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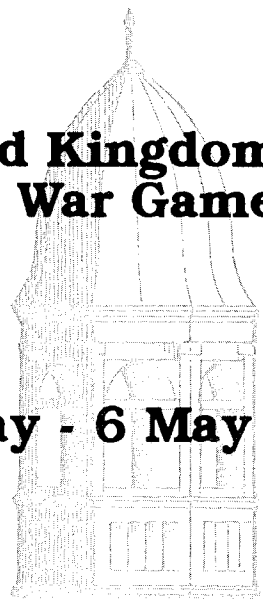

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This memorandum provides a summary and analysis of the naval peacekeeping simulation conducted at the Naval War College in May 1994 involving officers and personnel from the United States, United Kingdom, Russia and the United Nations.

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UNITED STATES NAVAL WAR COLLEGE

Newport, Rhode Island

RUSSIAN - UNITED KINGDOM - UNITED STATES NAVAL WAR GAME 1994 (RUKUS 94)

BY

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EXECUTIVE SUMMARY

a. Background. RUKUS 94 evolved from a series of informal discussions, held roughly on a yearly basis, intended to further contacts among the United Kingdom (U.K.), United States (U.S.), and Soviet/Russian Federation (R.F.) navies. Begun in 1988, the series has settled into a pattern of meetings usually held in the Spring, rotating between venues in each nation, and centering on a game and informal exchanges of information and supplemented by visits to fleet units where possible. All discussions are unofficial and are accepted as not necessarily reflecting official policies of the three navies or governments. These meetings complement the formal Navy-to-Navy staff talks held between the navies where official views are presented.

b. 1994 Game Objectives

(1) Advance mutual understanding in cooperative security concepts.

(2) Further mutual understanding in standard procedures of operational force employment.

(3) Advance interoperability of the navies.

(4) Exercise trilateral naval forces in combined operations in support of a United Nations Security Council Resolution (UNSCR).

(a) Possible opposed extraction.

(b) Limited power projection.

c. Specific Areas of Interest

(1) Explore concepts for a combined headquarters.

(2) Determine most immediate issues dealing with interoperability.

(3) Examine combined command and control issues.

(4) Explore the development of standard procedures for trilateral operations.

(5) Examine conceptual differences identified during the game that require further study.

d. Summary. The scenario for RUKUS 94 centered on a trilateral naval force, assembled in response to a U.N. resolution and tasked to extract peacekeepers and civilians from a potentially hostile situation ashore. Following the extraction, the force was to transport the evacuees to a safe haven through waters where opposition could be expected. The game took place over three days:

(1) During day one, four combined nationality groups were formed. A Flag Officer and United Nations Group was assigned the task of reviewing issues related to force command structure and rules of engagement (ROE). An Afloat Issues Group headed by the U.K. and a Landing Force Group headed by the R.F. assessed potential threats and developed concepts of operations. An Interoperability Group headed by the U.S. reviewed priorities and potential plans in that area.

(2) During day two, the computerized Enhanced Naval War Gaming System (ENWGS) was utilized to display threats and generate discussion on issues such as command and control coordination, ROE, and force disposition.

(3) Day three's major events included: a summary session, a planning review for the follow-on game in Russia, and national peacekeeping briefs. Later, the teams flew to Norfolk for a Fleet familiarization session.

e. Game Highlights/Issues

(1) Command and Control (C2)

(a) On the assumption that the mission was UN-sponsored, but not U.N.-controlled, game players retained both operational and tactical control of the forces.

(b) The U.S. was chosen as overall force commander since it had the best on-scene C2 capabilities.

(c) The force commander was located afloat, but significant discussion centered on whether he should be ashore due to vulnerabilities and potential utility of a combined planning staff ashore (location never specified).

(d) There was also significant discussion of the trade-offs between integration and efficiency, and the limitations imposed by multiple liaison requirements and the mechanics of liaison process.

(2) ROE

(a) All nations agreed on the need for:

- Uniform and detailed ROE.
- Tri-national agreement on changes.
- Uniform terms of reference and definitions.
- Pre-crisis development and agreement on ROE when possible.

(b) A detailed set of ROE was generated during the game and all agreed these were a potential basis for future work.

(3) Interoperability

(a) Communications

- A key limiting factor was the number of interpreters.
- Shortfalls in secure communications were a major concern.

(b) Intelligence

- National sanitization, to remove sources before transmittal to other partners, was required.

(c) Tactical Maneuvering and Warning

- The Experimental Tactics Publication 768 (EXTAC 768) Maritime Maneuvering and Tactical Procedures was used for maneuvering.
- Warnings were to be issued over clear voice circuits.

(d) Identified Needs:

- Glossary of terms.
- Familiarity with each others' doctrines.
- Prior translation of tactical publications.
- Combined training.
- Pre-crises agreement on staff standard operating procedures (SOP) and make-up.
- Arrangement to preclude blue-on-blue engagements.
- Data links.

f. Action

(1) The next game will be hosted by the Kuznetsov Academy in St. Petersburg one year hence. As in the past, the Naval War College will coordinate U.S. participation.

(2) By 15 August 1994 each nation will forward to the others:

(a) A recommended glossary of terms. (The U.S. Naval War College will coordinate consolidation of a comprehensive glossary for each nation's consideration.)

(b) A summary of RUKUS events since the start of the process in 1988 (The U.K. team will coordinate the inputs.)

(3) By 15 August 1994, Naval War College will also forward a detailed draft of crises ROE for consideration.

(4) A planning session for next game may be held in November 1994 in St Petersburg, R.F., if funding allows.

LIST OF ILLUSTRATIONS

INTRODUCTION

RUKUS 94 evolved from a series of informal discussions, held roughly on a yearly basis, intended to further contacts among the United Kingdom (U.K.), United States (U.S.), and Soviet/Russian Federation (R.F.) navies. Begun in 1988, The series has settled into a pattern of meetings usually held in the Spring, rotating regularly between venues in each nation, and centering on a game and informal exchanges of information and supplemented by visits to fleet units where possible. All discussions are unofficial and are accepted as not necessarily reflecting official policies of the three navies or governments. These meetings complement the formal Navy-to-Navy staff talks held between the navies where official views are presented.

The 1994 session was held at the U.S. Naval War College and the format shifted largely to gaming. U.S. participants included naval representatives from Washington, the Fleet Commander-in-Chief staffs, and the academic community. The other nations followed with a similar team make-up (see Appendix I). A team from the United Nations (UN) Department of Peacekeeping Operations (DPKO) participated to provide a "reality check" as the scenario was based on the maritime extraction of a UN peacekeeping force.

RUKUS 94 game objectives were as follows:

(1) Advance mutual understanding in cooperative security concepts.

(2) Further mutual understanding in standard procedures of operational force employment.

(3) Advance interoperability of the navies.

(4) Exercise trilateral naval forces in combined operations in support of a United Nations Security Council Resolution (UNSCR).

(a) Possible opposed extraction.

(b) Limited power projection.

Specific areas of interest that were examined in game play included:

(1) Exploration of concepts for a combined headquarters.

(2) Determination of the most immediate issues dealing with interoperability.

(3) Examination of combined command and control issues.

(4) Exploration of the development of standard procedures for trilateral operations.

(5) Identification of conceptual differences highlighted during the game that require further study.

I. GAMING SCENARIO SUMMARY

Since their original colonization, the population of the countries of ORANGE and GREEN (Figure 1) have become somewhat mingled in ethnic composition and cultural make-up, and have mixed in the eastern part of GREEN Island, referred to as South ORANGE. After World War II, the citizens of the region demanded independence from colonial rule, and in 1949 the United Nations established two separate nations based on ethnic partition of the region. The colonial powers finalized the agreement in 1950. The new nation of ORANGE consisted of ORANGE Island, Stewart Island and a portion of GREEN Island (South ORANGE). The new nation of GREEN consisted of the majority of GREEN Island and Barrow Island.

There has been a history of conflict between the two countries, with ORANGE having the upper-hand, establishing a partition line in South ORANGE in their favor. The country of ORANGE flourished and became economically progressive. Petroleum discovered in South ORANGE has been a

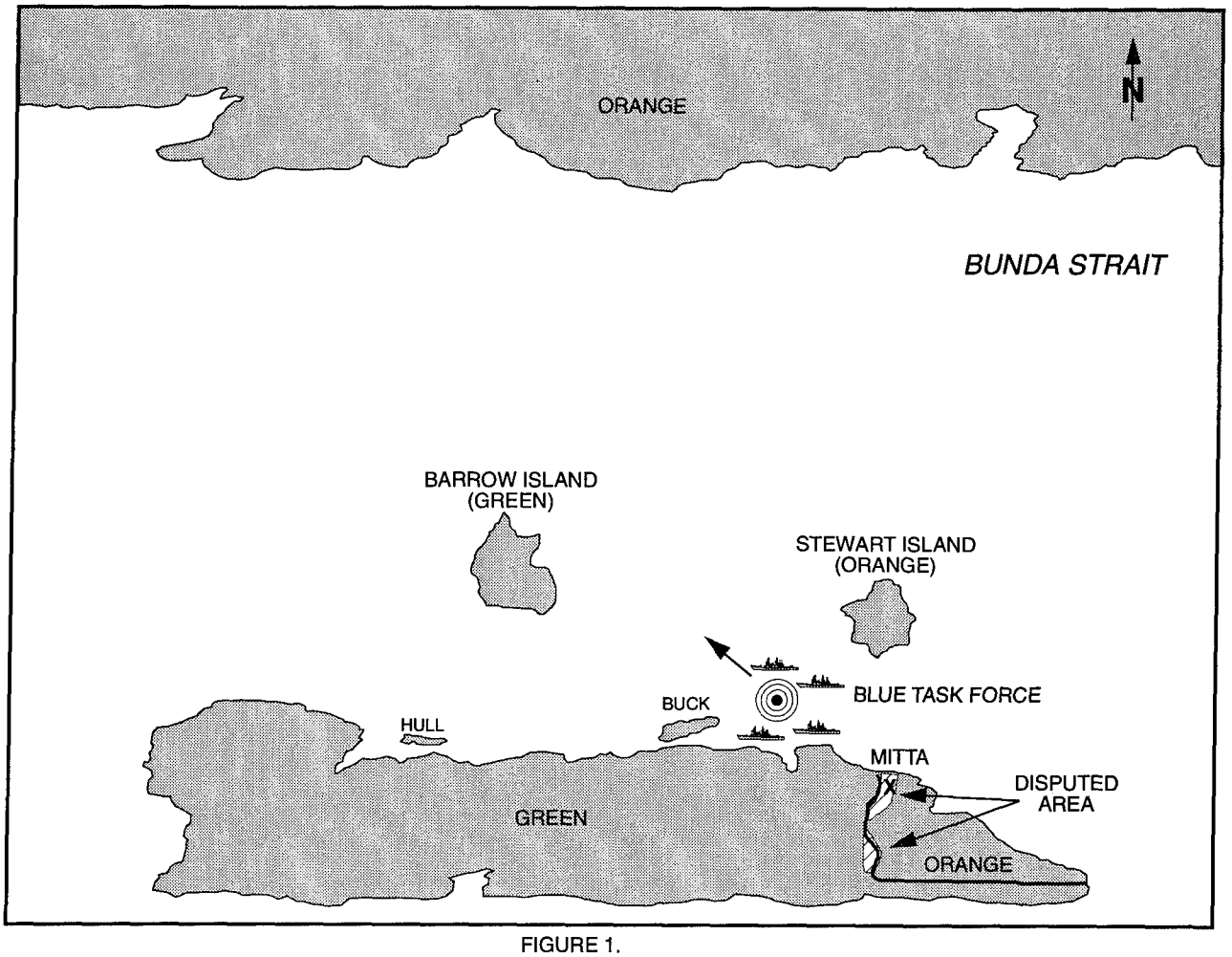

FIGURE 1.
RUKUS 94 OPERATIONAL AREA

source of wealth. GREEN has been politically and economically unstable and in 1989 nationalistic military officers assumed power. In 1990, the new GREEN leadership attempted to divert domestic attention by demanding that ORANGE make territorial adjustments to the South ORANGE partition line.

In the Fall of 1992 large oil deposits were found in the disputed area between GREEN and South ORANGE and GREEN demanded a share of the wealth. GREEN insurgency flared inside of South ORANGE in the Summer of 1993, and by November of that year GREEN military activity increased. ORANGE protested to the United Nations (U.N.) and by December tensions were at dangerous levels along the partition line.

The U.N. Security Council (U.N.S.C.) established a resolution calling for both governments to resolve their dispute peacefully through negotiations. On 15 February 1994, however, hostilities broke out. By the end of March, both countries, exhausted by the intense fighting, called for a temporary cease-fire and asked the U.N.S.C. to establish a demilitarized zone (DMZ) and maintain it with a U.N. peacekeeping force. A 90 member peacekeeping force was in position by April, but shortly afterward GREEN violated the cease-fire. Fighting intensified and the U.N. peacekeeping force and 100 international oil workers retreated to the coastal town of Mitta for evacuation. GREEN notified the U.N. that they could not guarantee the safety of these personnel.

The Russian, British and United States governments have agreed to provide limited naval forces and were given the following Mission Statement:

"When ordered by the U.N.S.C., evacuate international oil workers and U.N. peacekeeping forces from the port of Mitta. Establish and maintain local naval control of sea lines of communication (SLOC) in order to safely transport evacuees to safety. Defend U.N. forces from deliberate and inadvertent attack by belligerents."

II. FLAG/U.N. GROUP

In response to the mission, the Flag/U.N. group, chaired by the United States (U.S.), was tasked with reviewing and developing:

a. Organizational Structure of the Joint Task Force (JTF).
b. Rules of Engagement (ROE).
c. Refined mission guidance.
d. Command and control (C2) arrangements between the Joint Task Force (JTF), National Command Authorities (NCA) and the United Nations (U.N.).

The assumptions governing this set of discussions were: first that the operation was U.N.- sponsored, but not U.N.- controlled, and, second, that all three national authorities would accept designation of a single Force Commander. Specific issues addressed included:

a. Organizational Structure of the JTF: Initial discussion revolved around who would be the CJTF. The lead U.N. representative offered that in the real world the U.N. would ask a nation to provide the Force Commander (F.C.) based on three factors:

(1) Size of force contribution.
(2) Availability of suitably experienced and senior officer.
(3) Appearance of impartiality to factions in dispute.

After some discussion all three Flag Officers agreed on the choice of the U.S. as CJTF.

b. Composition and Location of the CJTF's Staff: Participants agreed that a force of this size would require only one Flag Officer embarked for at- sea command. The CJTF would need to have an authoritative national naval representative of each contingent available to him on his flagship.

(1) Staffs/Liaison Composition and Size: The three Flag Officers agreed that the Russian and British Flag Officers would be located ashore to act as planners and political/military links for the force at sea - although the location and composition of this arrangement was not examined. The CJTF saw the need to restrict the size of his staff (space restricted - USS Arleigh Burke (DDG-52) chosen as flagship) , and because of this saw a requirement for all ships to have a senior (0-6) officer able to speak with authority for his service/nation and one communications specialist from the other two nations embarked.

(2) Integration of the Task Force: The Flag Officers readily agreed to allow the Afloat Commander to plan to integrate the force. It was recognized that this would have some effect on overall efficiency, but this arrangement was seen as appropriate to the game structure and scenario.

c. Rules Of Engagement: All agreed that the force must operate with one set of ROE and that these must provide for defense of the force as well as defense of the mission. The U.N. representative offered that in the real world, the U.N. looks to precedent to draw up ROE. No conflicts in national doctrine towards use or implementation of ROE were in evidence between the three nations, and it was decided that, given the game scenario, a uniform trilateral set of rules, rather than a U.N. set of rules, was required.

On production of an appropriate set of rules for game play (see Appendix III), discussion then identified the need for: common understanding of definitions and terms, trilateral agreement on changes, and the desirability of a

familiar pre-crisis set of ROE which can then be modified (if necessary) to suit a particular situation. Game ROE were refined to include an introductory paragraph which reflected the need for graduated response.

d. Refined Mission Guidance: Refined mission guidance was essentially given during the plenary sessions when working groups presented their plans and the Flag group offered their comments.

e. Command and Control (C2) Arrangements External to the JTF: The U.N. representative established that in a U.N.-directed operation the chain of command is:

(1) Security Council
(2) Secretary-General
(3) Secretary-General's Special Representative (optional)
(4) CJTF

In U.N. -sponsored operations such as assumed for the scenario, the CJTF would report directly to National Authorities. The Flag Officers saw the need for a tripartite naval/military planning staff to interface between the CJTF and the three National Command Authorities (NCAs).

f. Recommendations:

(1) Establish generic trilateral JTF planning and operational staffs to facilitate rapid implementation in future crisis response.

(2) Establish a common set of definitions and ROE.

III. LAND FORCE OPERATIONS

The land operations group, chaired by the Russian Federation (R.F.), was given initial tasking to:

a. Assess own force and opposition capabilities.
b. Provide anticipated actions by the opposition.
c. Develop own courses of action.

Following a Flag Officer review, the group was asked to develop a broad concept of operations for an extraction mission with on-scene assets. The concept was to include:

a. Contingencies to be anticipated.
b. Organization of forces.
c. Required support from afloat forces.
d. Command and control.
e. Coordination requirements.

Their initial plan involved an amphibious assault by the Russians simultaneously with U.S. Marines. The Russians were tasked with establishing a perimeter ashore, and the U.S. Marines were to secure a helicopter landing zone (HLZ) within the perimeter. The United Nations (U.N.) peacekeeping force was to bring evacuees to the perimeter where they would be extracted by landing craft (U.K. LCUs) and helicopters.

It should be noted that while a consensus on a plan was reached, game time constraints and the requirement for interpretation led to some compromises and artificialities that would have been further discussed had time been available. The team leader (Russian) deferred on several issues to the U.S. and U.K representatives as there was not sufficient time for translation of lengthy discussion. Key points of discussion that were noted included:

a. Landing Force Commander. The group had no difficulty with command of the landing force going to the nation with the preponderance of forces (Russia), and it was accepted that there would be no integration of forces below the company level.

b. Task Assignment. The Russian amphibious force provided the main thrust of the extraction effort. The U.S. Marines were assigned to land in a separate lane and establish the HLZ. The Royal Marines in conjunction with British helicopters formed Quick Reaction Teams and Tactical Recovery of Aircraft and Personnel (TRAP) teams.

c. Threat-Based Planning. There was a tacit agreement not to consider any of the forces ashore (Green or Orange) as friendly. Even after game control specified that the only threat would come from small "rogue elements," planning for an imposing amphibious landing continued. Planning centered exclusively around identifying and countering the "worst case" scenario.

d. Mission Statement. Throughout the process, the mission itself was discussed very little and was never completely analyzed. Although this represents a significant departure from normal U.S./British planning procedures, in this case it was probably more of a function of limited time and game artificialities rather than a major point of contention between Russian and U.S./British doctrine. It was recognized that this was a politically sensitive situation with major U.N. involvement; however, the group became completely focused on countering possible enemy armor capability. As a result, the full range of "enemy courses of action (COA) " (e.g. rogue element resistance, terrorist action, riots, etc.) was not considered. Consequently own COA did not consider the enemy's "most probable COA" and the ROE requirement to use minimum force.

e. Doctrine/ROE. In spite of anticipated major differences in doctrine and ROE that could be expected in a trilateral operation, the perceived variances were not that great. Three areas that did surface were:

(1) The Role of Doctrine. The U.S., U.K. and Russia all have established doctrine for conducting amphibious operations. The Russians, however, appeared to have a tendency to view their doctrine as more rigid and prescriptive. The U.S./U.K. have a tendency to view it as a starting point or default position in lieu of any better ideas. The important point is that all three sides seemed to recognize the differences and work around them.

(2) ROE. There were two points under ROE that surfaced more than once during discussions. First, it appeared that the Russian position naturally gravitated to "dealing from a position of strength." The use of "minimum" force runs counter to their accepted practice of operating in an atmosphere of "superior force." Second, once ROE are established the Russian system seems to allow less room for interpretation at the lower echelon commander level. The U.S./U.K. tendency toward decentralized execution and reliance on tactical level commanders to make independent judgments may be a point of contention in a real world situation.

(3) Terminology. Although the group translator was excellent, it became apparent that certain words carried much different connotations in the two different languages. The word "Headquarters" for instance, signifies a very large organization for the Russians. This led to difficulties with a proposal to land "an advance headquarters group."

Recommendations:

a. Maximize the exchange of doctrinal publications, readings and articles to advance the understanding of issues germane to combined operations. Identify these differences in working groups and stress their play in future gaming scenarios. Continue to resolve terminology differences by increasing contacts as much as feasible.

b. As the new U.S. Naval Doctrine Publications are developed, include Russian Naval authorities on distribution lists. Provide periodic briefings on developments in combined naval doctrine.

c. Expand Russian participation in naval ROE working groups. Dedicate specific sessions to identifying conceptual differences between the nations and methods of compromise for combined operations.

IV. AFLOAT OPERATIONS

1. The afloat operations group, chaired by the United Kingdom (U.K.), was given initial tasking to:

a. Assess own force and opposition capabilities.

b. Provide anticipated actions by the opposition.

c. Develop own courses of action.

2. Following a Flag Officer review, the group was asked to develop a broad concept of operations for mission execution. The concept was to include:

a. How to maintain local sea control and area air defense.

b. Means to provide direct support of ground force operations.

c. Organization of functions/tasks.

d. Command, Control, and Coordination.

3. The group divided into two sub-groups to concentrate on capabilities and courses of actions. A capabilities sub-group assessed a potential wide-ranging threat to naval forces. The assessment was that the friendly task force was too "asset poor" and "intelligence starved" to be able to ensure safety of own force and completion of the mission. This message was forcibly put to the Flag group which observed that, nevertheless, mission planning must proceed on a basis of minimizing risks through maximizing utilization of the forces assigned. The outcome was an agreement to forego releasing details of the planned event/time/place in the interests of retaining some tactical surprise. It was acknowledged that this prevented full use of the media to promulgate the action and thus emphasize its legitimacy as U.N.- sponsored.

The second sub-group considered the use of exclusion zones, task group organization and various courses of action. The group considered that offshore support in the form of local reconnaissance, air and surface defense of the beachhead, and combat search and rescue (SAR) could be provided.

4. The outcome of the planning sessions was an afloat concept of operations which:

a. utilized some tactical deception.

b. declared a "zone of operations" vice an exclusion zone for identification/notification purposes.

c. ensured sustained operational readiness by poising the force in safe holding areas at low alert states to conserve resources and avoid personnel fatigue.

d. conducted either sea lines-of-communication (SLOC) defense or amphibious operating area (AOA) defense during the operation.

5. The following points arose from the planning sessions:

a. C2/Liaison. The afloat group recommended retaining all Commanders in one ship, providing liaison officers for all ships and establishing direct communication between the CJTF and the regional NCAs of the two states in conflict.

b. Media. This group gave some consideration to the role of the media and felt that exploitation of the media through release of sanitized information should be utilized.

c. Glossary/Terms. The group felt the clear need for mutually agreed standardization of terms/definitions/measurements.

d. Exclusion Zones. Use of exclusion zones can be eliminated by having well defined ROE which allow determination of the "enemy" by their actions rather than location.

e. Amphibious Operations. The complexity of amphibious operations dictates that commanders be collocated in one ship.

f. Promulgation of Operations. Maximum unclassified information on operations, intentions and other relevant information should be released through the media, Notice to Mariners and NOTAMs, to enhance legitimacy.

g. Intelligence. Detailed and timely intelligence information is critical to the determination of "hostile intent".

6. Recommendations

a. Develop and distribute a trilateral Glossary of Terms.

V. INTEROPERABILITY

The interoperability group, chaired by the United States (U.S.), was given the initial tasking to examine task force sustainment issues, including:

a. How to organize for maximum use of logistics assets available within the force.
b. How to exchange information.

The issue of logistics support was immediately dismissed as a national responsibility. United Nations forces ashore were noted to have deployed with a thirty-day supply of rations and due to the anticipated short duration of this operation, resupply from the afloat force was not considered necessary. The compatibility of replenishment fittings was discussed, but all felt this was not a major issue and could be overcome with minor engineering ingenuity.

Communications interoperability was the focus of the group effort. Primary attention was devoted to identifying basic force capabilities required for mission accomplishment. These involved:

a. Interpreters/Liaison Teams. The requirement for interpreters was perceived as a key limiting factor. Discussions centered on ways to minimize personnel requirements. Original proposals to place one interpreter on each unit proved impractical when human fatigue was considered. General consensus was that a liaison cell should be established on the task force flagship and interpreter capability placed on national flagships.

b. Secure Communications. The need for secure communications was identified primarily for use on a command net and for passing of intelligence information. The Russian representative stated a preference for a means of secure record traffic (teletype) and suggested utilizing "old" systems to equip the force with common equipment. The U.K. recommended use of modern "fly-away" mobile systems that could be placed on designated ships with system operators. The number of mobile units required was limited to one per nation with onward communications of data transmitted on national circuits or by helicopter. The only communications capability with UN forces were clear circuits. Emergency and tactical maneuvering circuits were to be clear nets and English was agreed upon as the language of choice.

c. Intelligence: There was ready agreement on the need to exchange data. Information to be provided would be sanitized as to national sources and would be interpreted vice raw.

d. Data Links. The existent link interoperability of the U.S. and U.K. ships was expressed as an advantage for the anti-air warfare (AAW) defense of the force. The Russian representative was content with the U.S. or U.K running air defense, but stated that his units would remain alert to defend themselves.

e. Tactical Maneuvering. Experimental Tactics Publication 768 (EXTAC 768) Maritime Maneuvering and Tactical Procedures was immediately recommended as the solution for tactical maneuvering , communications, and tasking. This NATO publication is unclassified and was developed "for units of different navies that have not historically operated together and do not have

any other agreed-on procedures."[1] The EXTAC was utilized during a recent NATO-Russian exercise off Norway and initial feedback was favorable. A Russian edition does not yet exist.

Recommendations:

a. Establish working group to identify specific communications net requirements, both clear and secure, for use in combined naval operations. Identify contingency nets and modes of operation with the United Nations and its peacekeeping teams. Conduct combined training.

b. Support concept of and train liaison teams for deployment in combined operations . Develop NATO-derived "fly-away" contingency team with makeup to include number of operators, interpreters, and equipment requirements to support required communications nets.

c. Examine requirements and means for common data links. The technology is available and has been noted during previous trilateral talks. Use of the U.S. Multiple Universal Link Translator (MULTS) was mentioned as a potential solution to this continuing problem.[2]

d. Continue to utilize and expand on the foundation established by EXTAC 768. Translate copies into Russian for comprehension purposes, but establish English as the common language for maneuvering and warning nets.

VI. SECURITY CHALLENGES

Following the initial phase of the game, a series of threat scenarios were presented to the players to challenge the planning that had taken place. The primary emphasis was to encourage further discussion on ROE, force disposition, and weapons employment issues. Scenarios were presented on the Enhanced Naval Wargaming System (ENWGS) on a wide-screen display utilizing Naval Tactical Data System (NTDS) symbology. Summarized verbatim transcripts of the players can be found at Appendix IV.

The first scenario involved a potential threat to the Blue forces from two cruise-missile equipped Green Mirage aircraft orbiting 100NM northwest. The U.K. team was designated the force commander and their initial responses centered on maximizing efforts to warn the aircraft not to approach the force and planning for contingencies should they do so. In addition to voice communications, concepts such as radiation of fire control radars to overtly

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[1] AXP 5B (NAVY)(AIR), EXTAC 768, "Maritime Maneuvering and Tactical Procedures," p.768-1.
[2] Eric Grove, "Multinational Naval Operations: Operational and Technical Factors," Lecture. Royal Naval Staff College, Greenwich, UK: 3 May 1993.

signal both force presence and self-defense capabilties to the aircraft were discussed.

The scenario developed with the aircraft ignoring warnings and proceeding directly at the force. ROE were brought further into play at this point and a determination of hostile intent was arrived at by the British commander. The discussion of defensive alternatives included priorities for direct engagement options with surface-to-air weapons, assignment of specific platforms to engage targets, and soft-kill options such as electronic jamming and employment of decoys. While the concept of an anti-air warfare commander (AAWC) was endorsed to coordinate the above actions, all nations cautiously implied they would retain the option to employ their own self-defense systems at their discretion.

Scenario two shifted the scene to a potentially hostile surface threat. The primary gaming objectives were to examine efforts to identify the contacts and then apply ROE to a surface threat situation. The Russian team was given the lead and employed armed helicopters as initial means of identifying and covering the contacts should they prove hostile. Voice and other warning options were stressed in compliance with the ROE. As the unknown contacts launched weapons against the force, initial reponses centered on countering the incoming cruise missile threat. Follow-on actions emphasized methods for neutralizing the hostile surface craft. All players agreed that the surface contacts remained hostile and could be engaged even after turning away from the force following missile launch.

The final scenario provided combined air and surface threats approaching from three directions. The U.S. team coordinated efforts to identify the contacts and subsequently coordinated a reponse to an attack. Once again the objectives were to generate discussion on ROE issues related to determination of hostile intent and orders to engage targets.

VII. CONCLUSIONS

The major limiting factors in RUKUS 94 gaming were the language barrier, differences in terminology, and inexperience in working together in combined operations. All teams were essentially equal in their capabilities to both plan and conduct naval operations, but the Russians deferred to the U.K. and U.S. on several occasions due to gaming time constraints. The game was extremely beneficial, however, to the U.S. and U.K. players who gained an appreciation for the Russian positions, philosophies, and rationale in several combined operational scenarios.

Language. RUKUS 94 and the prior trilateral game in the U.K. were conducted via consecutive translation methods; equipment hire and interpreter costs precluded an attempt at simultaneous translation. The need for constant interpretation did result in slowing game play considerably. While this was a gaming artificiality, it did highlight many of the language issues related to combined operations amongst the three naval powers.

- Number of interpreters. This was identified as a key limiting factor in future combined operations. The role of interpreters in the command and control concept design must be factored in early. Three to four interpreters will be required for each established requirement due to fatigue factors.

- Differences in terminology. Both operational definitions and interpretation of these differences could be critical to successful operations. An area that created considerable discussion was that of common, clearly understandable ROE. All parties agreed that this is an area that requires considerable effort in the future. An example of an operational terminology difference surfaced in the concept of a "headquarters." For the U.S. and the U.K., operational doctrine can reflect varying levels of headquarters, from the large to the small. The Russian concept of the term implies only a large distant command, remote from the scene of operations. This caused confusion during game planning sessions. Any future efforts towards establishing glossaries for combined operations should stress differences in interpretations of terms in addition to strict definitions.

- Common Operational Language. English was discussed as the language of choice for operational communications. The existence of Experimental Tactics Publication (EXTAC 768) Maritime Maneuvering and Tactical Procedures was received favorably as an existing document which could be utilized as a foundation for expanding operational procedures.

Combined Force Organization/Planning. The primary criteria for selection of task commanders were their on-scene platform capabilities and the size of their forces. At the operational level, decisions were reached without much conflict after reviews of which national assets within the force were most capable of accomplishing the specific missions. All nations appeared to endorse a composite warfare commander concept of organization and frequently utilized terms such as Anti-Air Warfare Commander (AAWC), Electronic Warfare Commander (EWC), and Anti-Surface Warfare Commander (ASUWC). The need to avoid mutual interference and to coordinate force operations was clearly recognized. Due to gaming constraints though, considerable reference to fictional "previously agreed upon plans" for coordination were referred to. Skeleton contingency plans for combined operations and staffs should be on the

shelf prior to crises. Future wargaming efforts could be directed at testing and refining these plans.

Rules of Engagement (ROE). All seemed to agree that ROE should be approved and changed through trilateral agreement of the National Command Authorities. The Russians emphasized the need for an integrated naval force such as was being played in the game to work from a common set of ROE, and it was agreed there was need to furnish a comprehensive set of rules to provide commanders with maximum guidance possible. All felt that the need for clear mutual understanding of the terminology used in such ROE, is best served by pre-crisis production of a standard set of mutually agreed rules which can be tailored to meet the needs of a particular operation.

UN Role: Actually having U.N. representatives playing in a game developed on a U.N. theme proved invaluable in providing realistic political perspectives applicable to military operations.

VIII. RECOMMENDATIONS:

a. Gaming Objectives:

(1) Language: - Plans for operations with R.F. naval forces must factor in language issues. Specifically:

- Maintain contingency plans for mobilization of interpreter assets experienced in naval operations and terminology.

- Identify interpreter requirements and sources well ahead of time. In planning command and control structures, factor in interpreter roles and specific assignments. When assigning interpreters consider human fatigue factors. Three to four interpreters may be necessary for each established requirement.

- Glossaries of common terms and reference ROE should be established. Many glossaries currently exist (e.g. JCS Publication 1-02) , but references for operations with the R.F. should stress differences in interpretation of terms in addition to providing strict definitions.

- Establish a process to review and adopt EXTAC 768 as the foundation document for basic operational procedures.

(2) Force Organization/Planning:

- Establish contingency plans for combined staff organization and billet requirements for operations with the R.F. Continue to compile organizational lessons learned during major combined operations such as "SEA ANGEL/MANNA"[3] (which analyzed the 1991 humanitarian relief effort in Bangladesh) and apply them to planning.

b. Game Mechanics:

(1) If a game involves land play such as in this scenario, then it deserves greater attention and probably ought to involve a Marine/Naval Infantry general in the deliberations. The reason is that the lion's share of problems arise out of the amphibious and land play.

(2) Develop a "reading list" for participants. Both for the immediate players and as a body of background literature, there should be a collection of germane publications (in both languages) dealing with tactics, techniques, procedures and doctrine as well as recent historical examples of how the three nations tend to employ their militaries.

(3) Encourage participants to continue the discussion started in group sessions by authoring short, publishable essays on items they found of interest during the game. The real value of a game of this sort is the interchange of ideas, impressions and culture. What's passed on to "the next" game may be much less than what was actually gained by this specific group of players. Players change and much is lost from one year to the next.

(4) Develop a glossary of terms and include it as a discussion item.

(5) Have each nation develop a brief presentation on amphibious doctrine/SOP and command and control techniques.

(6) The United Nations players were essentially reduced to a consultant role when it was decided at the outset of game play that the operation would be U.N.- sanctioned, not controlled. They provided an excellent "reality check". Recommend developing game scenarios that insure that the U.N. players are kept more centrally in the loop.

---

[3] Gary W. Anderson, Operation SEA ANGEL; A Retrospective on the 1991 Humanitarian Relief Operation in Bangladesh, Strategy and Campaign Department Report 1-92, Newport, RI:Naval War College 1993.

IX. ACTION:

The following action items were agreed to at the conclusion of RUKUS 94:

(1) Next game will be hosted by the Kuznetsov Academy in St. Petersburg in April or May of 1995. The U.S. Naval War College (POC Dr D. Daniel), the R.F. Main Naval Staff, Operations Directorate (POC CAPT1R N.I. Vlasov) and the Head of Defence Studies Royal Navy (POC CAPT C.L.W. Page) will coordinate their respective national participation.

(2) By 15 August 1994, each nation will forward to others:

(a) A recommended glossary of terms for use in the 1995 game. The U.S. Naval War College will then coordinate consolidation of a draft glossary of terms for each nation's consideration.

(b) At the request of the R.F. delegation, a summary of RUKUS events since the start of the process in 1988 (U.K. team to coordinate inputs).

(3) Naval War College will forward for review a detailed draft of crises ROE for consideration.

(3) A planning session for next game may be held in November 1994 in St Petersburg, R.F.

APPENDIX I

RUKUS 94 PARTICIPANTS

RUSSIAN FEDERATION

VADM YOURI KAISIN, RFN	FIRST DEPUTY COMMANDER-IN-CHIEF RUSSIAN FEDERATION NAVY
DR VLADIMIR KOZIN**	SENIOR COUNSELLOR, ARMS CONTROL DEPARTMENT, MINISTRY OF FOREIGN AFFAIRS, TEAM COORDINATOR
CAPT 1R N.I. VLASOV, RFN	HEAD OF DEPARTMENT,NAVAL OPERATIONS DIRECTORATE, MAIN NAVAL STAFF
CAPT 1R A.I. POPOV, RFN**	SENIOR LECTURER, NAVAL ACADEMY, ST PETERSBOURGH
COL GENNADY P. KOSTYLEV,RFNI **	SENIOR LECTURER, NAVAL ACADEMY, ST PETERSBOURG
CAPT1R VIKTOR POTVOROV,RFN **	STUDENT, U.S. NAVAL COMMAND COLLEGE
CAPT 2R N.K. BORISOV,RFN**	SENIOR OFFICER, MAIN OPERATIONS DIRECTORATE, GENERAL STAFF

** = BILINGUAL

UNITED KINGDOM

RADM J. A. TREWBY	ASSISTANT CHIEF DEFENCE STAFF (OPERATIONAL REQUIREMENTS) SEA
CDRE R.J. FISHER	COMMANDANT ROYAL NAVAL STAFF COLLEGE
PROF G. TILL	ROYAL NAVAL STAFF COLLEGE
CAPT J.M. DOBSON, RN **	NAVAL ATTACHE, MOSCOW
CAPT C.L.W. PAGE, RN	HEAD OF DEFENCE STUDIES (NAVY)
CDR S.V. MACKAY, RN	OFFICE OF THE DIRECTOR, NAVAL OPERATIONS
CDR A. FORSYTH, RN	DEPUTY DIRECTOR, MARITIME TACTICAL SCHOOL
MAJ SIMON MILNE,RM	HEADQUARTERS, ROYAL MARINES
CDR J. GASS, RN	OFFICE OF THE COMMANDER IN CHIEF FLEET
CDR LES SIM, RN	RESEARCH FELLOW, U.S NAVAL WAR COLLEGE
MR E. GROVE	FOUNDATION FOR INTERNATIONAL SECURITY
MR R. AVERY **	LEAD UK INTERPRETER

UNITED NATIONS

MR STAN CARLSON	DIRECTOR, UN SITUATION CENTER
MR MARCEL SAVARD	DEPARTMENT OF PEACEKEEPING OPERATIONS, FIELD OPERATIONS DIVISION
CDR ZDZISLAW JAMKA, POLISH NAVY	DEPARTMENT OF PEACEKEEPING OPERATIONS, STANDY FORCES PLANNING UNIT

UNITED STATES

RADM JOSEPH C. STRASSER, USN	PRESIDENT, U.S. NAVAL WAR COLLEGE
DR ROBERT WOOD	DEAN, CENTER FOR NAVAL WARFARE STUDIES, U.S. NAVAL WAR COLLEGE
DR DON DANIEL	DIRECTOR, STRATEGIC RESEARCH DEPARTMENT, CENTER FOR NAVAL WARFARE STUDIES, U.S. NAVAL WAR COLLEGE
CAPT JERRY SCHILL,USN	COMMANDER-IN-CHIEF U.S. NAVAL FORCES EUROPE PLANS AND POLICY (N5)
CAPT PETER GALBRAITH, USN**	U.S. NAVAL ATTACHE, MOSCOW
CAPT T.R. FEDYSZYN, USN	COMMANDING OFFICER USS NORMANDY (CG-60)
CAPT SAM PRATHER,USN	COMMANDER-IN-CHIEF, U.S. PACIFIC FLEET PLANS & POLICY (N50)
COL ED PUSEY, USA **	THE JOINT STAFF J-8, FORCE STRUCTURE, RESOURCES, ASSESSMENT
CAPT PAUL DAHLQUIST, USN	OFFICE OF THE DEPUTY ASSISTANT SECRETARY OF DEFENSE (PEACEKEEPING'PEACE ENFORCEMENT)
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CDR TIM CONCANNON,USN	NAVAL DOCTRINE COMMAND, JOINT AND COMBINED DOCTRINE DIVISION
LTCOL JOHN SONDERMANN, USMC	U.S. MARINE CORPS COMBAT DEVELOPMENT COMMAND HEAD, COMBINED DOCTRINE DIVISION
CDR BRUCE MCKENZIE,USN	CHIEF OF NAVAL OPERATIONS (N512) WARFARE POLICY

ADDITIONAL CONSULTANTS/KEY CONTACTS

CAPT JOHN DOW, USN	DIRECTOR, WAR GAMES DEPARTMENT, CENTER FOR NAVAL WARFARE STUDIES, U.S. NAVAL WAR COLLEGE
PROF JACK GRUNAWALT	DIRECTOR, OCEAN LAW & POLICY DEPARTMENT, CENTER FOR NAVAL WARFARE STUDIES, U.S, NAVAL WAR COLLEGE

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CDR BARRY COOMBS, USN	GAME COORDINATOR, STRATEGIC RESEARCH DEPARTMENT, U.S. NAVAL WAR COLLEGE
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CDR LARRY CRAWFORD,USN	GAME DESIGN, WAR GAMES DEPARTMENT U.S. NAVAL WAR COLLEGE
LTCOL ART ADKINS, USMC	STRATEGIC RESEARCH DEPRTMENT, U.S. NAVAL WAR COLLEGE
CDR THOMAS GORMAN, USNR	ACTIVE DUTY RESERVE, U.S. NAVAL WAR COLLEGE
MR GEORGE FEDEROV**	LEAD US INTERPRETER
MR NICK IVANOV	INTERPRETER
MS JEAN CALLAGHAN	INTERPRETER

APPENDIX II

RUKUS 94 SCHEDULE

30 April 94, Saturday

1950 Russian Team Arrives Providence
2100 Arrive Naval War College, Newport, RI

01 May 94, Sunday

USN/RN/UN Teams Arrive in Newport
1800 Reception at President's Quarters (Civilian Informal, Suit/Jacket and Tie)
2000 Transportation to Quarters

02 May 94, Monday (Summer White/Summer Service C)

0800-0830 Plenary Session - Briefs
- Welcome Aboard (RADM Strasser)
- Introduction (Dr Daniel)
- Administration (CDR Santi)

0830-1000 Plenary Session - Extraction Brief (CDR Santi)
- Scenario Update
- Mission Statement
- Player Tasking

1000-1200 Group Session - Player Planning
- Flag Officers and UN Representative review and develop(CAPT Moreland):
- Organizational Structure of CJTF
- Rules of Engagement (ROE)
- Staff Level Players Assess:
- Opposition capabilities
- Own force capabilities
- Anticipated actions by opposition
- Own courses of action

1200-1300 Lunch (Sims Hall)

1300-1500 Plenary Session (Nott Auditorium)(Dr Daniel)
- Staffs brief estimates
- Flags/UN provide reaction/assessment

1500-1730 Planning Session
- Flag Officers/UN Representatives review and refine (CAPT Moreland):
-- Mission guidance (Provide to staffs by 1600)

-- Command authority within the CTF

Staff level players:
- Explore concepts of operations
- Examine specific requirements and taskings
- Develop broad concept of operations

1730	Adjourn
1930-2130	Dinner (Officers' Club) (Civilian Informal - Suit/Jacket & Tie)

<u>03 May 94, Tuesday</u> (Summer Whites/Summer Service C)

0800-0930	Plenary Session - Planning Briefs (Dr Daniel) - Staffs report concept of operations - Flags/UN Comment
0930-1015	Plenary Session - Removal of Personnel from Theater (Enhanced Naval Wargaming System (ENWGS) Play - Situation Update - Enhanced Naval Wargaming System (ENWGS) explanation
1030-1500	Situation Gaming (Nott Auditorium)
1130-1230	Working Lunch (Sims Hall)
1500-1700	National Peacekeeping Briefs - US (1500-1540) - RF (1540-1620) - UK (1620-1700)
1700	Adjourn
1830	Dinner In Local Homes (Casual)

<u>04 May 94, Wednesday</u>

0900-1130	Plenary Session - Wrap Up (Dr Daniel) - Game wrap-up/Summary - National/United Nations outbrief - Next year venue
1130	Adjourn.
1135-1220	Lunch
1145	Dr Kozin/Dr Daniel travel to Brown University
1415	Military Air to Norfolk from Quonset State Airport
1640	Arrival Norfolk Naval Air Station
1900	Dinner (Tandem's Restaurant)(Host: RADM Clemins - Deputy Commander U.S. Atlantic Fleet)(Summer White/Summer Service C)

05 May 93, Thursday (Summer Whites/Summer Service C)

0815-0930	CINCLANTFLT Command Center Brief (VADM Emery, Commander Submarine Forces Atlantic)
1010-1110	LCAC Brief (Assault Craft Unit-4) (Little Creek)
1110-1130	LCAC Transit to Naval Station, Norfolk
1130-1330	Embark by LCAC and tour USS KEARSARGE(LHD-3), Lunch (Host: RADM Picotte, Commander, Amphibious Group TWO)
1340-1500	SSN Tour (USS MONTPELIER/USS HAMMERHEAD/ USS FLYING FISH)
1900-2200	Reception (Breezy Point VOQ)(Host: VADM Emery, Commander, Submarine Forces Atlantic)(Summer Whites/Summer Service C)

06 May 93, Friday (Summer White/Summer Service C)

0720	Depart for Langley AFB
0800	USAF Fighter Wing One Mission Brief
0840	Squadron Mission Brief (27 Fighter Squadron)
0905	F-15 Static Display
1000	Depart Langley AFB by Bus
1400	Arrive Washington DC for Departures

APPENDIX III

RULES OF ENGAGEMENT

(The below ROE were developed during the course of RUKUS 94 for gaming purposes and agreed upon by the combined Flag Officer/United Nations working group.)

Definitions:

- Self-Defense: Action to protect oneself, one's unit, or evacuees in those areas under control of CTF forces.

- Hostile Act: The use of force against CTG personnel or mission essential property, or against evacuees in those areas under control of CTG forces.

- Hostile Intent: The threat of imminent use of force against CTG personnel or mission essential property, or against evacuees in those areas under control of CTG forces.

- Minimum Force: The minimum authorized degree of force which is necessary, reasonable and lawful in the circumstance.

Rules of Engagement:

A. CTG forces will at all times attempt to control the situation without the use of force. Where use of force is required to defend the force and/or accomplish the mission, minimum force shall be employed. When practicable, warnings, including warning shots, will be used before minimum force is employed.

B. Amplifying Guidance on the meaning of hostile act and hostile intent for sea and air forces:

(1) Hostile Act: A hostile act is committed when a belligerent ship, vessel or aircraft

(a) Attacks CTG forces, personnel, essential property, or evacuees in those areas under control of the CTG forces.

(b) Conducts mine laying operations in a manner which endangers CTG forces.

(c) Carries out reconnaisance or shadowing in support of another belligerent unit that commits a hostile act.

(2) Hostile Intent: Whether or not hostile intent is being demonstrated must be judged by the on-scene commander on the basis of the threatening unit's capability and preparedness to inflict damage and evidence indicating that a preemptive strike has been or is about to be launched. Military capability and preparedness to inflict damage may be taken to exist when:

(a) Fire control systems are locked on.

(b) Weapons launchers are loaded and directed.

(c) Detection of data-link or sensor transmissions of a type associated with an attack are present.

(d) Hostile ECM activity is present.

(C) Amplifying Guidance on the meaning of hostile act and hostile intent for land forces:

(1) CTG forces may use deadly force:

(a) To defend themselves, and evacuees under their control against hostile acts or hostile intent.

(b) To resist attempts by forceful means to prevent CTG forces from executing their mission.

(2) Whenever practicable, a challenge should be given before using deadly force.

(3) When it becomes necessary to use force the following principles apply:

(a) Excessive collateral damge is prohibited.

(b) Minimum force is to be used at all times.

(c) Punishment or reprisal is forbidden.

APPENDIX IV

WAR GAME TRANSCRIPT SUMMARIES

Challenge I Summary

Scenario: The combined R.F.-U.K.-U.S. task force is steaming to a safe haven with evacuees embarked. (Specific ship types are outlined in Appendix V. Geographic display is at Figure 2.)

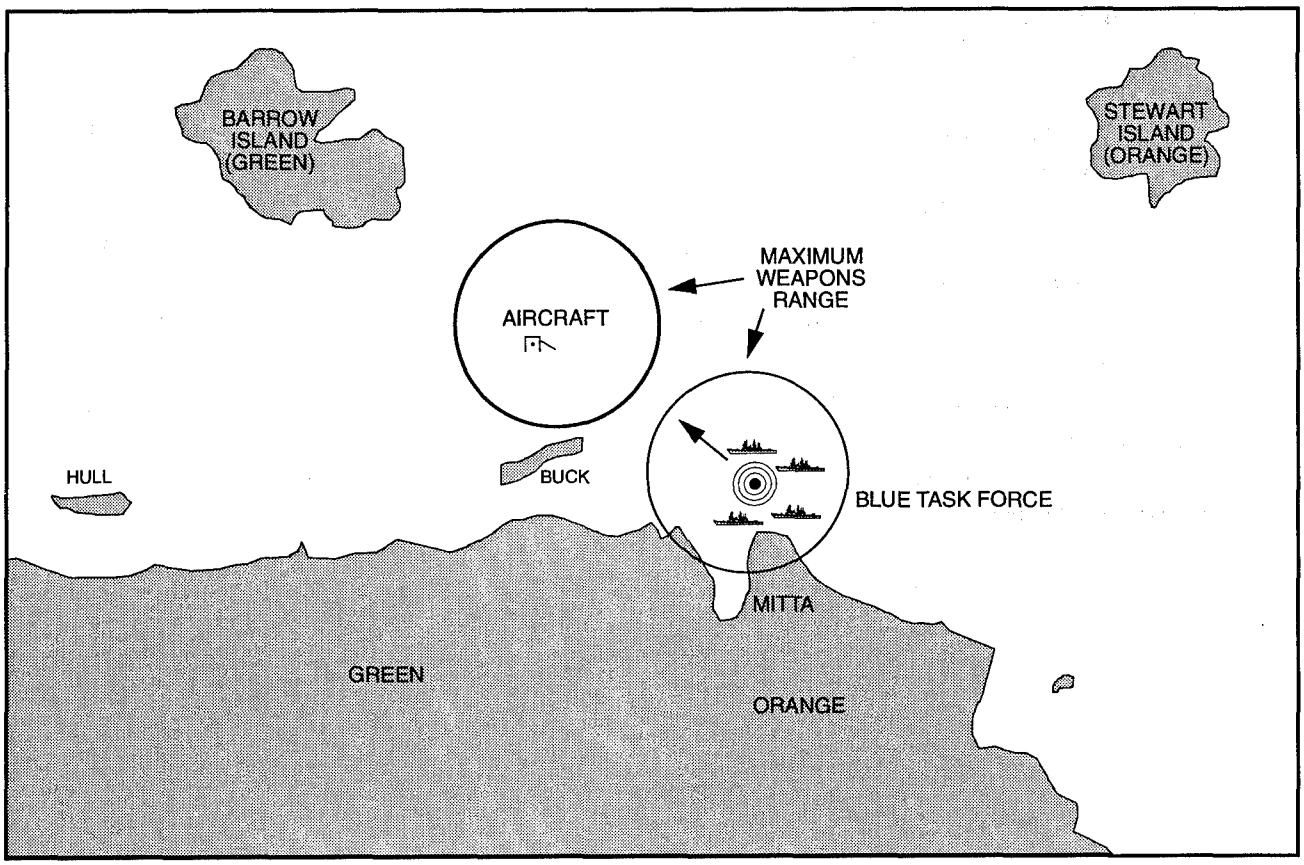

FIGURE 2.
SECURITY CHALLENGE I INITIAL DISPLAY

Decision Point ONE. Two Green Mirage aircraft are detected in an orbit 100NM from the force. Intelligence information indicates that the aircraft are armed with Exocet missiles and intend to attack the force.

Action (U.K. lead): The following initial actions were proposed by the U.K. team :

1. Call the aircraft on guard frequencies and attempt to determine their intent and warn them not to approach the force.
2. Move one frigate with a point defense capability ("Type 23 Frigate") to the center of the formation for Anti-Ship Missile Defense (ASMD).
3. If communications cannot be established, use fire control radar (permitted by ROE) to make the force presence clear and ensure the aircraft are aware of its capability to defend itself.
4. Coordinate activities through an Anti-Air Warfare Commander (AAWC) . Communicate intentions to all ships.
5. Pass intentions for deployment of decoys.

Discussion/Comments:

Q: (U.S.) Why did you place USS Arleigh Burke in the rear of the formation?
A: (U.K.) It was difficult to determine threat axis. Our best guess was that the threat would come from Green Island.

Decision Point TWO: The Mirage aircraft proceed in towards the force apparently ignoring a verbal warning given them over the international air distress communications circuit. They are now at 40NM and continuing inbound.

Action (U.K. lead): If the aircraft continue to close and hostile intent is determined by the AAWC, one ship will be ordered to engage. The preference is to engage the aircraft prior to weapons release.

Discussion/Comments:

C: (U.K.) On the subject of ROE, this situation would be one discussed during the formulation of ROE. Decision to engage would be governed by ROE which had the approval of all three nations. The military would want to engage the aircraft before missile release, but politicians may not want to give that flexibility.

C: (R.F.) - The range of force Antiair Warfare capabilities and the cruise missiles on the aircraft are approximately equal. We cannot attack them prior to them attacking us. The force should therefore undertake electronic warfare (EW) measures.

- The sequence of actions that would be appropriate would be to bring all ships to battle stations at first detection of the aircraft. If the aircraft attack, to assign only one ship to engage is insufficient. As we don't know the

target (of the inbound missile), each ship should be prepared to use its defensive systems.

C: (U.S.) : A technical point and comment. The force does have a favorable advantage in that Arleigh Burke's missile has an 80NM range versus 40NM for the Exocet. Comment regarding how itchy a trigger finger the force should have; it should be very itchy unless it has a high probability of kill against a sea-skimmer missile. Fortunately, the Arleigh Burke has a very good capability against such a missile.

C: (U.K.): - We agree with all points, but are concerned that if all ships have freedom of action including use of EW assets, there will be severe potential of mutual interference.

- The effective use of electronic countermeasures (ECM) make the targeting problem more difficult for the aircraft and reduces their maximum firing range.

- The Green aircraft are armed and intend to attack the force. Under existing ROE, the AAWC can determine hostile intent and allow engagement before missile release.

C: (U.S.) Whether or not to engage is one of the toughest decisions the CTG will face. In prior planning we should concentrate on making this process as easy as possible. The two jet aircraft are most likely operating with the approval of their government. In Notices to Airmen (NOTAM) prior to the operations, it should be made clear that any aircraft approaching the task force within a certain distance (40NM) will be considered hostile.

C: (R.F.) We agree with the U.S. regarding NOTAMs. Aircraft under these conditions would be shot down. With regard to ECM, prior agreements would have been made. The aim would be to avoid mutual interference and maximize effectiveness.

C: (U.S.) We agree with the actions taken considering the information provided, but what is central is that the intelligence gave us all the intentions. Had we had no intelligence on intent, we would have been more wary and relied more on point defense.

Q: (U.N.) An effort was made to establish contact with the aircraft at 80NM. I am not aware of any warning prior to firing. Is this correct?

A: (U.K.) No. Our intention is to have a series of warnings climaxing in a final warning that they would be shot down.

C: (U.S.) A note on the warnings; they are very scripted and read from a note sheet every five miles.

Challenge II Summary

Scenario: The combined task force is continuing its transit in a circular formation .

Decision Point ONE: Two unidentified surface contacts have been detected 80NM due west of the formation on an intercept course, speed 14 KTS. (See Figure 3).

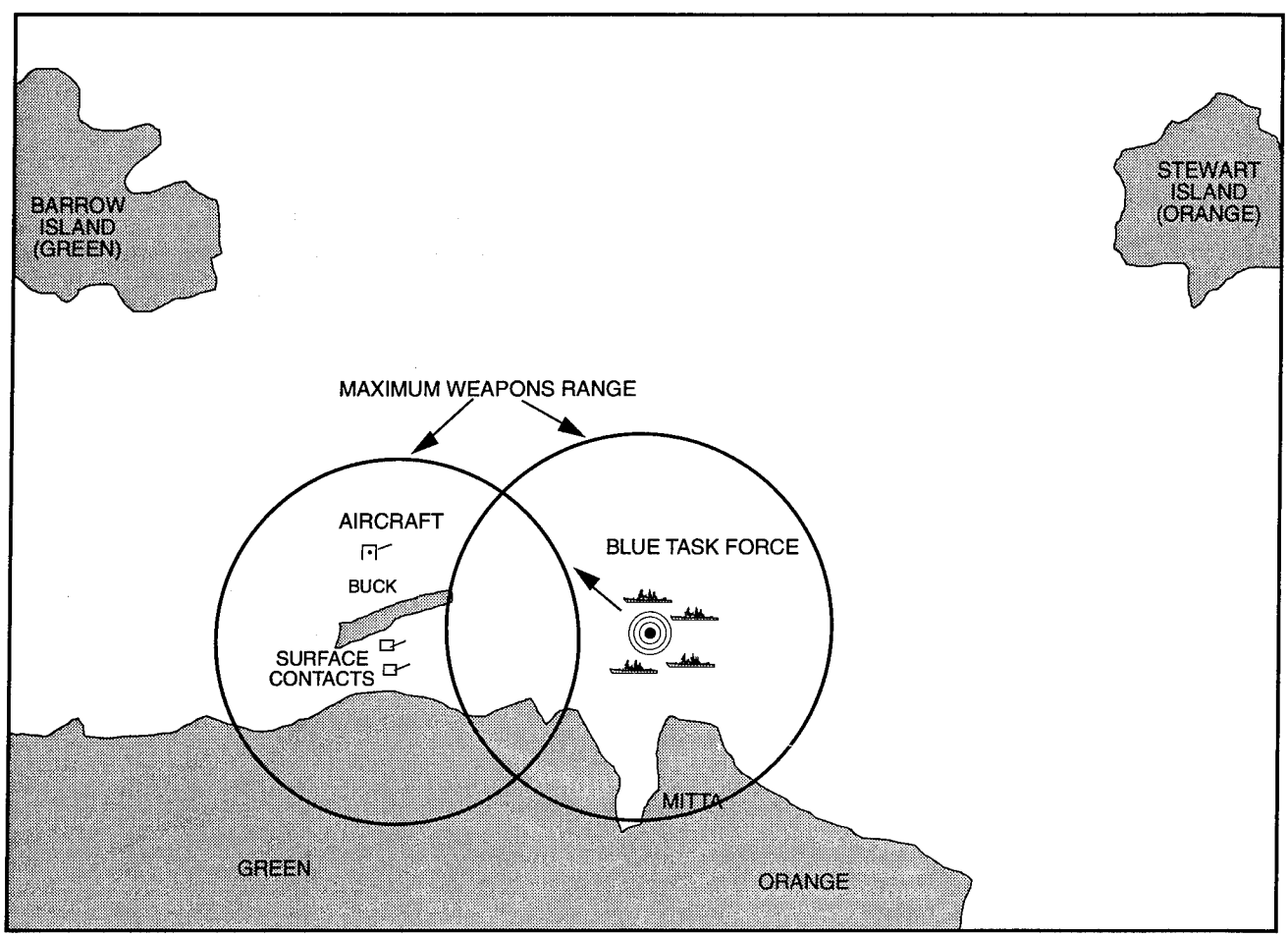

FIGURE 3.
SECURITY CHALLENGE II INITIAL DISPLAY

Action (R.F. lead): The following initial actions were proposed by the R.F. team:

1. Launch two helicopters with an Anti-Ship Missile (ASM) capability and send them to identify the contacts.

2. Inform all ships of the possibility of surface and air attack. Increase the state of readiness.

Discussion/Comment:

Q: (U.S.) What kind of Emission Control (EMCON) would be in effect?

A: (R.F.) In accordance with previously agreed schedules. Conduct active detection search for all surface and air contacts within established zone of surveillance (100NM). Only guard ships should radiate.

Q: (U.K.) Are ships within territorial waters of GREEN? What are instructions to helicopters as to closest point of approach to the contacts?

A: (Control) The surface craft are in international waters.

A: (R.F.) One helicopter would be directed to a position 30KM from targets, ready to attack if required. The other would approach more closely to attempt to identify the craft. He would attempt to establish contact, identify, and clarify intentions. The flagship will broadcast on international frequencies that the unidentified contacts are standing into danger (stay 50KM away). Harpoon ships would increase their readiness to engage the targets.

Decision Point TWO: One of the surface units launches a helicopter which proceeds in the direction of the task group and both contacts have closed to 50NM. The Anchorage Class LSD has suffered an engine casualty and is dead in the water. The contacts remain unidentified and do not respond to communications efforts.

Action (R.F. Lead):

1. Provide assistance with the Krivak to the LSD for protection (AAW & ASUW defense). The Krivak could also be prepared to tow or provide other assistance as necessary to get the LSD underway.
2. Change formation course away from the unidentified contacts.
3. AAW capabilities are brought to full combat readiness. Notify the approaching helicopter that he will be shot down if he does not identify himself.

Decision Point THREE: The surface contacts are identified as two GREEN frigates. A task force helicopter detects the launch of four surface-to-surface missiles (SSM) from the contacts towards the force. Following launch the contacts turn away and increase speed.

Action (R.F. lead): Return fire on the contacts from both helicopters and surface units in the task force. Launch two more missile armed helicopters. EW systems should go to full readiness capability. Undertake all AAW protective measures under the direction of the AAWC using previously developed plans.

Q: (Control) Since the contacts have turned away are they still a threat under the ROE?

A: (R.F.) To the extent that GREEN has attacked BLUE forces, the return fire is in compliance with the ROE. It is self-defense. The GREEN helicopter, which was formally warned of the consequences, would be destroyed when it enters the warning zone; even without being identified or before weapons launch.

C: (Control) At this point HMS Argyle is hit by an incoming missile and BLUE helicopters report a merchant ship has been hit by a missile from the BLUE counterattack.

C: (R.F.) We would send two SAR helicopters (one from Russian assault ship and one from Krivak) to assist the merchant.

C: (U.S.) There is still a hostile ship in the vicinity and the helicopters would be in danger. Prefer another Harpoon attack, conduct battle damage assessment, then send in the SAR helicopters.

C: (R.F.) At this point there are four helicopters in the area of the GREEN ships and they are supposed to be attacking. A subsequent Harpoon attack could find another merchant.

Security Challenge Three

Once again the BLUE Force is departing the Mitta area, in a circular formation, heading 330 (T), 12 Knots.

C: (U.S.) - The formation set-up was chosen because, as the BLUE force proceeds towards open water, we perceive a 360 degree threat from surface or air units. The main threat is from sea-skimming missiles. All high value units (HVUs) (ships with refugees and replenishment units) remain within 4NM of Aegis umbrella. BLUE surface combatants positioned further out to engage air and surface threats throughout 360 degrees.

Decision Point ONE

The force has an ESM detection identifying a single Atlantique aircraft of unknown nationality. The range estimate of the aircraft is 100NM and it is closing the force from 060(T) (See Figure 4).

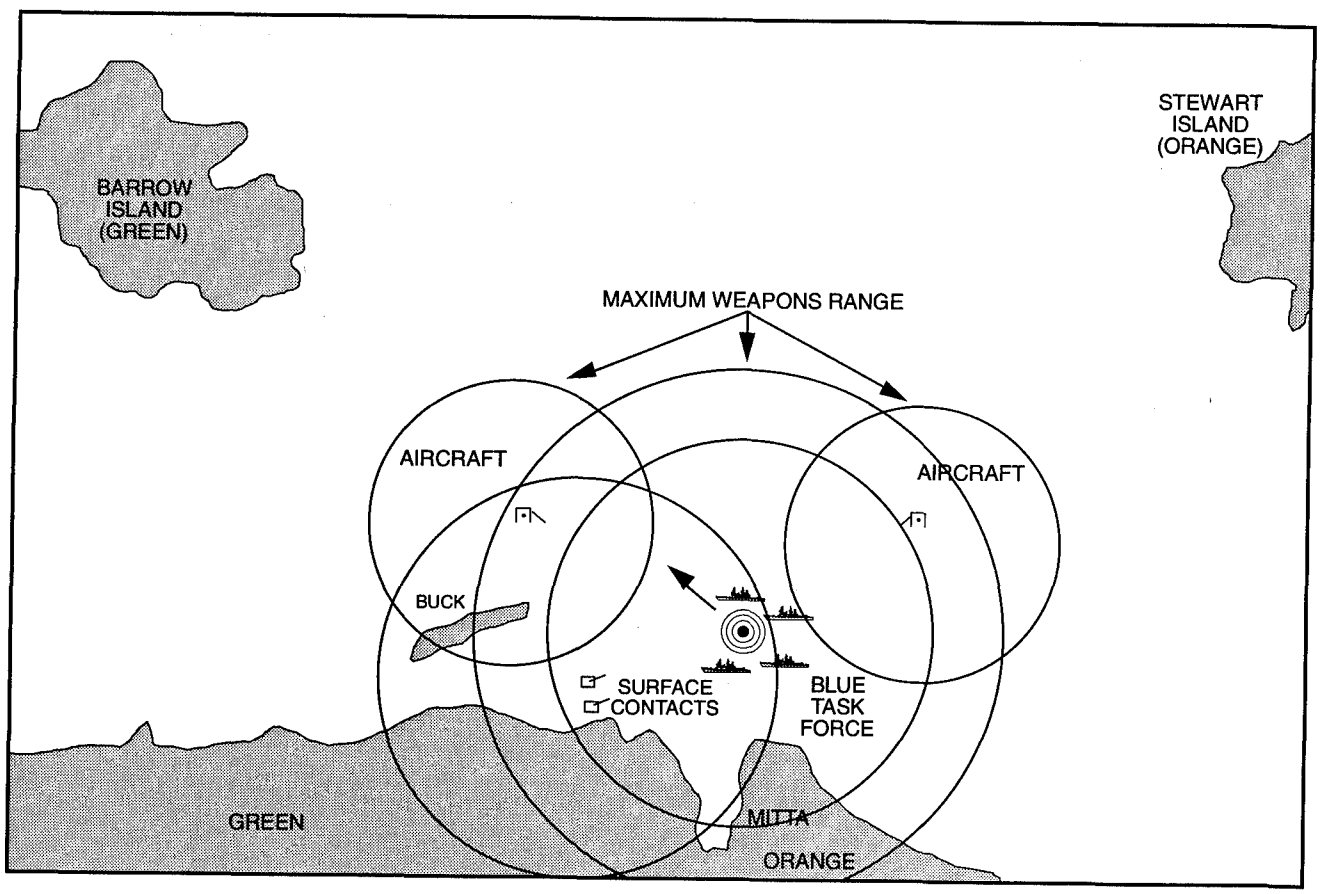

FIGURE 4.
SECURITY CHALLENGE III INITIAL DISPLAY

Discussion/Comments:

C: (U.S.) - First a general discussion on force disposition. Two combat helicopters will be in the air at all times - one east and one west. Their task is surface search, and they carry anti-surface missiles. We are allowing electronic warfare (EW) emissions as required by the Warfare Commanders. The ASUWC is required to identify contacts out to 100NM; the AAWC is required to track all contacts out to 150NM. We will issue warnings to contacts closing force commencing at 100NM such that final warning is at 40NM. ROE are robust and sufficient for the operation. Helicopters will be required to make every effort to visually identify surface contacts but are to remain at least 8NM from unidentified combatants. All ships to be at maximum engineering readiness for flank speed in 3 minutes. For this situation I would begin warning unidentified aircraft to the northeast.

Q: (U.K.) - Is use of electronic countermeasures (ECM) considered against the maritime patrol aircraft (MPA) from the outset?

A: (U.S.) - I have considered but ruled out active ECM. The battle force made its presence known just hours ago. Our sense is that our presence is widely known to the world.

C: (U.K.) - Accepted, but ECM also has ability to offer additional warning as well as denying MPA targeting information.
Q: (R.F.) - Is it significant at this point to determine if the aircraft is GREEN or ORANGE because we started off saying neither GREEN or ORANGE would be an enemy?

A: (Control) - There is no nationality identification on this aircraft yet.

C: (U.S.) - We would make strenuous efforts through intelligence or radio communications to determine nationality.

C: (R.F.) - If this aircraft belongs to neither GREEN or ORANGE, we have an issue of an aircraft belonging to a third party approaching an area of danger.

C: (U.S.) - Agree but unlikely given the geography. We will continue to broadcast warnings.

Decision Point TWO

Two unidentified surface contacts have been detected 50NM from the force. They have been approaching the BLUE force staying close to the coast

with no ESM emissions. They are proceeding towards the blue force at a speed of 16 knots.

Discussion/Comments:

C: (U.S.) - First I would evaluate these as likely combatants. I would increase air and surface readiness. The ASUWC will choose 2 ships - preferably the U.K. and U.S. FFGs to target these with SSMs. My west helicopters would be vectored in for visual identification but would stay outside SAM range and outside territorial waters. I would also turn the force to the north at maximum speed of slowest ship. Of course as the MPA continues in from the northeast, we are in our second warning now.

C: (U.K.) - At this stage I would be particularly keen to see ECM against the MPA and in addition the use of fire control radar against the MPA to make our intentions clear.

Q: (U.S.) - Please amplify, which ECM?

A: (U.K.) - I would wish to jam his surveillance radar to deny him a detailed picture of the composition of the force.

Q: (U.N.) - Are the two vessels inside or outside territorial waters?
A: (Control) - Just outside territorial waters in international waters.

C: (U.S.) - Two other points. Helicopters would be broadcasting warnings as ships entered international waters telling them to stay out of the danger zone, and I would be making determined efforts by monitoring his communications to see if any targeting information is being passed by MPA.

Q: (R.F.) - A question relating to the last comment. Do we have any data on communications activity from the MPA. Is he passing any data?

A: (Control) - We were unable to intercept any frequencies MPA was using; so there is no data.

Q: (R.F.) - Is the MPA's radar operating?

A: (Control) - Yes. We have picked up his radar and it is functioning. Identification was based on the pulse repetition frequency (PRF) of an Atlantique early warning radar.

Decision Point THREE

In addition to the two unidentified surface contacts and the Atlantique, two additional unidentified aircraft have been detected approaching the force from the direction of Barrow Island, at a range from the force of approximately 90nm.

Discussion/Comments

Q: (U.S.) - Do we have a speed on them?

A: (Control) - No speed - they are fast movers.

C: (U.S.) - The air threat to the northwest is my top worry. AAWC will tell the U.K. FFG to cover this and be ready to engage the two contacts. Given their speed my estimate is they are likely F1 Mirages. They will be given their radio warnings very strenuously. The force will be told to increase EW readiness significantly to include active jamming, use of chaff and infrared decoys. The Arleigh Burke system would be put into fully automatic mode with man still in the loop - giving a 5 second reaction time.

Q: (U.K.) - Has the surface group to the south been identified yet?

A: (Control) - No. One of the picket ships has picked up data link from the MPA which appears to be transferring data to the ships.

C: (U.S.) - Based on data link information I would increase readiness in AAW to the highest level; however, I have not yet detected a hostile act so I will not attack at this point.

Q: (R.F.) - Is there any height information on the fighter aircraft?

A: (Control) - They are at 25000ft.

Q: (U.S.) - Given current time/distance factor and the fact that fast movers have moved within my envelope, for clarification, do I have any ESM on the contacts to the northwest?

A: (Control) - Negative.

C: (U.S.) - At this point I would designate hostile intent. As my top priority, my AAWC will order the U.K. FFG to engage the two contacts to the northwest, Arleigh Burke will back this up. If the intercept geometry is acceptable, the AAWC will order the R.F. unit to engage the Atlantique based on ROE that

target platforms associated with hostile intent. To the southwest my helicopter looks very close for a visual identification at this point. The ASUWC has redesignated these targets to the R.F. and U.K. DDGs in the southwest sector. Birds away (missile launch).

C: (Control) - The fast movers have been identified as Mirages and have been shot down. The MPA has been providing them with targeting information, and it will be taken by the R.F. FFG.

C: (U.S.) - We do not know if Exocets were fired. We will still maintain readiness against sea skimmers.

C: (Control) - Any comments? As you will see on the left screen, two Exocets did sneak through and hit our force. This concludes security challenge three unless there are any questions.

Q: (U.S.) Were the surface contacts to the southwest just a feint - no threat?

A: (Control) - In fact these turned out to be two GREEN frigates.

Q: (R.F.) - A question to the U.S. Why did you not use passive EW to lower effectiveness of launched cruise missiles?

A: (U.S.) - We would have used everything including passive measures.

C: (R.F. Interpreter) - And that would have fallen within the authority of the ship Commanding Officer.

C: (U.S.) And even though I designated sea skimmers to Arleigh Burke, self - defense was in effect for every ship including the U.K. FFG.

APPENDIX V

ORDER OF BATTLE SUMMARY

(All ship, weapons, sensor information taken from JANEs FIGHTING SHIPS)

BLUE

Russian Federation:

- UDALOY CLASS GUIDED MISSILE DESTROYER (DDG)
- KRIVAK II GUIDED MISSILE FRIGATE (FFG)
- IVAN ROGOV CLASS AMPHIBIOUS DOCK SHIP (LPD)
  - -- 2 LEBED AIR CUSHION VEHICLES
  - – 400 NAVAL INFANTRY TROOPS
- BORIS CHILIKIN REPLENISHMENT SHIP

United Kingdom:

- MANCHESTER TYPE 42 GUIDED MISSILE DESTROYER (DDG)
- DUKE TYPE 23 GUIDED MISSILE FRIGATE (FFG)
- FEARLESS AMPHIBIOUS TRANSPORT DOCK (LPD)
  - – 4 LCU ASSAULT CRAFT
  - – 100 TROOPS
- FORT VICTORIA REPLENISHMENT SHIP

United States:

- ARLEIGH BURKE GUIDED MISSILE DESTROYER (DDG)
- OLIVER HAZARD PERRY CLASS MISSILE FRIGATE (FFG)
- ANCHORAGE CLASS LANDING SHIP (LSD)
  - – 4 AAV ASSAULT VEHICLES
  - – 100 TROOPS
- WICHITA CLASS REPLENISHMENT OILER (AOR)

ORANGE

- MEKO TYPE 360 CLASS FRIGATE (BUILT IN ARGENTINA)
- BREMEN TYPE 122 CLASS FRIGATE (BUILT IN GERMANY)
- STORM CLASS PATROL BOAT (BUILT IN NORWAY)
- TYPE 340 CLASS MINESWEEPER (BUILT IN GERMANY)
- OURAGAN CLASS LANDING SHIP (BUILT IN FRANCE)
- ATLANTIQUE MK I MARITIME PATROL AIRCRAFT (BUILT IN FRANCE)
- SUPER-ETENDARD AIRCRAFT (BUILT IN FRANCE)
- MIRAGE 2000 AIRCRAFT (BUILT IN FRANCE)
- LYNX HELICOPTER (BUILT IN FRANCE)

GREEN

- KORTENAER CLASS FRIGATE (BUILT IN NETHERLANDS)
- D'ESTIENNE D'ORVES TYPE A-69 CLASS FRIGATE (BUILT IN FRANCE)
- LUPO CLASS FRIGATE (BUILT IN ITALY)
- HUGIN CLASS PATROL BOAT (BUILT IN SWEDEN)
- HATSUSHIMA CLASS MINESWEEPER (BUILT IN JAPAN)
- TRIPARTITE CLASS MINEHUNTER (BUILT IN NETHERLANDS)
- ATSUMI CLASS LANDING SHIP (BUILT IN JAPAN)
- ATLANTIQUE MK I MARITIME PATROL AIRCRAFT (BUILT IN FRANCE)
- GRUPO A-1 AIRCRAFT (BUILT IN BRAZIL)
- MIRAGE F-1 AIRCRAFT (BUILT IN FRANCE)
- LYNX HELICOPTER (BUILT IN FRANCE)

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