal and diplomatic messages.

Perhaps a good indication of tension is the number of Hot-Line messages sent. As the Hot-Line was broken during the second move period none were sent then, but a total of 11 were sent during the first move periods and only five were sent during the final move periods. This phenomenon may be due to a lessening of tensions or it may be due to the fact that the teams, having been without the Hot-Line for a move period, had learned to do without it. This subject also deserves further study.

The Soviet teams were much more concerned with propaganda than were the American teams. Both of Wednesday's Soviet teams felt the need for propaganda, either to minimize American gains in this field stemming from the fact that the explosion seemed to have occurred at a clandestine test facility, or to force those countries in which Polaris submarines were based to refuse the United States further use

of their territory. All three Soviet teams immediately appreciated the short and long term gains which could be made if they convinced America's allies to refuse the United States permission to station nuclear submarines on their soil.

Saving the Test Ban Treaty was an immediate concern of all teams although the Americans seemed to be much more aware of the fact that it was in jeopardy. The Soviet teams seemed to give this matter little thought.

All teams realized that the increased alert status of SAC and SUSAC was a potential cause of higher and possibly uncontrollable tension. Similarly, all teams realized that little was to be gained by keeping their strategic air forces in threatening positions. The majority of the initial Hot-Line messages were concerned with this problem and the suggestion of simultaneous return of all strategic air forces.

The two games played on Wednesday, although starting very differently (the Pink team ordered submarine destruction), became fairly similar towards the end. The third game was considerably different on account of the defeatist attitude assumed by the United States.

## B. CONCLUSIONS AND RECOMMENDATIONS

This game represented the first attempt to replicate one of our previous games in the literal sense of a replay starting with the same scenario and background papers. In general, this worked fairly well with the undergraduate participants, although it became evident that any such replications that give to novices a game designed for experts should supply additional background material on such things as standard national and international organizational and communications procedures. It is significant, however, that the undergraduates had a sufficient general grasp of these matters to know when to query the Control Group on such points. Therefore, the net effect of this lack of additional background details was merely to somewhat slow the teams' decision-making process by forcing them to seek certain types of information which would be common knowledge to the expert team.

As in EXDEF II, the technique of employing pre-planned advances in game-time worked successfully. In this game, however, the pre-set time intervals were those used in the DEPEX II game being replicated.

Because the technique whereby the Control Group played simultaneous games against different teams had proved useful in EXDEF II, the present game also employed it. Once again it was generally effective as a technique for economically obtaining additional replications under reasonably controlled conditions. This proved true despite the fact that this game involved a more complex scenario-problem requiring greater improvisation of response messages from Control than occurred in the EXDEF II experiment. That is,

because the Control inputs in this game could not be pre-programmed to the extent that had been true in EXDET II, greater strain was placed on Control's ability to monitor simultaneous games. Nevertheless, Control's limits of endurance were not exceeded, although--as in EXDET II--coordination between the two Control sub-groups was far from complete because of the volume of message traffic.

Similarly successful was the attempt to repeat the EXDET II technique of having Control move simultaneously with the teams. The primary value of this device is, of course, to make maximum use of the players' time. It should be seriously considered for application to the DETEX games where long team breaks (during which Control prepares the next Move Period) represent an undesirable imposition on the volunteered time of busy professionals.

Such a time-saving device depends for its success on Control's being sufficiently freed from the responsibility of having to improvise major policy decisions. This degree of freedom can only be achieved if the decisive messages at least can be largely pre-programmed. Pre-programming, of course, places a severely limiting constraint on the specific scenarios that can be selected for use in games involving simultaneous team-Control play. However, the advantages in time saved warrant careful consideration of the possibilities for pre-programming in any future professional exercise as well as in student experiments.

The ground rule innovation presented the players in EXDET III is worth recording here as it was addressed to a question about the

flow of time during move periods which had apparently troubled players--<sup>1</sup>  
both students and professionals--in previous games: The game clock  
stops between move periods and is reset by Control at the beginning of  
each move; breaks are time out. The game clock runs (at a normal rate)  
only during a move period. Because a move period is therefore played  
in real time and because a move period is of comparatively short  
duration (ranging from one to two and a half hours), only certain types  
of communication can be realistically expected to occur. By fiat,  
these are specified as follows: Hot-Line messages will be passed by  
Message Center between U.S. and Soviet teams during the move period in  
which they are originated unless Control orders the Hot-Line to be  
temporarily broken. Teams can also expect response messages (drafted,  
of course, by Control) from lower echelons of their own national  
organizations to reach them within the same move period. For example,  
Control will quickly respond with staff situation reports, up-to-the-  
minute intelligence estimates, acknowledgments of military orders, etc.  
All other types of messages will--in order to simulate the communications  
delays of the real world--not normally be either transmitted to other  
teams or be responded to by Control until a subsequent move period.

Again, the Hot-Line procedures served to introduce an important  
element of realism as well as speeding the flow of events. It is  
strongly recommended that this Hot-Line technique be continued with the  
U.S.-Soviet teams in any future senior games.

---

1

This rule was used again with equally encouraging response in the  
DETEX-M exercise that used senior professional experts.

The following suggestions arising specifically from the quantitative analyses may aid in the improvement of the experimental aspect of these games and their systematic analysis:

1. One-man teams should be tried so that a more careful study of the effects of personality can be made.
2. By even further standardizing (by pre-programming) the responses of Control, the analyses of sets of games would be made more statistically meaningful as some of the intervening variables associated with Control's output would be eliminated.
3. The analysis of these games must be mostly qualitative in that the numbers were too small for effective quantitative treatment. The difficulty of performing a meaningful qualitative analysis is compounded by the necessity for content analysis of each move. This problem can be overcome only by playing more games with the same scenario so that meaningful statistical analyses can be made. This would be enhanced if Control inputs were standardized and one man teams were used.

In general, as in EXDET II this type of gaming appears to be useful for certain purposes: as an educational experience it makes a strong impact on the participants, who seem to identify quite closely with their assigned roles. It could be valuable in the design of games to be used in policy research; for, even if their own policy contributions are negligible, students can help to pretest the scenarios and questionnaires intended for professional exercises. Finally, it may have research value as the fact that the substantive outcomes of this particular game closely paralleled the DETEX II exercise suggests that there may well be certain systematic factors operating in both types of games, such as uniform responses by Americans to certain types of military challenges. Extensive replications employing various occupational or national or psychological types would be required to pinpoint such systematic factors.

### III. GAME HISTORIES

This chapter presents histories of the three games comprising the EXDET III run. The subsequent chapter presents some statistical analyses of the moves.

#### A. GREEN-SALMON GAME

As this Green-Salmon exercise began, the two teams were given equivalent information concerning the initial situation. They were told that a nuclear blast of approximately one megaton in magnitude had occurred at the Soviet test site at Polunochnoe in the Urals and that, upon being informed of the fact, the strategic air forces of both countries had been launched towards the other as part of the standard procedure. The United States was informed that its Polaris submarines were deployed in the usual manner and that the Soviet Union was jamming all VLF radio communication with the Polaris fleet. Both countries were told that the Hot-Line was open and ready to send and receive messages. It was also stated that no warning seemed to have been received by authorities at Polunochnoe and that the blast was in the range of size of the warheads carried by Polaris missiles. The President of the United States was also given a memorandum pointing out that the blast had probably been Soviet caused and accidental but it was further stated that several Polaris training units were on duty with the Arctic Squadron. The President's attention was drawn to a Secret Service report relating to possible conspiracy or treason within the office of the Joint Chiefs of Staff, implying the possibility of an unauthorized Polaris firing.



The United States began by assuming that the possibility of a Soviet accident at the test site was more credible than the possibility of an accidental Polaris firing but the U.S. did make extensive efforts to contact her Polaris fleet and ascertain whether or not an accident had occurred. The U.S. expected the Soviet Union to communicate with her soon in order to assure her that the blast had been a Soviet accident and thus prevent a large scale escalation. Though their primary objective was to prevent nuclear war, the U.S. placed the establishment of a system of on-site inspection as her second objective. Her primary action objective was to communicate with the Polaris fleet in order to assure that the blast had not been caused by some accident or by an aberrant commander. The U.S. felt that it was in a very strong position from both a military and a propaganda viewpoint. Even if the U.S. discovered that she was responsible for the blast, it was felt that she would be able to emerge victorious since the site had housed a clandestine testing facility.

The Soviet Union also felt that the cause of the explosion was in doubt. Its goals consisted of preventing a nuclear attack on its territory and minimizing the West's propaganda gains from the occurrence. The Soviet Union made no mention of arms control or disarmament measures in its initial contingency plans. In the same way as the U.S., the Soviet Union felt that it was of critical importance to discover the cause of the explosion and, at the same time, to prepare to meet any eventuality in the light of the U.S. force deployments.

The first move period saw six moves made by the U.S. team and ten by the Soviet team. The activities of the U.S. consisted of attempts to communicate with the Polaris fleet together with attempts to gather information about the possibilities of a Soviet accident and dissidence within the JCS. The U.S. also issued a public statement expressing sympathy for the Russian people and calling for more and expanded international control of nuclear facilities to prevent similar occurrences in the future. Within this move period the U.S. sent a Hot-Line message informing the USSR of its position and stating the need for increased inspection. It was also stated that the U.S. strategic forces would be recalled upon reaching the "fail-safe" positions should the Soviet bombers also be recalled. Unfortunately, this message was received by Control after the Hot-Line had broken down and was thus not sent until the beginning of the third move period.

The actions of the Soviet team within the first move period were aimed at discovering the cause of the explosion. Requests were sent to Control for information about the schedule of tests at the site in an attempt to discover if the blast could have been accidental. Also, a team of specialists was dispatched to the site to investigate the matter. A Hot-Line message was dispatched to the U.S. asking the intent of the U.S. bombers which were en route to the Soviet Union and a press release was sent announcing the accidental destruction of an "experimental electrical energy converter" at Polunochnoe. The Soviet Union also felt that it had to retain its alert status until the U.S. assumed a less hostile attitude towards the Soviet Union

and attempts were made to ascertain the readiness of the U.S. strategic missile forces. Instructions were issued to authorities in East Germany to establish martial law to quell riots. At the end of the move period the Soviet team unilaterally stopped jamming the U.S. VLF radio communications system.

At the beginning of the second move period the Hot-Line broke down thus making it impossible for the two teams to communicate with each other during the move period. Control introduced a series of news reports suggesting that Britain demanded proof that the U.S. was not responsible for the blast. The teams were also informed that the Chinese government had transmitted notification of its support to the Soviet Union and had implied that the "U.S. attack showed the failure of coexistence".

The United States viewed the situation as fairly favorable to herself. The team felt quite sure that the U.S. had not caused the explosion and saw the Soviet Union as being on the defensive. While emphasizing the desire to achieve stronger arms control measures, the U.S. displayed the same goals as she had at the beginning of the game.

The Soviet Union, on the other hand, still viewed the situation as grave. It was felt that there had been no evidence of good faith on the part of the U.S. and that the best that could be hoped for out of the situation would be a stalemate.

During the second move period the United States transmitted seven documents and the Soviet Union only six. Most of the U.S. action was directed towards trying to assure her allies that she was not responsible for the

explosion in light of the recent press statements. She recalled her bombers when they reached the "fail-safe" positions and stated that should the Soviet Union not do the same then the U.S. would be forced to turn its strategic forces back towards Russia.

During this move period the Soviet Union recalled her bombers without knowledge of the similar U.S. action thus relieving the U.S. of much of the threat which had been facing her. At the same time the Soviet Union acknowledged receipt of the note from the United States and admitted that the explosion had been a Soviet accident. During this move period Russia tried to learn how much the United States knew about the test site and tried to find out how they had learned what they had so that plans could be made to minimize propaganda losses. A note of appreciation was sent to the Chinese but care was taken to make it quite clear that the Soviet Union was still trying to ascertain the exact cause of the explosion.

At the beginning of the third move period the United States felt that the crises was over. The U.S. team felt that there was little threat to them but noted that the Soviet Union was still in a very defensive position. The U.S. President made a public statement in which he divulged the nature of the Soviet test site and called for more arms control measures. At the same time the U.S. ordered troops in West Germany to proceed to the frontier in order to forestall any Soviet moves relating to the Berlin problem. This seemed likely in light of the recent declaration of martial law in East Germany. While keeping alert and trying to meet any eventuality, the U.S. attempted to use the explosion to force the Soviet Union to accept a significant arms control plan with strong international control.

The Soviet Union continued to try to ascertain the cause of the explosion. Although it had admitted that the explosion had been an accident, the Soviet team felt that there was a significant chance that it had been caused by an act of aggression. Attempts to find out how much the United States knew about the site and how it had found out what it knew were continued. Propaganda moves were made to capitalize on the British suggestions for inspection of the Polaris fleet and messages were sent to China discouraging any offensive action.

As the game drew to a close in the fourth move period the Soviet Union still felt faced with a dangerous situation. It was felt that the United States would make maximum propaganda use of the fact that the site had been built for clandestine testing and the Soviet team felt that it had to mitigate the possible U.S. gains as much as possible.

The United States, on the other hand, felt that she was in a very good position. The team felt that they were in a position to present their demands for more arms control to a very sympathetic world audience. It was believed that these moves would be successful.

In summary it can be said that the first move period saw both nations readying themselves to meet any eventuality. Every possible attempt was made by both sides to find out what actually caused the explosion and both immediately saw the possibility that it had been caused by accidents on their own part.

As the game progressed into the second move period the United States felt that she had had nothing to do with the explosion and started to work towards the achievement of her goals of arms control. Much was done to lessen tensions when both nations unilaterally recalled their strategic air forces. The fact that the Hot-Line had been broken did not actually hinder the implementation of any of the teams actions but it did seem for a while as if slow communications might prevent the recall of the strategic air forces.

As the third move period arrived the United States had become virtually certain that it had not caused the destruction of Polunochnoe. Now concentrating on propaganda and arms control, the U.S. felt confident that it could achieve its aims. Russia, on the other hand, was still trying frantically to determine the cause of the blast. As a result, most of her international efforts were directed towards minimizing the U.S. propaganda gains and she was never able to mount an effective propaganda offensive.

### B. BLUE-PINK GAME

Upon commencement of the Blue-Pink (Wednesday) game both teams viewed the situation similarly, namely that a threat had been posed to whatever status quo existed prior to the explosion. The U.S. team had not excluded the possibility that the explosion had been caused by an unauthorized firing of a Polaris missile while the Soviet team indicated in their contingency plans that they were convinced that the U.S. had caused the detonation. The United States did not completely rule out the possibility of an accidental explosion, however. The Soviet's reaction in Move Period A was entirely offensive. After demanding that SAC turn back and that a U.S. explanation be forthcoming, orders were issued to track and destroy one Polaris submarine. This was followed by a worldwide press release denouncing the "American attack" upon the USSR. The Soviet team simultaneously ordered the mobilization of troops in eastern Europe, although, towards the end of this move period, they decided that they would hold SUSAC at "fail-safe" if the U.S. would comply with SAC. Generally, the Soviet Union made no attempt, in the first move period, to exactly determine the cause of the explosion. Other than moving hardware, their messages were concerned with propaganda attacks on the United States, and deployments leading to a very offensive posture.

The United States, on the other hand, made a great effort to determine the exact cause of the explosion in the Urals. A series of messages were sent to BMEWS, the Secret Service, Polaris Squadrons, and the Joint Strategic Targeting Board requesting whatever information was available. Move Period A ended with the U.S. declaring that SAC would hold at the present "fail-safe" position.

The actions taken by the two teams during the first move period can be contrasted as follows:

1. The Soviets assumed a belligerent posture while the U.S. decided to wait and see.
2. While the majority of the Soviet communiques were external, aimed at gaining the propaganda initiative, the U.S. attempted to gather more information before defining any strategic policy.

This move period seemed unreal in the manner the Soviet team assumed U.S. responsibility for the explosion.

Control acknowledged all requests for information and orders but did not relinquish any great amounts of information other than telling the U.S. team that Soviet ASW activity had increased.

The United States again indicated from their contingency plans for Move Period B that they would wait until they had received more information. The Soviet team, however, reversed the order to track and destroy an American Polaris submarine in that they felt that all submarines would have had a chance to report to their stations by now and that the Soviets would now be unable to convince the United States that it was one of their own submarines that caused the explosion. Their decision to destroy one Polaris submarine stemmed from their belief that they might convince the U.S. that an unauthorized Polaris firing had occurred. Their plans called for increased pressure on the United States.



The United States, while continuing to wait for more information, publicly denied that it had any hand in the explosion. For Move Period B the volume of messages decreased with respect to Move Period A. It appeared that now the Soviet team was beginning to realize the value of additional information. Control had decided that whatever information was requested in the first move period would be answered by Move Period C due to the effort to have the game move in real time.

Control furnished the following information to the United States team at the beginning of Move Period C:

1. The site of the Soviet explosion had been under CIA surveillance as a possible clandestine test site. Activity in the area indicated that the Soviet Union would presently be capable of exploding a one megaton nuclear device in this area.
2. All known Soviet nuclear facilities were presently targeted by U.S. missiles.
3. BMEWS reported that, although no firings had taken place within the last few days, there existed a 50% possibility that a single missile firing in this area would go undetected.
4. Surveillance of the two JCS staff officers was a routine investigation and that those officers under scrutiny had no part in the firing control of Polaris missiles.
5. All nuclear submarines in the area except one had been contacted. None of the contacted submarines reported any unauthorized firings.

The Soviet team was notified that the site of the recent explosion was the location of a secret test site which had been set up for a possible attempt to beat the Test Ban Treaty with a 10% possibility of detection.

With this new information the U.S. team decided that it was most likely an accidental explosion with only a small probability that it was caused by an accidental firing from a Polaris submarine or that any staff officers attached to the JCS had played any part in the explosion. The U.S. saw the Soviet team trying to cover up the explosion and even attempting to capitalize on their own failure. The U.S. sought chiefly to reduce tension and preserve the Test Ban Treaty. This was attempted by announcing to the Soviet team that all but 25% of SAC would be returned to base. In a Hot-Line message to the Soviet Union the U.S. demanded both the retraction of propaganda blasts upon the U.S. and compliance with the Test Ban Treaty or the U.S. would present whatever evidence it had of Soviet responsibility to the U.N. Again U.S. moves were characterized by emphasis on issuing communiques to the exclusion of use of hardware.

The Soviet Union learned that the explosion at Polunochnoe was probably of local origin. They, however, insisted on a reply from the United States demanding an explanation for the event. An attempt was made to contact French President de Gaulle in an effort to gain his sympathy. This was in line with the propaganda campaign being waged by the Soviet team. Tensions were relaxed, however, when the Soviet Union complied with the American requests that SUSAC be withdrawn. A last minute urgent message was sent by the Soviet team in an effort to obtain information. This was the first major effort on

17-12

their part to obtain any substantial facts to work on. There was also an attempt made to determine if the Soviet propaganda was having any effect in Europe.

The game concluded with the Soviet Union ruling out all possibilities except that it was an accidental explosion although they were determined not to back down now from their previous position. In other words the Soviet team indicated they would continue to press their propaganda campaign against the U.S., although they were not confident of eventual success for their side.

The United States team was still worried at the end of the game that the explosion might have been caused by an accidental Polaris firing while they correctly assessed Soviet attempts to capitalize on the incident. The U.S. team realized that the USSR was unwilling to allow the crises to escalate the war. Their basic long range plans had not changed other than trying to prevent any Russian-Chinese detente. Messages sent by Control indicating a strong Chinese interest in the situation and rapid Chinese mobilization seemed to worry the U.S. team. Their long range plans included additional assistance to India if China should again move south in this area.

\* \* \* \* \*

There existed a marked difference in the approaches taken by the two teams to the crisis and this difference persisted through the entire game. The United States team never felt secure in the information it had, although some conclusions were drawn in the final move period with some attempts being

IV-13

made to develop long range plans. Their efforts initially were concentrated on getting information. The Soviet team, on the other hand, decided immediately to sink one American Polaris submarine before the U.S. had a chance to contact it. No attempt was made to determine the exact cause of the explosion. Other Soviet moves were the mobilization of Eastern Europe and increased air alert. Both teams simultaneously decided to decrease tension by holding and then returning SAC and SUSAC.

The Soviet team then commenced with propaganda in an attempt to sway world opinion to the belief that the U.S. caused the explosion. They never outlined exactly what they hoped to gain by this propaganda although a few references were made to outlawing Polaris submarines. The Soviet team decided, in the third move period, that they were aware that the explosion was of local origin and to continue with their present policy.

While the Soviet Union continued with its propaganda campaign, the United States attempted to soothe tensions while holding on to the Test Ban Treaty. The apparent inability of the United States team to formulate any specific policy was caused, in part, by the missing submarine. They were never completely sure that they had not accidentally fired a Polaris missile. Tensions sufficiently decreased at the end of the game so as to permit the United States to consider possible U.N. action.

C. BLUE-PINK GAME (Thursday)

As the Blue-Pink (Thursday) game began the United States team felt confident that the explosion had not been an American accident. However, the team did note the necessity of checking to assure that this was indeed the case and, in the meantime, of maintaining maximum readiness although no military conflict was anticipated. The U.S. team also discounted the possibility of a deliberate Soviet detonation but felt that the possibility of a Soviet commander having gone crazy should be considered. The team felt that the current Soviet military alert was quite understandable in the light of the occurrences and thus the U.S. chose to remain calm.

The United States viewed as its most important and urgent actions the contacting of its submarine fleet to assure that an accident had not occurred, the contacting of the Soviet Union via the Hot-Line to assure the Soviet leaders that no aggressive actions were planned, and the convening of the UN to make maximum propaganda use of the Soviet accident. It was felt that there was nothing to be gained from any public announcements at such an early time as there were still many uncertainties. As yet, no definite outcome of the crises was predicted by the United States team.

The United States began by requesting the Soviet Ambassador to come to the White House for consultations. Messages were sent to the submarines of the Polaris fleet in an attempt to verify that no accidents or usurpations of authority had occurred. Simultaneously, a Hot-Line message was sent to the Soviet Union stating that the U.S. had not deliberately fired any rockets at the Soviet Union and requesting that both strategic forces be held at the

"fail-safe" points until investigations were completed. The message sent by the United States had a very conciliatory, almost apologetic tone.

The United States attempted to learn which of its submarines, if any, had Poluxochnoe on their attack plans. Complete information about the situation was sent to the British, French, and Canadian governments with requests for comments. The lack of ability to communicate with the SSBN Nathan Hale was investigated to determine whether or not the communications difficulties were due to atmospheric conditions. It was concluded that the difficulty must be due to difficulties within the submarine or to some usurpation of control.

The Soviet team saw the possibility of either an accidental Soviet detonation or of a deliberate U.S. attack; but as they felt that the former cause was far more likely, most of their efforts during Move Period A were directed towards assuring themselves that the explosion had indeed been a Soviet accident. It was also anticipated that the U.S. would make maximum propaganda use of the detonation and that world opinion would be rallied against the USSR. It was felt that efforts should be directed towards excluding foreign observers, keeping world public opinion from turning against the Soviet Union, and maintaining Soviet forces on an alert capable of repelling any possible attack.

The immediate actions which the Soviet team felt necessary were all directed towards finding out what had actually happened at the test site. The team sought to find out exactly what devices were at the site and at precisely what location the blast had occurred. The major, overall expectation of the Soviet team was that they would lose nothing in the long run.

The Soviet actions in the first move period were directed towards fulfilling their objectives as outlined in their contingency plan. Attempts were made to discover the nature of the test site and, in particular, what sort of devices were on hand. Attempts were made to discover the reactions of other countries by means of any public announcements which had been made. A Hot-Line message was sent to the U.S. stating that the Soviet strategic air force would hold at the "fail-safe" positions until the investigation had been completed.

Near the end of the move period and after some considerable discussion, the Soviet team decided to attack the two American Polaris submarines which they were tracking in the Barents Sea. Orders were issued authorizing the sinking of these submarines.

Within the first move period the Control Group was not forced to make any moves aside from acknowledgements of orders and replies to simple requests. The Soviet team was not allowed to find much out about the destroyed test site in order to make the communications breakdown seem realistic. The Soviet team was also informed that world opinion on the accident had not yet had a chance to crystallize. The U.S. was informed that Polunochnoe was on the target assignment of Nathan Hale --the one Polaris submarine which could not be contacted.

At the beginning of the second move period the same information was introduced into the game as had been introduced into the games the day before. The Hot-Line was "broken" and the press and Chinese statements were sent to both teams.

The United States felt that the situation was "grave, but not hopeless" and also felt very unconciliatory. The actions which she planned to take were few and consisted of an appearance on television by the President to rally public support and the calling of a session of the UN Security Council. The team seemed annoyed by the British press statements and hoped to contact the British government to rectify any misunderstandings. It was also anticipated that the rumors of the JCS staff split would be investigated.

As the move period continued, these plans were implemented and some confusion arose from the fact that the U.S. team had, by accident, failed to receive one of the documents concerning the alleged JCS split. A message was sent to the British government assuring that the possibility of an American accident was extremely low. No attempt was made, however, to assure the British press.

As second Move Period B started, the Soviet team felt in a much better position. The team maintained the feeling, however, that their main goal would have to be the prevention of a U.S. propaganda victory. It was felt that, should one of the American Polaris submarines be sunk, the Soviet Union would be in a good position for she could blame the explosion on an aberrant commander and feel sure that her ruse would never be discovered. It was also felt that great care had to be taken to assure that no large scale war was precipitated.

Action within this move period by the Soviet team was limited to further requests for information about the actual detonation at Polunochnoe and orders to their intelligence service to try to instigate riots in England and capitalize on the reported dissatisfaction with the U.S.



During this move period the Control Group rectified the misunderstanding concerning the JCS split and allowed an intelligence leak to the U.S. about the Soviet attempts to sink the Polaris submarines in the Barents Sea. A Security Council session was arranged and scheduled to take place at 1845 hrs. of the crisis day.

As the third move period began the U.S. was told that one of its submarines in the Barents Sea (The SSBN Ethan Allen) had been sunk and that attempts to reach the SSBN Natian Hale were still unsuccessful. The U.S. seemed more concerned with seeking peace than taking vengeance for the loss of its submarine. Instructions were sent to the American ambassador at the United Nations telling him to press for inspection of the Soviet test site. It was stressed that the U.S. did not yet know the precise cause of the explosion although it was felt that it had been a Soviet accident.

As the game drew to a close the U.S. team felt it was on the defensive. The team now believed, in complete reversal of its initial appraisal, that it had to be careful not to let the USSR gain the propaganda advantage. The U.S. hoped to press for further disarmament measures now that "both sides should be thoroughly frightened by their own boldness" and seemed to forget that the Soviet Union was enjoying considerable success by these boldnesses and would be unlikely to change her successful course of action.

Within Move Period C the Soviet team felt it was in a position to gain a considerable propaganda victory over the U.S. Having destroyed one Polaris submarine, the Soviet Union was in a position to claim that the U.S. had fired the missile which destroyed Polunochnoe and thus prevent many possible U.S.

IV-1

propaganda victories. It was also possible for the Soviet Union to use her strengthened position to further implement her national goals. Moves were made in this direction and started with the stopping of all traffic into Berlin.

At the end of the game the Soviet Union could rightly feel that she had the upper hand and had established herself in a position from which it could continue to gain advantages until the U.S. stopped handing Cold War victories to her on a silver platter.