

NAVAL POSTGRADUATE SCHOOL

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THESIS

**SCENARIO DESIGN: ADAPTIVE ARCHITECTURE FOR
COMMAND AND CONTROL EXPERIMENT EIGHT**

by

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June 2002

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**SCENARIO DESIGN: ADAPTIVE ARCHITECTURE FOR COMMAND AND
CONTROL EXPERIMENT EIGHT**

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Submitted in partial fulfillment of the
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ABSTRACT

The Adaptive Architectures for Command and Control (A2C2) project is an ongoing research effort sponsored by the Office of Naval Research to explore adaptation in joint command and control. The objective of the project's eighth experiment is to study the adjustments that organizations make when they are confronted with a scenario for which their organizational is ill-suited. To accomplish this, teams will each be in one of two fundamentally different organizational structures (functional and divisional), and each will play two scenarios - one for which their organization is well-suited and one for which it is ill-suited. The purpose of this thesis is to design, test, and implement two scenarios. The background of the A2C2 program and design process of each scenario is described to provide a clear understanding of the methodology behind designing scenarios focusing on specific objectives. Each scenario will prove to be better mission and task oriented for one organizational structure than for the other organizational structure. The Modular Command and Control Evaluation Structure (MCES) is used to design the two scenarios. The Distributed Dynamic Decision-making (DDD) Software is used to implement, pilot and run the scenarios. Both scenarios are to be used for the Adaptive Architectures for Command and Control (A2C2) Experiment Eight in August 2002.

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I. INTRODUCTION

A. THE ADAPTIVE ARCHITECTURES FOR COMMAND AND CONTROL PROGRAM

The multifaceted Adaptive Architectures for Command and Control (A2C2) program is continuing effort to examine adaptation in joint command and control organizations. The Department of Defense (DOD) has focused on how to better organize our forces to provide superior tactical and strategic advantages within a joint military organization. New advances in technology and the creation of highly evolved organizational concepts has enhanced our ability to develop, test, and field new C2 system's and organizational structures.

The overarching hypothesis for the A2C2 program is that changes in the mission, or task structure, will incite changes to the C2 structure of an organization. Decisionmaking research supports the claim that highly effective teams adapt to stressful (i.e., high-workload and complex tasks) situations by using coordination strategies that effectively reduce the effort required to accomplish the mission while maintaining high levels of performance. The extension of this research to the arena of dynamic, distributed organizational decisionmaking spawned research on new ways to organize military forces and motivated the inception of the Adaptive Architectures for Command and Control (A2C2) research program. The goal of the A2C2 research program is to investigate new model-based approaches for designing C2 organizations and explore processes conducive to enabling adaptation.

The A2C2 project is a joint effort by researchers throughout the United States. The project includes researchers from government, academia and industry agencies including The Naval Postgraduate School (NPS), University of Connecticut (UConn), George Mason University (GMU), Michigan State University (MSU), Carnegie Mellon University and Aptima Inc. The project's goals are to advance the state of knowledge regarding decisionmaking performance in joint organizational settings, to better understand how, why, and when organizations adapt or should adapt to a changing environment, and if changes result in improved organization performance, to develop skills, training, and technology required to support that adaptation (Alphatech/UConn/NPS, 1995, p.2). The researchers utilize organizational theory and models, human-in-the-loop experiments with military officers, and field observations to accumulate this knowledge.

Field observations were done to determine those persons within a military organization that drive the changes in processes and procedures, or adaptation. A series of experiments began after the field research. These experiments make use of wargaming and simulations and build on the field research, theory, knowledge gained through modeling, and analysis of previous experiments. The experimentation abstracts real world situations, tasks, and problems and brings them into a controlled environment. The manipulation of various aspects of the experiment within this controlled environment allows researchers to produce the environmental conditions necessary to induce adaptation with an organizational structure.

The A2C2 project requires a multi-player real-time simulation to conduct the experiments. The Distributed Dynamic Decisionmaking III paradigm software was created for the A2C2 project experiments. The DDD-III is implemented as a multi-player, real-time simulation that provides a team of decisionmakers with an air, sea, and ground environment, a variety of tasks that represent objectives or events, and controllable platforms, which contain subplatforms, sensors, and weapons. The DDD-III has the ability to constrain and/or manipulate organizational structures such as authority, information, communication, resource ownership, task assignment, etc.

B. PURPOSE OF THIS THESIS

The project's eighth experiment will be conducted in August 2002. The objective is to study the adjustments that organizations make when they are confronted with a scenario for which their organizational is ill-suited. To accomplish this, a given team will be in one of two fundamentally different organizational structures (functional and divisional), and will play two scenarios - one for which their organization is well-suited (congruent) and one for which it is ill-suited.

The purpose of this thesis is to design, test, and implement these two scenarios. The background of the A2C2 program and design process of each scenario is described to provide a clear understanding of the methodology behind designing scenarios focusing on specific objectives. Each scenario will prove to be better mission and task oriented for one organizational structure and bad for the other organizational structure. The Modular Command and Control

Evaluation Structure (MCES) is used to design the two scenarios. The Distributed Dynamic Decision-making (DDD) Software is used to implement, pilot and run the scenarios. Both scenarios are to be used for the Adaptive Architectures for Command and Control (A2C2) Experiment Eight in August 2002.

II. THE MODULAR COMMAND AND CONTROL EVALUATION STRUCTURE (MCES)

A. INTRODUCTION

The MCES is a model used to evaluate Command and Control and Computer (C3) systems and architectures. It makes use of traditional analysis and provides a series of seven steps or modules to evaluate alternative systems and architectures. The modules are designed as a tool to guide the analyst in formulating the problem definition and specific measures needed to discriminate between alternatives.

The MCES was developed by a team of expert researchers from academia, industry, and government. It is used to present complex concepts in a standardized format. The model has the potential to reduce both complexity and ambiguity in the representation of new concepts. This becomes an invaluable tool when presenting issues of great diversity in nature, size, and level of detail.

The MCES model was used in this thesis as an analytical tool to provide guidance in determining the characteristics of tasks that would prove congruent to a particular C2 structure. For the purpose of this thesis those two structures are the functional and divisional organizations.

B. DEFINING THE MCES MODULES

MCES is characterized by seven modules. The modules are as follows:

- 1) Module 1 – Problem Formation

- 2) Module 2 - C2 System Bounding
- 3) Module 3 - C2 Process Definition
- 4) Module 4 - Integration of System Elements and Functions
- 5) Module 5 - Specification of Measures
- 6) Module 6 - Data Generation
- 7) Module 7 - Aggregation of Measure

Every step in the MCES model is an iterative process. The various modules and their outputs can be seen in Figure 1.

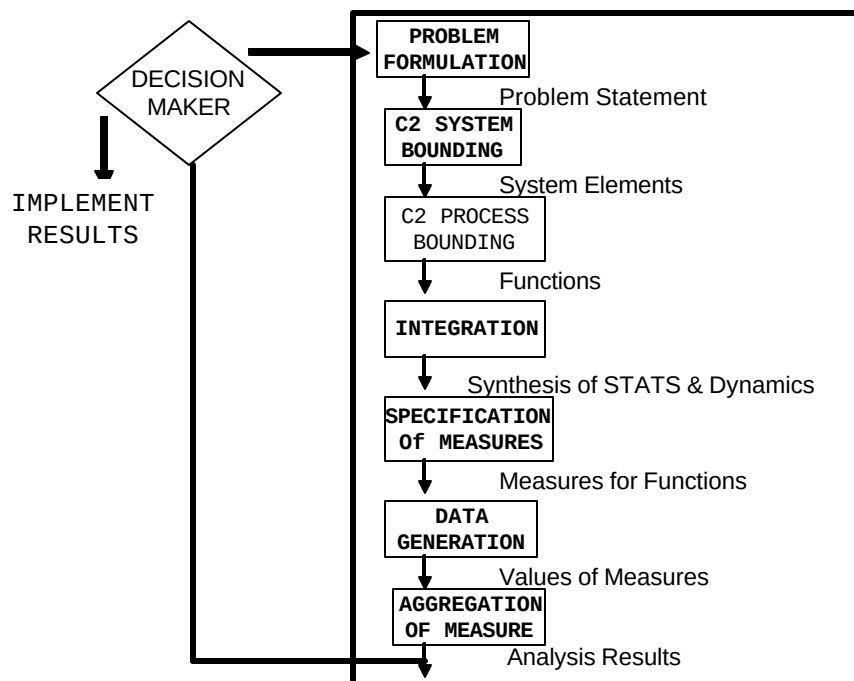


Figure 1. Modular Command and Control Evaluation Structure

The MCES begins by identifying the objective of a particular application, which leads to the formal statement

of the problem. The next step is to bound the system involved by producing a list of system elements. The third step is to build a dynamic framework that identifies relevant processes as a set of functions. The fourth step combines the system elements and process functions from steps two and three and creates a model for the architecture. The fifth step is to identify the various measures of performance, measures of effectiveness, and measures of force effectiveness. The sixth step is designed to generate results or values for the measure in step five. Finally the values for the measure are collected, analyzed, and interpreted in the seventh module.

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III. DESIGNING THE SCENARIO

A. STRUCTURE OF THE PROBLEM

The A2C2 experiments focus on C2 organizations' abilities to adapt their architecture, C2 processes as well as structures, in response to changes in the mission and the demands of the environment. A focus on the littorals in a joint-level, distributed decision-making environment was the framework utilized the design of the two scenarios.

NPS Professors, primarily from the Command and Control, Computers, Communications, and Intelligence (C4I) Academic Group, set the basis for A2C2 Experiment Eight. As a member of the experiment team for the Office of Naval Research (ONR) sponsored A2C2 research program, the author took on the task of helping design, implement, and test the two scenarios to be used in Experiment Eight. The scenarios would involve a mix of US ships and other assets to counter enemy anti-access capabilities, prepare for follow-on forces, and defend friendly areas against air, sea, ground, and mine threats.

The experimental concept required the teams to perform in both a scenario which their organization was well-suited and a scenario which their organization was ill-suited in order to:

- Examine the assumptions about what causes an organization to be well/ill-suited to a scenario.
- Observe what the decisionmakers do to deal with or adapt to the situation when the

organization is not well matched to the mission.

- Identify indicators of situations where the organization should adapt in order to better deal with the scenario.

The experimental concept included the DDD simulation software to implement and run the scenarios. The A2C2 team also decided to use the same basic scenario format as the two previous experiments.

B. THE APPROACH

The Approach phase used a method similar to the “System Bounding” module of MCES (Module 2), which describes this as a process that enumerates the relevant system elements that bound the problem of interest.

The first step in the approach was to obtain a comprehensive understanding of the fundamental differences between the functional and divisional organizational structure as defined by the A2C2 team. This understanding would be used throughout the development of the scenario. Definitions follow:

- **Functional:** The Decisionmakers (DMs) each have a single responsibility (function) and are allocated assets that have unique capabilities to perform that function. Plus: DMs only need to be trained to operate with their unique assets. Minus: DMs must be involved in a (geographically) wide range of operations, and therefore must have global situational awareness. For Experiment Eight, functional DMs exist as warfare commanders under the Composite Warfare Concept, i.e., Surface Warfare Commander, Strike Warfare Commander, Air Warfare Commander, etc.

- **Divisional:** The DMs all have similar responsibilities that cover several warfare areas, and are each assigned assets with similar capabilities. Plus: DMs have diverse resources to do their tasks, and can concentrate on local operations. Minus: DMs must be trained to operate various assets/resource types and handle varied tasks. Experiment Eight's divisional DMs exist as commanders of multifunction-capable platforms, i.e., CO of the Carrier, CO of the Cruiser, CO of the Frigate, etc.

The next step was to understand the environment to be used in conducting the experiment, i.e., DDD. This influenced decisions considerably in task development and arrangement as it limited the options available for consideration. Resources available within the DDD database required minimal revision to support the scenario development and the tasks required in pursuit of the mission. Questions that guided the effort to determine the types of tasks that were suitable for each organization included:

- What is the overall objective of the mission?
- What tasks could be developed that favored a functional organization?
- What tasks could be developed that favored a divisional organization?
- How could these tasks be arranged to require engagement of intermediate objectives in pursuit of mission accomplishment?
- How can complex tasks that remain good for one organization and not the other be incorporated?
- What resources are required for each task?
- Do the resources available match the requirements?

Next, tasks classes were developed based on the assumptions about what task characteristics would be more

suitable for a specific type of organization. The basis of the task development was that tasks with high resource requirements of the same type could be better handled by a functional DM, while tasks with resource requirements of different types could be better handled by a divisional DM. This theory was to be used throughout the two scenarios. Specific labeling of tasks was marked with "good for Functional, but bad for Divisional", "good for Divisional, but bad for Functional", or "neutral". Those tasks that were identified as "neutral" were labeled as such and not considered for the purposes of the scenario development. The remaining tasks were categorized and later used to create two separate scenarios, each of which is advantageous to only one organization. In identifying tasks that were good for one, but bad for the other organization, software limitations had to be taken into consideration. The DDD III software is an abstract simulation of the real world. The limitations resulting from this abstraction and the capabilities of the DDD software had to be understood prior to developing the tasks for each organization. After gaining that understanding, it was discovered that some initial assumptions of "good for one, but bad for the other" would be negated due to software constraints. Thus, after taking those software constraints into consideration, tasks were developed that were considered as "software" - good for one, but bad for the other. ("Software" good and bad is based on what can be represented within the constraints of the software.) The categories are detailed in Table 1.

Functnl/Divnl (good/bad)	Divnl/Functl (good/bad)
Tasks that require multiple resources of the same type.	Tasks that require multiple resource of different types.
Multiple threats of different types in one geographical area (simultaneously).	Multiple threats of same type spread over large geographical area (simultaneously).
Tasks that require use of limited resources spread throughout the scenario.	Tasks that require close in defense of assets (taking focus from overall situational awareness)
Timed requirements for completing tasks (multiple resource requirements of the same type)	Timed requirements for completing tasks (multiple resource requirements of different types)

Table 1. Task Types for Both Scenarios

The approach phase considered task resource requirements; task precedence; information flow among tasks, task opportunity windows (including Complex or Unexpected); and task location. This phase set the bounds within which to develop the scenarios.

C. SCENARIO CREATION

Achieving consistency by utilizing the MCES throughout design and implementation of the model, tasks of the types in Table 1 were developed in accordance with guidelines provided in Module 3, or C2 Process Definition.

The geographical layout of the battle area was crucial to the development of the scenario. The battle area would be the same as used in the previous two A2C2 experiments. The battle area includes an enemy country that has invaded a neighboring country, and three surrounding neutral countries

two of which are separated from the others by the sea. The aggressor contains high value targets that make up the objectives in the mission itself. The high value targets include a command center, two naval bases, and two air bases. The complete layout of the battle area along with the strategic placement of U.S. forces is illustrated in Figure 2.

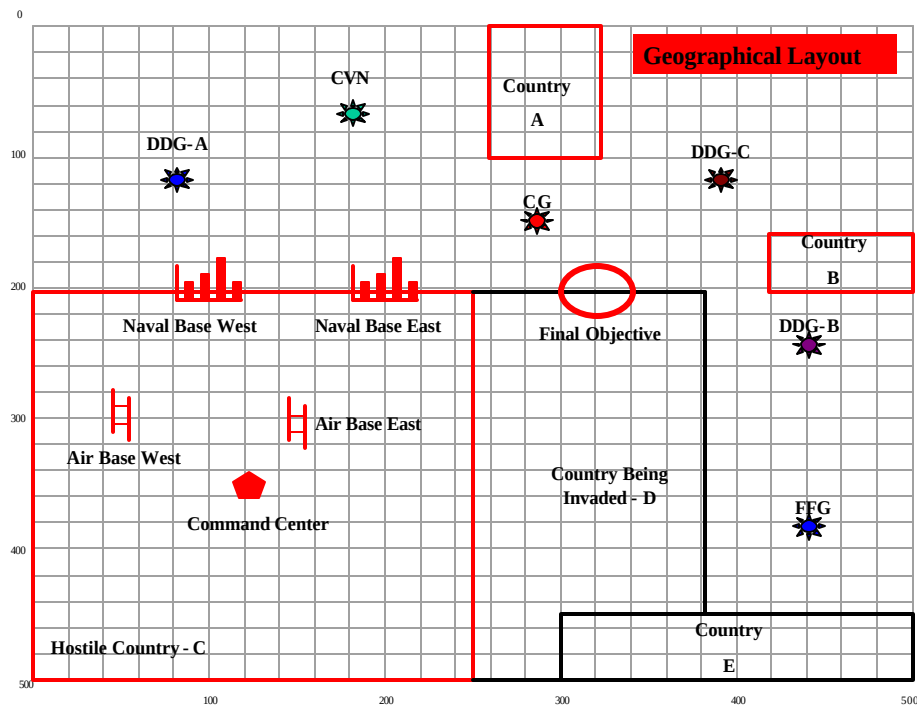


Figure 2. Geographical Layout of Battle Area

The next step was to formulate the resource types, asset types, and asset allocation. For each task, the resource type is what weapons and/or sensors will be required to complete that task. Finally, asset types specify the platforms and subplatforms that will carry the resource types necessary to complete a task. Asset allocation is the distribution of weapons, sensors and assets among the various platforms and subplatforms. The desired performance characteristics of the organizations

had to be considered before this could be done, since they are independent. The following characteristics are assumed to degenerate the performance of an organization:

- 1) Increased communication/coordination among DMs.** This creates delays, therefore reducing decision-making effectiveness, speed of command, and score on time-critical and synchronization-critical tasks. The best organization is the one that can act independently with only limited, necessary interdependencies among its members (due to coordination/communication).

To increase DM-DM communication:

- a) Tasks are introduced that require multi-DM processing; this requires DMs to coordinate and synchronize their assets for such task processing;
- b) Tasks are introduced with information-flow between them and precedence constraints; this creates dependence of DMs upon each other's activity/success/processes; these tasks are made time-critical.

- 2) Disproportionate workload (related to task load) among DMs.** This creates overload, therefore introducing delays in decision-making and increasing the probability of DM failures (such as wrong and/or inefficient resource utilization, incorrect task allocation, etc.). The best organization is the one that can balance the workload among its members.

Design Set-Up:

- Functional: In this experiment, the functions are defined as warfare areas. Assets for a single warfare area are assigned to a single DM. Assets from a single base or platform can be assigned to different DMs.
- Divisional: The divisional organization is defined by assigning assets on one base or platform, covering a range of warfare areas, to a single DM.

Problems:

- The fact that some of the assets have varied capabilities, introduces the problem of function

overlap in the functional organization. That is, some DMs in the functional organization do not have “pure” functions. They can’t own the the function exclusively (e.g. ISR).

- The asset allocation is not identical for every base or platform, therefore creating differences in capabilities of DMs in the divisional organization.

The resource types, organizational assets, and both functional and divisional asset allocations is shown below.

A. Resource types (for task requirements and asset capabilities definition).

AAW = anti-air warfare (aircrafts)
ASuW = anti-surface warfare (ships)
BMD = ballistic missile defense (launched enemy missiles)
STRK = ground strike (ground targets, including missile launchers)
SAR = search and rescue
MINES = clear sea mines
SOF = special operation forces (designation for precise target elimination, capturing ground targets/positions)

Figure 3. Resource Type

B. Subplatform/Weapon/Sensor – Resource Capabilities.

Asset Name	Resource Capabilities						
	AAW	MINES	ASuW	BMD	STRK	SAR	SOF
TLAM	0	0	0	0	1	0	0
TTOM	0	0	0	0	1	0	0
SM2	1	0	0	0	0	0	0
ABM	0	0	0	1	0	0	0
UAV	0	0	0	0	0	0	0
HH-60	0	0	0	0	0	1	0
HARPOON	0	0	1	0	0	1	0
SFB	0	0	1	0	0	0	0
F-18A	1	0	0	0	0	0	0
F-18S	1	0	0	0	0	0	0
SOF	0	0	0	0	0	0	1

Figure 4. Assets

C. Organizations – DM-Asset Allocation.

Functional-the column labels show the warfare areas assigned to the DMs, and the columns below then show the assets allocated to them.

Divisional-the row labels show the platforms assigned to the divisional DMs, and the rows show the assets allocated to them.

DM	STRIKE	BMD	ISR	AWC	SuWC/Mines	SOF/SAR
CVN	2F18S		E2C, 1UAV	2F18A	1SFB, 1MH53	1HH60
DDGA	6TLAM	3ABM,4TTOM	1UAV	6SM2	1SFB, 2HARP	1HH60/SOF
DDGB	6TLAM	3ABM,4TTOM	1UAV	6SM2	1SFB, 2HARP	1HH60/SOF
CG	6TLAM	3ABM	1UAV	6SM2	1SFB, 2HARP, 1MH53	1HH60
FFG	2F18S		E2C, 1UAV	2F18A, 4SM2	1SFB, 2HARP, 1MH53	1HH60
DDGC	6TLAM	3ABM,4TTOM	1UAV	6SM2	1SFB, 2HARP	1HH60/SOF

Figure 5. Asset Allocation

The next step was to determine the overall mission, which would be the same for each scenario. The only difference in the missions was the assets necessary to complete each task in the mission. Those assets were based on the task types identified in Table 1.

The functions of the MCES model and how they were used to develop the mission are described below:

Sense:

- Given enemy high value targets (HVT): Navy Base West, Navy Base East, Air Base West, Air Base East Command Center, and Country D's Port, the planned scenario called for control or destruction of enemy sites.
- Environmental factors influenced the process by which enemy forces were utilized to combat U.S. forces. Primary opponent forces would be land based thus requiring U.S. forces to conduct a

primarily sea-based campaign against forces ashore. Common littoral water combat was mostly defense against attack by enemy ships, patrol boats, aircraft, and anti-ship missiles. Weather was common for both scenarios and therefore not considered in the model. Neither was terrain (other than land or sea) as that would go beyond the capability of the software utilized.

Assess:

- An initial capability assessment of enemy and friendly forces was determined. This helped in determining the number of enemy forces to be used in the scenarios.

Generate:

- To create possibilities of alternate courses of action, event timers were built into the scenarios which would trigger actions in the mission objectives if the events were not achieved within a prescribed time. This would allow for some element of surprise and possibly incite the need to adapt to a situation non-congruent with the organizational structure.

Plan:

- The planning stage was the most significant. Employment of enemy forces was designed partially on expectation of reaction of U.S. forces to attacks. While the mission for U.S. forces was defined in the initial problem, modeling the actions of enemy forces would challenge a DM. Utilization of combined air and sea attacks

against nearby U.S. assets and neighboring countries would require DMs to effectively utilize available resources to counter those attacks.

The decision was made to focus on the tasks that were part of the mission and then add non-mission critical tasks in order to add realism, increase complexity, induce communication and coordination, and complicate the completion of the mission. The task graphs for each scenario, Functional and Divisional are shown in Figure 6 and Figure 7. The missions are essentially the same accept the resources required to accomplish the individual tasks are different.

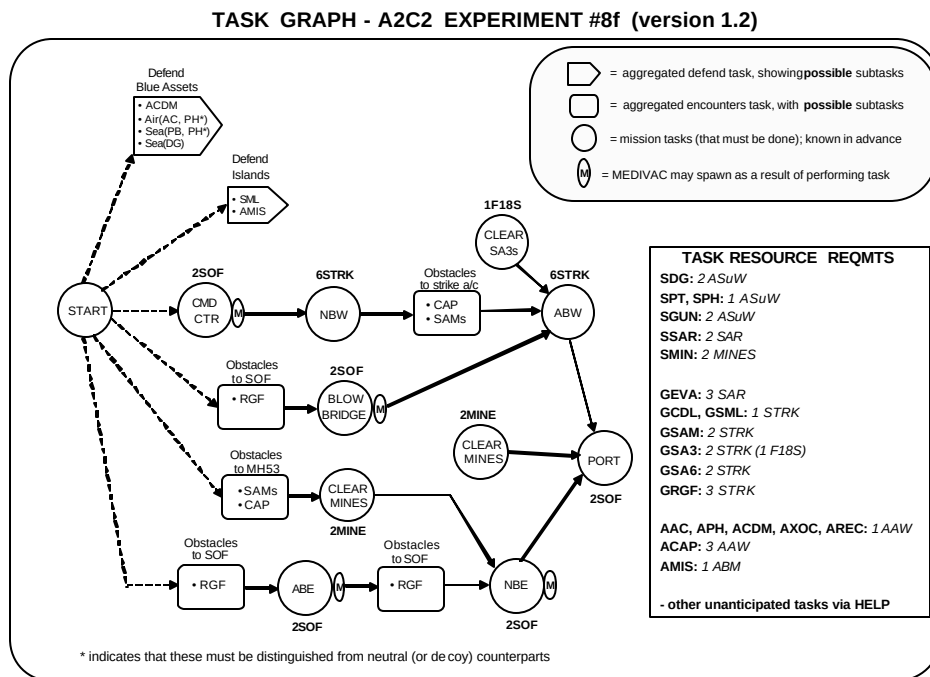


Figure 6. Functional Scenario Task Graph

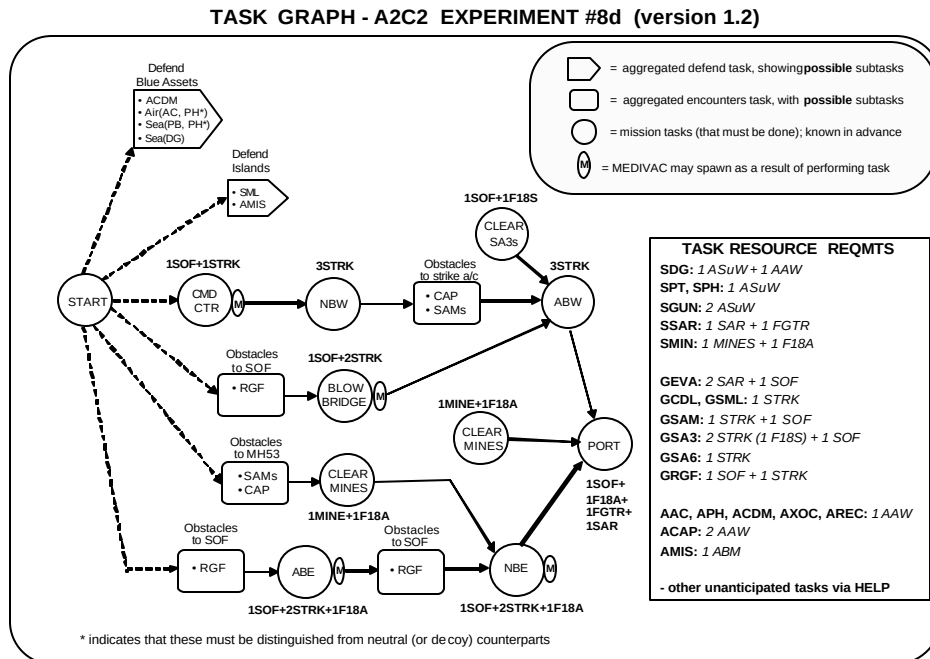


Figure 7. Divisional Scenario Task Graph

Once the mission for each scenario was developed and the assets necessary to complete the mission were identified, there were a few questions which had to be answered:

- What type of platforms will the enemy have at its disposal? (i.e., aircraft, fast boats, mines, surface to air missile, ballistic missiles, ground forces, etc.)
- How will these enemy assets be implemented into each scenario and remain consistent with the “good for one, bad for the other” structure?
- What will be the timing sequence for when these assets are brought to bear by the enemy?
- What type of assets will friendly forces command in order to counter the enemy threats?

The event timelines were developed next. An event timeline is the sequence of time for which individual task appears in the scenario. For instance, the time an enemy aircraft would be launched from an enemy airbase to attack one of the friendly ships in the scenario, the waypoints and velocities on each leg, etc. Event timelines were synchronized with specific action events occurring throughout the model. Event timelines were developed for the events that are common for both scenarios. These events are not part of tailoring scenario toward tasking functional or divisional DMs, but inserted to require timely action in both. Elimination of hostile targets was assumed to be systematic based on value of the target, potential threat to friendly forces, time, and required asset utilization. Time limits were placed on the amount of time a DM had to complete a task once he has started an attack on that particular task providing DMs with semi-realistic timelines to eliminate an enemy target prior a response from the enemy.

Next the identification of every type of asset the enemy would possess was established. Then for each scenario, it was necessary to determine what would be required to destroy or neutralize each threat, maintaining consistency with the task types described in Table 1. The two figures below, Figures 8 and 9, describe the following:

- All task classes and abbreviations for tasks to be used in each scenario.
- A brief description of each task class.
- The resources required to either neutralize or destroy a task of that class.

FUNCTIONAL

Symbol	Description	AAW	MINES	ASuW	BMD	STRK	SAR	SOF
NBE	Naval base – East	0	0	0	0	0	0	2
NBW	Naval base – West	0	0	0	0	6	0	0
CMD	Enemy command center	0	0	0	0	0	0	2
DG	destroyer w missiles/mines	0	0	2	0	0	0	0
PT	fast patrol/missile craft	0	0	1	0	0	0	0
CDL	coastal defense launcher	0	0	0	0	1	0	0
SML	SCUD msl launcher	0	0	0	0	1	0	0
AC	aircraft attack wave	1	0	0	0	0	0	0
ABE	Air base – East	0	0	0	0	0	0	2
ABW	Air base – West	0	0	0	0	6	0	0
SAM	SAM site – fixed	0	0	0	0	2	0	0
NU	commercial air	0	0	0	0	0	0	0
NU	white/merchant ship	0	0	0	0	0	0	0
CDM	CD cruise missile	1	0	0	0	0	0	0
MIS	SCUD-launched missile	0	0	0	1	0	0	0
MIN	sea mines	0	2	0	0	0	0	0
XOC	exocet fired at blue ships	1	0	0	0	0	0	0
PH	air possible hostile - Y	1	0	0	0	0	0	0
PH	air possible hostile - N	1	0	0	0	0	0	0
PH	ship possible hostile- Y	0	0	1	0	0	0	0
PH	ship possible hostile - N	0	0	1	0	0	0	0
SA3	mobile SAM site	0	0	0	0	2	0	0
EW	possible SCUD launch	0	0	0	0	0	0	0
S&R	basic rescue effort at sea	0	0	0	0	0	2	0
REC	red recon aircraft	1	0	0	0	0	0	0
RGF	red ground force	0	0	0	0	3	0	0
SML	SCUD 2nd msl launcher	0	0	0	0	1	0	0
S&R	indicates nothing there							
BR	major bridge	0	0	0	0	0	0	2
PRT	final objective -secure Port	0	0	0	0	0	0	2
TSK	high priority complex task	3	0	0	0	0	0	0
TSK	high priority complex task	0	0	3	0	0	0	0
EVA	evacuate wounded	0	0	0	0	0	3	0
GUN	gun runners	0	0	2	0	0	0	0
	Aircraft							
CAP	attacker/defender	3	0	0	0	0	0	0
SA6	SAM cluster – fixed	0	0	0	0	2	0	0

Figure 8. Functional Scenario Tasks and Resource Requirements

DIVISIONAL

Symbol	Description	AAW	MINES	ASuW	BMD	STRK	SAR	SOF
NBE	Naval base – East	1	0	0	0	2	0	1
NBW	Naval base – West	0	0	0	0	3	0	0
CMD	Enemy command center	0	0	0	0	1	0	1
DG	destroyer w missiles/mines	1	0	1	0	0	0	0
PT	fast patrol/missile craft	0	0	1	0	0	0	0
CDL	coastal defense launcher	0	0	0	0	1	0	0
SML	SCUD msl launcher	0	0	0	0	1	0	0
AC	aircraft attack wave	1	0	0	0	0	0	0
ABE	Air base – East	1	0	0	0	2	0	1
ABW	Air base – West	0	0	0	0	3	0	0
SAM	SAM site – fixed	0	0	0	0	1	0	1
NU	commercial air	0	0	0	0	0	0	0
NU	white/merchant ship	0	0	0	0	0	0	0
CDM	CD cruise missile	1	0	0	0	0	0	0
MIS	SCUD-launched missile	0	0	0	1	0	0	0
MIN	sea mines	1	1	0	0	0	0	0
XOC	exocet fired at blue ships	1	0	0	0	0	0	0
PH	air possible hostile – Y	1	0	0	0	0	0	0
PH	air possible hostile – N	1	0	0	0	0	0	0
PH	ship possible hostile- Y	0	0	1	0	0	0	0
PH	ship possible hostile – N	0	0	1	0	0	0	0
SA3	<i>mobile</i> SAM site	0	0	0	0	2	0	1
EW	possible SCUD launch	0	0	0	0	0	0	0
S&R	basic rescue effort at sea	0	0	1	0	0	1	0
REC	red recon aircraft	1	0	0	0	0	0	0
RGF	red ground force	0	0	0	0	1	0	1
SML	SCUD 2nd msl launcher	0	0	0	0	1	0	0
S&R	indicates nothing there							
BR	major bridge	0	0	0	0	2	0	1
PRT	final objective -secure Port	1	0	1	0	0	1	1
TSK	high priority complex task	1	0	1	0	0	1	0
TSK	high priority complex task	0	1	1	0	0	1	0
TSK	high priority complex task	1	1	0	0	0	1	0
EVA	evacuation of wounded	0	0	0	0	0	2	1
GUN	gun runners	0	0	2	0	0	0	0
CAP	aircraft attacker/defender	2	0	0	0	0	0	0
SA6	SAM cluster – fixed	0	0	0	0	1	0	0

Figure 9. Divisional Scenario Tasks and Resource Requirements

All tasks that do not appear on the mission task graphs in Figures 6 and 7 are considered non-mission critical tasks. These tasks, as stated before, are added to increase the workload of DMs, induce communication between DMs, and force adaptation in situations which overwhelm one or more of the DMs. The timing sequence of when these tasks would appear in the scenario was very important to maintain consistency with the overall objective of the experiment. These non-mission critical tasks were integrated into each scenario in a timed sequence in the form of surface boat attacks, floating mines, air wave attacks, search and rescue missions, encounters with ground forces, coastal defense missiles, ballistic missiles, surface to air missile sites, and neutral platforms in the form of air and sea contacts.

D. MEASURES

In keeping with the MCES model, the measures for the scenario can be divided into three separate categories:

- 1) Measures of Force Effectiveness (MOFE),
- 2) Measures of Effectiveness (MOE),
- 3) Measures of Performance (MOP).

MOFEs are evaluated at the boundary between the force and the environment. MOEs are evaluated at the boundary between the force and the C2 system. MOPs are evaluated within the boundaries of the C2 system. The measures for both scenarios encompassed all three.

A decision had to be made whether to focus on individual performance or team performance. Since the performance of the organizational structure itself is the main focus of the experiment, it was decided to go with the team performance. Although the main focus is team performance, individual performance will play a major role in the team performance. The measures of performance are as follows:

- Information exchange
 - Communication
- Shared situational awareness
 - Ground truth vs. individual assessment of situation
- Mission effectiveness
 - Completion of tasks
 - Time of detection, identification, and elimination of hostile targets
 - Completion of final objective
 - Accumulated point values
- Coordination
 - Effective use of resources (especially limited resources, i.e., SOF teams, SAR Helos)

These measures can be evaluated by setting point values for tasks and targets, recording communications, logging all events in the software during the running of the experiment, and by use of questionnaires.

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IV. DEVELOPMENT OF THE DDD SOFTWARE FILES

A. INTRODUCTION

The following chapter includes excerpts directly from the DDD manual formulated by Professor David Kleinman, a research professor at the Naval Postgraduate School. The excerpts from the manual provide a clear and precise understanding of the DDD software, its parameters, and performance capabilities.

The 3rd-generation Distributed Dynamic Decisionmaking (DDD-III) paradigm was designed to meet the needs for empirical research in adaptive architectures for Joint Command and Control (C2). The DDD-III is implemented as a multi-player, real-time simulation that provides a team of decisionmakers with an air, sea and ground environment, a variety of task classes representing things to do, and controllable platforms that contain subplatforms, sensors and weapons (resources). This flexible research paradigm provides the ability to conduct controlled experiments in a laboratory environment, using problems that are abstractions of "real world" command and control.

The design of the DDD-III focuses on the dynamic/execution phase of a mission and allows for manipulation of key structural variables in task and organizational dimensions. The DDD-III has the ability to constrain and/or to manipulate organizational structures such as authority, information, communication, resource ownership, task assignment, etc.

The scenario generator is the tool through which the experiment designer translates the mission requirements

found in a “real-world” military environment into DDD-specific constraints, thereby defining the Joint warfare “game” world. The scenario generator assists the experimenter in preparing the many options and variables used to create the game. There are four major categories of variables needed by the simulation:

- 1) General information - includes time, number of players, location of land, etc.
- 2) Platform and task class information - defines both friendly and “hostile” force categories, their general properties and characteristics.
- 3) State information - defines attributes, resources and game element sequencing on a task-by-task, and platform-by-platform basis.
- 4) Maneuver information - defines the actual arrivals and movements of the tasks.

B. IMPLEMENTATION OF TASKS

The geographical setup and platform location were used from the previous experiment as shown in Figure 2. The implementation of tasks had to begin with mission critical tasks first. After programming the mission into the DDD software files the next step was to add all non-mission critical tasks. The battle order for the two scenarios will be presented in this section to provide a clear statement of the mission which is the same for each organization.

Implementing tasks followed the guidelines of the DDD manual based on task type. The parameters for implementing the various tasks are described below:

Decision Structure

This command defines the number of decisionmakers (DMs) present in the simulation. In addition it identifies the command structure they are contained within (in reference to the other DMs). The command structure affects authority/responsibility, and asset control issues among DMs. In the DDD a DM can unilaterally (re)assign tasks and/or transfer assets among those DMs that are in his/her suborganization. Only acyclic structures are supported in DDD-III. (Note: Asset ownership was fixed for our scenarios.)

Number of Attributes

This command sets the total number of attributes used to define the characteristics of the tasks, and assigns each attribute in the resource vector a unique name. The attribute's position in the vector is critical - later inputs or references to the attribute vector rely on the ordering of the numerical values to set the attribute characteristics (i.e., all attributes must have been defined when referencing the attribute vector). *The first two attributes in the vector must be defined as follows:* a1 = Value, is the value that the task is worth to the team when properly accomplished. (It also represents the amount lost if not successfully attacked.) a2 = Time, is the duration of the engagement once prosecution/attack on the task is begun.

Number of Resources

This command sets the total number of resource categories that will be used to define the characteristics of the platforms. Platforms represent friendly assets, such as aircraft, ships, ground units and fixed bases. Each platform will have a vector of resources where each element in the vector is assigned a unique name. The position of the resource value in the vector is critical - later inputs

or references to the platform resource vector use the order of the numerical values to set the resource characteristics.

Platform Classes

This command sets the number of unique classes of platforms that exist in the scenario. For the purposes of platform class number both platforms (parent) and subplatforms (child) are counted. (The actual specification of platform/subplatform relationships is set using the *platform subplatform* command).

Platform General

This command sets the parameters for each specific platform class. These initial specifications create the platform class and form the basis for class uniqueness. The values of these parameters and their various combinations provide a broad range of options to the scenario designer to create models of real-world assets. (Air, sea and ground).

Platform Ownership

This command defines which DMs can legally take ownership of platforms of this class. In other words, the command describes the platform ownership structure. The DDD will not allow a platform to be transferred to, or owned by, a DM not specified via this command.

Platform Resource

This command assigns the values to the resource vector associated with a specific platform class. These values will be carried through to each platform (instantiation) of that class. This allows the scenario designer to "arm" the platforms with various resource capabilities, giving platforms the ability to engage tasks.

Platform Range

This command sets the range of the sensors/weapons contained on each platform. Each platform has three types of notional sensors/weapons in correspondence with Air, Sea and Ground type tasks, respectfully. For each type of task, any given platform (of the specified class) has five circular ranges displayable as rings centered on the platform. If a task is within ring #1 it can be seen (detected) by the platform. If the task is within ring #2 various attributes of the task will be read (measured), although the values may be masked/corrupted by noise. If the task is within range ring #3 the task class becomes known (identified) automatically. The fourth range ring denotes the range in which the platform can attack the task. Ring #5 indicates the range at which the platform can be attacked by that type of task. By varying these ranges the scenario designer can model various abilities and limitations of each platform class. The only constraint is that the detection range be larger than either the measure or identify ranges.

Platform Subplatform

Subplatforms are previously defined platforms that reside on another platform (e.g. aircraft on a carrier, troops on a helicopter). Platforms of a given class may contain a number of subplatforms. There are several rules that apply to the subplatform concept:

- 1) A given class of subplatform (child) can reside on many platforms (parent).
- 2) All subplatforms of a given class have identical properties, independent of the platform(s) they reside within.
- 3) The "depth" of the nesting structure is defined by the designer and is not limited by the software - however, loops MUST be avoided (i.e.: $A \subset B \subset A$)

Task Attack

This command sets the ability that various decisionmakers have to attack tasks of a given class. This allows the

scenario designer to specify who can be assigned to attack a given task class (following the rules imposed by the command structure via the *decision structure* command).

Task Resource

This command sets the amount of resources required to properly engage the task (and receive full point values - engaging task with less than the required amount will result in "partial credit") This overrides any default values previously defined, and allows the scenario designer to further tailor the properties of individual tasks.

Task Prerequisites

This command sets an "order" in which tasks must be prosecuted. This allows the scenario designer to cause the team to plan courses of action and establish a sequential mission plan.

Task Spawn

This command sets a parent/child relationship for tasks. Depending on the option selected, "child" tasks will appear if the "parent" task is either attacked or has disappeared (see *maneuver definition*). This allows the scenario designer to include a mission "growth" or conditional task tree in the scenario. Thus, the taking of a beach can spawn artillery attacks on the beachhead.

Task Remove

This command inhibits arrival of future tasks depending on either the attack or disappearance of a given task. This can be used by the scenario designer to "anticipate" paths that may or may not be followed by the DMS during the simulation.

Task Maneuver

Maneuvers describe the track of a task, which includes turning points, velocity and its "life span". For each task the scenario generator allows the user to enter up to five straight-line maneuver segments. The first element of the maneuver command defines the starting point for the task; the last element defines the ending point. The commands between the start and end point fall into two categories - ordinary and staying maneuvers. An ordinary maneuver moves the task between a starting point and a destination point at the designated velocity. A staying maneuver allows the task to remain at certain position for a designated period of time.

All other important aspects of the syntax and programming parameters are located in the DDD manual. The syntax follows the same disciplines as any computer programming language and must be strictly adhered to in order to produce the desired results.

The battle order was constructed from the two mission task graphs and is the same for both organizations. The battle order is presented below.

I. SITUATION

A. General: Four months ago the Country C invaded Country D in order to seize the natural gas fields located along the border. In an attempt to deny United States entry in the conflict Country C also seized Country D's only real seaport. From the outset the United States has demanded that Country C leave Country D immediately. Country C's reaction has been to further destabilize the region by threatening to use tactical ballistic missiles against the countries in the region that aid the U.S. (i.e. Country A & B). In addition they have stated that they will mine the straits to shut down all merchant traffic within the region. In the last several months Country C has also been successful in starting a civil war in Country A. Presently Country A's elected government has retained control of the country but their power appears to be slipping. Last month, Country B agreed to base U.S. military aircraft.

Currently, U.S. naval forces are in position to commence offensive action to drive Country C's forces out of Country D. In addition, the U.S. would like to stabilize the region and ensure that sea lines remain open to merchant vessels.

B. Enemy: Country C's military is currently forward deployed within its own borders as well as Country D. Country C's forces are concentrated around the ports and airfields that they control. They have an integrated air defense system that is arrayed to protect these high value targets. Their air defense system includes both aircraft and surface to air missiles sites (SAM). In the last month they have repositioned their SCUD missile launchers for offensive operations. Likewise they have placed all their coastal defense missiles in positions that give them maximum standoff against naval shipping. Country C's most likely course of action is to attack U.S. naval ships while launching SCUD Missiles at Countries A & B. It is clear they will not sit back and allow U.S. airpower to strike the first blow.

C. Friendly Forces: Joint Task Force (JTF) Fury has deployed into AOR. JTF Fury consists of an augmented carrier battle group and a task organized special operations force. The joint task force is arrayed to provide maximum striking power towards Country C while at the same time providing an Anti-Ballistic Missile shield for the Countries in the region. For the last several weeks Special Operation Forces (SOF) units have been operating in Country C.

II. Mission: On order JTF Fury will conduct offensive operations to restore Country D's borders in order to protect the countries of the region from further attacks by Country C.

III. Execution

A. Commander's Intent: The enemy has given us an opportunity to isolate and destroy its forces piecemeal. Based on his current disposition every effort should be made to cut the enemies lines of communication. The early destruction of command & control centers will enable us to divide the enemy into isolated garrisons that can be attacked. The desired end state for this operation is the

removal of Country C's forces from Country D. In addition, Country C's military should be reduced to the point that they will be unable to conduct large-scale offensive operations for 5-7 years.

B. Tasks

1. ISR

- Provide maximum coverage on enemy garrisons
- Provide targeting information for BMD commander to counter SCUD threat
- Coordinate with Strike Commander to asset in Strike operations

2. Strike

- On order destroy Country C's Naval Base West
- On order destroy Country C's Airfield West
- Deny enemy troop reinforcements between garrisons
- Destroy high value SAM complexes

3. Ballistic Missile Defense

- Destroy enemy SCUD launchers
- Protect U.S. Forces from SCUD attack
- Protect the neutral countries in the region from SCUD attack

4. SOF/SAR

- Conduct ground reconnaissance
- On order destroy command & control centers
- On order occupy Country C's Airfield East
- On Order occupy Country C's Naval Base East
- On Order occupy Country D's Naval Base
- Conduct CSAR in support of the operation

5. Mines/Anti Surface

- Protect U.S. Forces from enemy surface ship attacks
- On order clear enemy sea mines
- Maintain mine free commercial shipping lanes

6. Air Warfare

- Protect U.S. Forces from enemy air attack

- On order provide strike aircraft protection during their operations
- Be prepared to destroy enemy anti-ship missiles fired at U.S. naval forces

D. Coordinating Instruction

1. ROE

- a. All forces have the right of self-defense
- b. All air, ground and surface contacts must be positively identified as hostile before engaging

2. Priority Targets

- a. SCUD launchers
 - b. Command & Control centers
- c. Mobile SAMs
- d. Enemy strike aircraft
- e. Coastal defense missile sites

The battle order provides a clear understanding of the enemy assets and capabilities along with the assets and resources that the U.S. forces possess. The tasks were implemented with attack/counter attack and offensive/defensive capabilities based on their type.

V. PILOTING THE SCENARIOS

A. TESTING MISSION COMPLETION (2DM)

The implementation of tasks into the DDD software files was the most time consuming phase of the scenario development process. Ensuring all syntax and programming parameters of the software were followed was very important. The next step was to test the scenario in a 2 DM environment.

The 2DM environment allows all assets to be controlled by only 2 decisionmakers and can be accomplished using one computer terminal. The 2DM environment provided a "God's eye" view of the entire battle area. All tasks regardless of geographical location were visible by to both decisionmakers. Tasks that would normally require sensors to detect were visible without satisfying this requirement. All SCUD missile launchers, red ground forces, SAM sites, coastal defense launchers, and patrol craft were identified and visible throughout the run of the scenario. This feature is very useful when testing in order to determine if the location of all tasks facilitates accomplishment of the overall objective.

The first objective was to test the mission completion. This phase was designed to determine if the actual mission from the task graphs was able to be completed prior to the end of the scenario run. The following problems were encountered in both scenarios:

- There were too many SAM sites in the scenario which severely impeded the movement of friendly

assets and thereby prohibited completion of the mission.

- Detect, measure, and identify ranges for some asset sensors were incorrect and did not allow and asset to attack a mission critical task before being destroyed. (Sensor ranges were incorrect.)
- The resource requirements for mission critical tasks were too robust to facilitate proper coordination among DMs. (Resource requirement issue.)
- Too many prerequisites for certain tasks existed and prohibited completion of the mission.
- The scoring algorithm for the amount of points given at the completion of a task needed to be modified.

Once these problems were identified, it was necessary to correct them immediately before proceeding to the next phase in the testing of the two scenarios. All problems were corrected and retested to ensure the problems no longer existed. The retesting proved the scenario missions could be completed in the time allotted for the run of the scenarios.

B. TESTING COMPLETION OF NON-MISSION CRITICAL TASKS

Once the mission completion was tested the next step was to test the completion of all non-mission critical tasks. The non-mission critical tasks include destroying enemy aircraft, scud missile launchers, scud missiles,

coastal defense launchers, coastal defense missiles, enemy boats, mines, etc. All tasks which did not have to be destroyed in order to complete the mission fall under the category of non-mission critical tasks. The following problems were encountered in both scenarios:

- SCUD missile launchers were not properly located to allow friendly weapons the ability to destroy the launched SCUD missiles. (based on the range of the weapons)
- SCUD missile launchers were not properly positioned to provide the ambiguity between DMs to induce confusion as to who had responsibility to destroy the launched missile. (Divisional case only.)
- The SCUD Launchers launched missiles that did not reach their targets. (Maneuvering vectors incorrect.)
- The Coastal Defense missile launcher launched missiles that did not reach their target. (Maneuvering vectors incorrect.)
- Enemy aircraft appeared and disappeared at random and never engaged friendly forces. (Maneuvering vectors incorrect.)
- Enemy ships appeared and disappeared at random and never engaged friendly forces. (Maneuvering vectors incorrect.)
- Unanticipated and complex tasks never appeared in the game. (Timing sequence issue.)

- Search and Rescue mission did not stay in the game long enough to allow friendly forces an opportunity to complete the task. (Timing issue.)
- Various tasks could not be engaged because platforms did not possess the capability to engage them. (Resource vector issues.)
- The scoring algorithm for the amount of points given at the completion of a task needed to be modified.

All of the aforementioned problems were corrected upon their discovery. Many of the non-mission critical tasks had to be revisited in order to ensure the tasks remained consistent with the theories set forth in Table 1. This was accomplished by introducing these tasks in waves of various times, size, and speed.

C. CREATING FOUR SEPARATE SOFTWARE FILES FOR EXPERIMENT EIGHT

Converting the two scenarios into four separate DDD XS files was the next phase. After testing the two scenarios in the 2DM environment we had two complete scenarios one that is good for the functional organization but bad for the divisional organization, and one that is good for the divisional organization but bad for the functional organization. The researchers at NPS refer to the scenario that is good for the functional organization as "f" (little f) and the scenario that is good for the divisional organization as "d" (little d).

The purpose of making four XS files is to test the guidelines and questions set forth for A2C2 Experiment Eight. Each scenario will be run using both organizational structures. Scenario "f" will be run with a functional organization to prove it is good for functional and it will be run with a divisional organization to prove it is bad for divisional. Likewise, scenario "d" will be run with a divisional organization to prove it is good for divisional and it will be run with a functional organization to prove it is bad for functional. One major focus of this experiment is to determine the types of missions/tasks are better suited for what types of organizations.

Creating the four separate files from the 2DM versions was relatively simple. In a scenario with a functional organization, the asset ownership is based on the functional DM's responsibility. The functional DM would own all assets that are designed to complete tasks that fall under his functional area. For example, the Strike Commander would own and have direct control of all Tomahawk missiles on each platform. Creating the functional organization for both scenario "f" and "d" simply meant changing the ownership of all assets to correspond to the commander of that warfare area. The divisional organization files were easier. Each platform maintained control of all assets located on it. The DM in the divisional organization was simply the Commanding Officer of each platform and forward operating bases for aircraft and SOF teams.

After completing all four XS files, the scenarios were tested again. Ensuring all DMs owned the proper assets

from each platform was very important to the objective of the entire experiment. The file completion for the experiment concluded the scope of this thesis.

VI. SCENARIO ISSUES AND CONCERNS

A. TRAINING

Training for the personnel who will play DMs in the experiment is a very important issue. The first training issue is what is called "buttonology". Familiarity with the mouse buttons and how to perform certain tasks is very important. The experiment is designed to test how well DMs perform as far as mission accomplishment, task completion, and DM coordination. The true performance of each team will be difficult to determine if the experiment is conducted having been biased by a DMs inability to properly execute simple tasks. What button does what, how do I launch weapons, how do I zoom in on targets, and how do I select a task are questions that should not be an issue while running the experiment. Eliminating this training issue is crucial to properly conducting the experiment.

The next training issue is understanding the mission. Each player must be well versed on the overall mission of each scenario. A few A2C2 experiments in the past have not focused on a central mission. These experiments focused on DMs attacking the enemy's anti-access capability while protecting various assets including the self-defense of their own platforms and assets. This experiment focuses on an actual mission to be accomplished. The more familiar each team is with the mission the more reliable will be the data collected.

The learning curve of each individual is different. Some will do better because they enjoy video games. Some will do well because they are familiar with the Composite

Warfare Commander concept and the use of naval forces. There are various aspects such as the above mentioned that the researchers cannot control. Ensuring that each player receives the same amount of training and are proficient with the buttonology and mission is the best the facilitators can do to eliminate external bias in the experiment.

B. ADAPTABILITY

Adaptability is one basis for all A2C2 experiments. The two major organizational structures chosen are divisional and functional. What tends to happen, even in the operational fleet, is that the battle structure never remains purely one or the other. The battle structure tends to take on a hybrid structure possessing characteristics from both organizations depending on the situation. Two underlying sets of question for this experiment are:

- If the organization is not well matched to the mission, what do the decisionmakers do? How do they deal with or adapt to the situation?
- What are the indicators of a situation where the organization should adapt in order to better deal with the scenario?

The answers to these questions are a major focus of Experiment Eight. There is an inherent difficulty in adaptation that must be expressed. The difficulty is part of the DDD software itself.

The functional organizational structure allows the functional DM to directly control assets he owns on each platform. If he wants to launch 2 Tomahawk missiles, one from the CG and one from a DDG, then he can do this from his terminal without aid from the other DMs. If situations arise (and they will) that will force the DMs to make changes in the organizational structure and pursue a more divisional structure then it is going to be very difficult to do so. Usually in a divisional organization, each DM is given a geographical area that becomes his area of responsibility. That DM is responsible for any mission task or threat that arises in his area. If he requires help from other DMs to complete these tasks then he requests help, but the overall responsibility remains with him. In a functional organization it will be very difficult to split the responsibilities by geographical area because the DM in that area cannot control any assets that do not fall under his functional area. The divisional scenario was designed so that any one DM could complete any one task with minimal or no assistance from the other DMs. The functional scenario was designed so that all tasks can be completed by one DM without assistance from the other DMs.

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VII. CONCLUSION

A. THESIS SUMMARY

This thesis was conducted as a part of the A2C2 research project, a multifaceted program which pursues a continuing effort to examine adaptation in joint command and control organizations. The objective of the project's eighth experiment is to study the adjustments that organizations make when they are confronted with a scenario for which their organizational is ill-suited. The purpose of this thesis was to design, test, and implement two scenarios, one of which would be well-suited for a functional organization and ill-suited for a divisional organization, and vice versa for the other scenario.

The focus questions for Experiment Eight were examined to determine what the two scenarios should accomplish. Research on organizational theory aided in understanding the structure and behavior of the functional and divisional organizations. The formulation of an overall mission was completed to provide a sequence for the teams to follow. Non-critical mission tasks were added to increase realism, introduce complexity and induce coordination and change in organizational structure based on situational workload.

The experiment is set to be run in August 2002 at the Naval Postgraduate School. The team of researchers includes the NPS, University of Connecticut, George Mason University, Carnegie Mellon University, Michigan State University, and APTIMA Inc. The data collected from the experiment will be analyzed and compiled to answer the questions that stand as the basis for the experiment.

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APPENDIX A

A. FUNCTIONAL XS FILE

```
#<<<<< P8-data root file: June 10 2002 >>>>>>>
decision structure 7
      FLAG  GREEN  BLUE  PURPL  RED  ORNGE  BROWN  INTEL
      0      0      0      0      0      0      0      7
#-----
message file msgsFcn_P8.txt
#
simulation time 2305.0 #time at 38min 25sec
#-----
number_of tasks 275
#-----
simulation scale 500.0
#-----
number_of attributes 3
      Value Time HOSTL
#-----
number_of resources 7
      AAW MINE ASuW BMD STRK SAR SOF
#-----
number_of nets 2
#-----
renew interval 0.5
#-----
random seed 1
#-----
message number 4
#-----
comm epoch 6.0
#-----
comm delay 5.0
#-----
transfer delay 10.0
#-----
attack delay 2.0
#-----
```

```

land area  0.0 200.0 375.0 500.0
land area 375.0 450.0 500.0 500.0
land area 260.0 0.0  320.0 100.0 # Sardenia
land area 420.0 160.0 500.0 205.0 # Sicily
#----- roads
draw line 50. 300.  100.  205.  2
draw line 50. 300.  195.  205.  2
#----- SeaBaselocations
#draw circle 100.0 200.0 10.  1
#draw circle 200.0 200.0 10.  1
#----- AirBaselocations
#draw circle  50.0 300.0 10.  1
#draw circle 150.0 300.0 10.  1
#----- Miscellaneous cities
draw circle 5.0  205. 1.0  2
draw circle 315. 95.  1.0  2
draw circle 370. 460. 1.0  2
draw circle 430. 200. 1.0  2
#draw circle 320. 200. 1.0  2
draw circle 415. 455. 1.0  2
#----- Libya city
draw rectangle 390.0 440.0 50. 20.0 2
#----- country borders
draw line 250. 200.  250.0 500.  3
draw line 300. 450.  300.0 500.  3
draw line 300. 450.  375.0 450.  3
#----- sea lanes
draw line  0. 125.  375.0 125.  3
draw line 375. 125.  500.0  50.  3
draw line 375. 125.  425.0 300.  3
draw line 425. 300.  425.0 450.  3
draw line 425. 450.  500.0 425.  3
#----- air corridors
draw line  5. 205. 150.  50.  1
draw line 100. 200. 150.  50.  1
draw line 200. 200. 150.  50.  1
draw line 320. 200. 150.  50.  1
draw line 150.  50. 160.  0.  1
draw line 150.  50. 100.  0.  1

```



```

0.0  0.0  0.0
0.0  0.0  0.0
0.0  0.0  0.0
#
#
# platform 2: Frigate
platform general 2 S   FFG  0.000  0
                0 1  3000.000  3.000  20.000
platform resource 2   0  0  0  0  0  0  0
platform range   2
    100.0  35.00  70.00   0.00  10.00
    30.00   8.00  28.00   0.00  15.00
    0.00   0.00   0.00   0.00   0.00
platform accuracy 2
0.0  0.0  0.0
0.0  0.0  0.0
0.0  0.0  0.0
#
#
# platform 3: Cruiser
platform general 3 S   CG  0.000  0
                0 1  3000.000  3.000  20.000
platform resource 3   0  0  0  0  0  0  0
platform range   3
    180.0  35.00  100.00  0.00  10.00
    40.00   8.00  30.00   0.00  15.00
    0.00   0.00   0.00   0.00   0.00
platform accuracy 3
0.0  0.0  0.0
0.0  0.0  0.0
0.0  0.0  0.0
#
#
# platform 4: aircraft carrier
platform general 4 S   CVN  0.000  0
                0 1  3000.000  3.000  20.000
platform resource 4   0  0  0  0  0  0  0
platform range   4
    240.0  35.00  150.00  0.00  10.00

```

```

50.00  8.00  30.00  0.00  20.00
0.00  0.00  0.00  0.00  0.0
platform accuracy 4
0.0  0.0  0.0
0.0  0.0  0.0
0.0  0.0  0.0
#
#
# platform 5: DestroyerC
platform general 5 S DDGC 0.000 0
0 1 3000.000 3.000 20.000
platform resource 5 0 0 0 0 0 0 0
platform range 5
150.0  35.00  100.00  0.00  10.00
35.00  8.00  30.00  0.00  15.00
0.00  0.00  0.00  0.00  0.00
platform accuracy 5
0.0  0.0  0.0
0.0  0.0  0.0
0.0  0.0  0.0
#
#
# platform 6: E2C (nominally from carrier)
platform general 6 A E2C 0.00 0
0 1 3000.000 3.000 20.000
platform resource 6 0 0 0 0 0 0 0
platform range 6
250.0  0.00  0.00  0.00  7.5
60.00  0.00  0.00  0.00  0.0
30.00  0.00  0.00  0.00  20.0
platform accuracy 6
0.0  0.0  0.0
0.0  0.0  0.0
0.0  0.0  0.0
#
#
# platform 7: fighter aircraft (from CVN/airbase)
platform general 7 A F18A 3.17 0
1 1 900.000 60.000 20.000

```

```

platform resource 7 1 0 0 0 0 0 0
platform attack 7 2
platform range 7
    80.0 20.00 40.00 36.00 3.00 #orig 7.5
    50.0 12.00 25.00 0.00 0.00
    5.0 4.00 2.00 0.00 20.00
platform accuracy 7
0.0 0.0 0.0
0.0 0.0 0.0
0.0 0.0 0.0
#
#
# platform 8: strike a/c package (from CVN/airbase)
platform general 8 A F18S 3.17 0
    1 1 900.000 60.000 20.000
platform resource 8 0 0 0 0 2 0 0
platform attack 8 1
platform range 8
    80.0 20.00 40.00 0.00 5.00 #orig 7.5
    50.0 12.00 25.00 3.00 0.00
    30.0 24.00 25.00 15.00 20.00
platform accuracy 8
0.0 0.0 0.0
0.0 0.0 0.0
0.0 0.0 0.0
#
#
# platform 9: MH53 (from surface ships)- 18 min endurance
platform general 9 A MH53 .60 0
    1 1 1100.000 60.000 10.000
platform resource 9 0 1 0 0 0 0 0
platform attack 9 2
platform range 9
    60.0 0.00 30.00 0.00 7.50
    30.0 12.00 15.00 0.00 0.00
    10.0 4.00 5.00 0.00 20.00 #beware of SAMs!
platform accuracy 9
0.0 0.0 0.0
0.0 0.0 0.0

```

```

0.0 0.0 0.0
#
#
# platform 10: HH60 (from surface ships) - 18 min endurance
platform general 10 A HH60 .60 0
                1 1 1100.000 60.000 10.000
platform resource 10 0 0 0 0 0 1 0
platform attack 10 1
platform range 10
    60.0 0.00 30.00 0.00 7.50
    30.0 12.00 15.00 10.00 0.00
    12.0 6.00 8.00 10.00 9.00 #beware of SAMs!
platform accuracy 10
0.0 0.0 0.0
0.0 0.0 0.0
0.0 0.0 0.0
#
#
# platform 11: UAV (from surface ships)- 60min endurance
platform general 11 A UAV .54 0
                1 1 3600.000 30.000 5.000
platform resource 11 0 0 0 0 0 0 0
platform range 11
    20.0 10.00 15.00 0.00 7.50
    35.0 15.00 20.00 0.00 0.00
    38.0 24.00 22.00 0.00 20.00
platform accuracy 11
0.0 0.0 0.0
0.0 0.0 0.0
0.0 0.0 0.0
#
#
# platform 17: FGTR (attack boats from surface ships)- 20min endurance
platform general 17 S FGTR .40 0
                1 1 1200.000 30.000 10.000
platform resource 17 0 0 1 0 0 0 0
platform attack 17 2
platform range 17
    10.0 0.00 5.00 0.00 0.00

```

```

    35.0  20.00  30.00  15.00  10.00
    0.0   0.00   0.00   0.00   0.00
platform accuracy  17
0.0  0.0  0.0
0.0  0.0  0.0
0.0  0.0  0.0
#
#
# platform 18: SOF/SEALS (pre-inserted)- infinite endurance
platform general 18  G   SOF  .60  0
                1  1  3600.000  30.000  10.000
platform off_route 18 1
platform resource  18   0  0  0  0  0  0  1
platform range    18
    10.0   0.00   5.00   0.00   0.00
    0.0   0.00   0.00   0.00   0.00
    20.0  10.00  18.00   8.00   5.00
platform accuracy  18
0.0  0.0  0.0
0.0  0.0  0.0
0.0  0.0  0.0
#
# -----
# the following are the weapons
# -----
# platform 12: SM2 (standard anti-air missile)
platform general 12  A   SM2  5.28  0
                0  0  18.9  10.0  1.0
platform weapon 12 1
platform resource  12   1  0  0  0  0  0  0
platform range    12
    0.0  0.0  0.00  6.00  0.00
    0.0  0.0  0.00  0.00  0.00
    0.0  0.0  0.00  0.00  0.00
platform accuracy  12
-1.0 -1.0 -1.0
-1.0 -1.0 -1.0
-1.0 -1.0 -1.0
#

```

```

#
# platform 13: ABM (standard anti-air/BMD missile)
platform general 13 A ABM 6.94 0
                0 0 12.2 10.0 1.0
platform weapon 13 1
platform resource 13 1 0 0 1 0 0 0
platform range 13
    0.0 0.0 0.00 12.00 0.00
    0.0 0.0 0.00 0.00 0.00
    0.0 0.0 0.00 0.00 0.00
platform accuracy 13
-1.0 -1.0 -1.0
-1.0 -1.0 -1.0
-1.0 -1.0 -1.0
#
#
# platform 14: TLAM (tomahawk missile)
platform general 14 A TLAM 2.08 0
                0 0 173.0 10.0 20.0
platform weapon 14 1
platform resource 14 0 0 0 0 1 0 0
platform range 14
    0.0 0.0 0.00 0.00 0.00
    0.0 0.0 0.00 0.00 0.00
    0.0 0.0 0.00 5.00 0.00
platform accuracy 14
-1.0 -1.0 -1.0
-1.0 -1.0 -1.0
-1.0 -1.0 -1.0
#
#
# platform 15: TTOM (steerable tactical tomahawk)
platform general 15 A TTOM 2.08 0
                0 0 240.0 10.0 20.0
platform resource 15 0 0 0 0 1 0 0
platform range 15
    0.0 0.0 0.00 0.00 0.00
    0.0 0.0 0.00 0.00 0.00
    0.0 0.0 0.00 15.00 0.00

```

```

platform accuracy 15
-1.0 -1.0 -1.0
-1.0 -1.0 -1.0
-1.0 -1.0 -1.0
#
#
# platform 16: HARP (harpoon anti-ship missile)
platform general 16 A HARP 1.39 0
0 0 43.0 10.0 5.0
platform weapon 16 1
platform resource 16 0 0 1 0 0 0 0
platform range 16
0.0 0.0 0.00 0.00 0.00
0.0 0.0 0.00 3.00 0.00
0.0 0.0 0.00 0.00 0.00
platform accuracy 16
-1.0 -1.0 -1.0
-1.0 -1.0 -1.0
-1.0 -1.0 -1.0
#
#
# platform 19: forward operating base for SOF, also "intel"
platform general 19 G FOB 0.0 0
1 1 3000.000 3.000 20.000
platform resource 19 1 1 1 1 1 1 1
platform range 19
0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00
platform accuracy 19
0.0 0.0 0.0
0.0 0.0 0.0
0.0 0.0 0.0
#
#
# platform 20: forward air base for F18, maybe also "intel"
platform general 20 G AOF 0.0 0
1 1 3000.000 3.000 20.000
platform resource 20 0 0 0 0 0 0 0

```

```

platform range    20
    200.0  0.0  50.0  0.0  0.0
      0.0  0.0  0.0  0.0  0.0
      0.0  0.0  0.0  0.0  0.0
platform accuracy  20
0.0  0.0  0.0
0.0  0.0  0.0
0.0  0.0  0.0
#
#---- platform-subplatform structure ----
#
# air BASE with fighters, strike a/c
platform subplatform 20 2
    F18A  F18S
      2    2    # number
      4    1    # owner
# -----
#
# FOB with the SOF teams possibly owned by 3 different DMs
platform subplatform 19 3
    SOF    SOF    SOF
      1     1     1    # number
      6     6     6    # owner
# -----
#
# CVN carrying fighters, strike a/c, HH60, UAV, FGTR, MH53
platform subplatform 4 6
    F18A  F18S  HH60  UAV  FGTR  MH53
      2    2    1    1    1    1 # number
      4    1    6    3    5    5 # owner
# -----
#
# DDGA carrying SM2, ABM, TLAM, HARP, TTOM, HH60, UAV, FGTR
platform subplatform 0 8
    SM2  ABM  TLAM  HARP  TTOM  HH60  UAV  FGTR
      6    3    6    2    4    1    1    1 # number
#   1    0    0    0    0    1    0    0 # owner
      4    2    1    5    2    6    3    5
# -----

```



```

task cluster 3 G CDL artillery.icon
task cluster 4 G SML silkworm.icon
task cluster 5 A ?? air.icon
task cluster 6 G AB
task cluster 7 G SAM sam.icon
task cluster 8 A CDM missile.icon
task cluster 9 A MIS silkworm.icon
task cluster 10 S MIN mines.icon
task cluster 11 A XOC missile.icon
task cluster 12 G EW
task cluster 13 S S&R cross.icon
task cluster 14 G RGF tank.icon
task cluster 15 G SML silkworm.icon
task cluster 16 G BR bridge.icon
task cluster 17 A TSK
task cluster 18 S TSK task.icon #complex sea
task cluster 19 G UT task.icon #UT ground
task cluster 20 S UT task.icon #UT sea
task cluster 21 G SAM sam.icon
#
task classes 41
#-----
# task 0: Naval Base (East)
task general 0 G NBE 0.0 0.1 9 norfolk.icon
cluster member 0 0
task name 0 East_Naval_Base
task mean 0 50.0 40.0 1.0
task attack 0 0 1 1 1 1 1 1 1 0
task mapping 0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 2.0
task stealth 0 17 20.0 15.0 18.0 12.0 0.0 #so FGTR can attack
task stealth 0 19 600.0 600.0 600.0 0.0 0.0
#

```

```

# task 1: Naval Base (West)
task general 1 G NBW 0.0 0.1 9 norfolk.icon
cluster member 1 0
task name 1 West_Naval_Base
task mean 1 50.0 50.0 1.0
task attack 1 0 1 1 1 1 1 1 1 0
task mapping 1
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 6.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
task stealth 1 17 20.0 15.0 18.0 12.0 0.0 #so FGTR can attack
task stealth 1 19 600.0 600.0 600.0 0.0 0.0
#
# task 2: Command center
task general 2 G CMD 0.0 0.1 9 truck.icon
cluster member 2 1
task name 2 command_ctr
task mean 2 25.0 20.0 1.0
task attack 2 0 1 1 1 1 1 1 1 0
task mapping 2
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 2.0
task stealth 2 19 600.0 600.0 600.0 0.0 0.0
#
# task 3: sea contacts (enemy destroyer)
task general 3 S DG 0.14 0.1 1 ship.icon
cluster member 3 2
task name 3 Enemy_Destroyer
task mean 3 25.0 10.0 1.0
task attack 3 0 1 1 1 1 1 1 1 0

```

```

task mapping 3
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 2.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0

# enemy destroyer can fire missiles at 25 miles out
task stealth 3 0 35.0 8.0 30.0 0.0 25.0
task stealth 3 1 35.0 8.0 30.0 0.0 25.0
task stealth 3 2 30.0 8.0 28.0 0.0 25.0
task stealth 3 3 40.0 8.0 30.0 0.0 25.0
task stealth 3 4 50.0 8.0 30.0 0.0 25.0
task stealth 3 5 35.0 8.0 30.0 0.0 25.0

#
# task 4: sea contacts (fast patrol boats)
task general 4 S PT 0.20 0.1 2 ship.icon
cluster member 4 2
task name 4 Enemy_Patrol_Boat
task mean 4 5.0 5.0 1.0
task attack 4 0 1 1 1 1 1 1 1 0
task mapping 4
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 1.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0

#
# task 5: ground (Coastal Defense missile battery)
# made a TF = 5 to indicate time critical value
task general 5 G CDL 0.09 0.1 5 artillery.icon
cluster member 5 3
task name 5 CD_Launcher
task mean 5 2.0 5.0 1.00
task attack 5 0 1 1 1 1 1 1 1 0
task mapping 5

```

```

0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0
0.0  0.0  0.0  1.0
0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0
#
# task 6: ground (SCUD missile launcher)
# made a TF = 5 to indicate time critical value
task general 6  G  SML  0.06  0.1  5  silkworm.icon
cluster member 6 4
task name 6 SCUD_launcher
task mean 6 5.0 10.0 1.00
task attack 6 0 1 1 1 1 1 1 1 0
task mapping 6
0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0
0.0  0.0  0.0  1.0
0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0
#
# task 7: air attackers of tailorable size
task general 7  A  AC  2.0  0.1  3  air.icon
cluster member 7 5
task name 7 hostile_air
task mean 7 5.0 5.0 1.00
task attack 7 0 1 1 1 1 1 1 1 0
task mapping 7
0.0  0.0  0.0  1.0
0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0
#

```

```

# task 8: Air Base (East)
task general 8 G ABE 0.0 0.1 9 dallas.icon
cluster member 8 6
task name 8 Air_Base_East
task mean 8 50.0 30.0 1.0
task attack 8 0 1 1 1 1 1 1 1 0
task mapping 8
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 2.0
task stealth 8 19 600.0 600.0 600.0 0.0 0.0
#
# task 9: Air Base (West)
task general 9 G ABW 0.0 0.1 9 dallas.icon
cluster member 9 6
task name 9 Air_Base_West
task mean 9 50.0 50.0 1.0
task attack 9 0 1 1 1 1 1 1 1 0
task mapping 9
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 6.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
task stealth 9 19 600.0 600.0 600.0 0.0 0.0
#
# task 10: SAM sites- stationary and protected
task general 10 G SAM 0.0 0.1 3 sam.icon
cluster member 10 7
task name 10 SAM_site
task mean 10 5.0 20.0 1.00
task attack 10 0 1 1 1 1 1 1 1 0
task mapping 10

```

```

0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0
0.0  0.0  0.0  2.0
0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0
task stealth 10  7 30.0  24.00  28.00  0.00  20.00  #F18A
task stealth 10  8 30.0  24.00  28.00  15.00  20.00  #F18S
task stealth 10  9 25.0  25.00  25.00  0.00  20.00  #MH53
task stealth 10 10 15.0  15.00  15.00  0.00  7.00  #HH60
task stealth 10 11 40.0  24.00  38.00  0.00  20.00  #UAV
#
# task 11: air contacts (commair)
task general 11  A  NU 1.25  0.1  0  smiley.icon
cluster member 11 5
task name 11 commercial_air
task mean 11  75.0  5.0  0.00
task attack  11  0  1 1 1 1 1 1 1 0
task mapping 11
0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0
#
# task 12: sea contacts (merchant)
task general 12  S  NU 0.09  0.1  0  smiley.icon
cluster member 12 2
task name 12 merchant_ship
task mean 12  75.0  5.0  0.00
task attack  12  0  1 1 1 1 1 1 1 0
task mapping 12
0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0

```

```

0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
#
# task 13: missile - spawned by a CD launcher
# may wish to make this TF=2 and type =S
# combine with class 16?
task general 13  A  CDM  1.00  0.1  3  missile.icon
cluster member 13 8
task name 13 CD_missile
task mean  13    5.0  5.0  1.00
task attack 13  0    1 1 1 1 1 1 1 0
task mapping 13
0.0  0.0  0.0    1.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
task stealth 13   6 250.  0.  0.  0.0  0.0
task stealth 13   7 20.   0. 10. 36.0 0.0
task stealth 13   8 20.   0. 10.  0.0 0.0
task stealth 13   9 15.   0.  8.  0.0 0.0
task stealth 13  10 15.   0.  8.  0.0 0.0
task stealth 13  11 10.   0.  5.  0.0 0.0
#
# task 14: SCUD missile - fired by a SCUD launcher
task general 14  A  MIS  1.67  0.1  1  silkworm.icon
cluster member 14 9
task name 14 SCUD_missile
task mean  14   10.0  5.0  1.00
task attack 14  0    1 1 1 1 1 1 1 0
task mapping 14
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    1.0
0.0  0.0  0.0    0.0

```

```

0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
#
# task 15: sea contacts ("drifting" mines)
task general 15  S  MIN  .03  0.1  2  mines.icon
cluster member 15 10
task name 15 mine_field
task mean 15  10.0  10.0  1.00
task attack 15  0  1 1 1 1 1 1 1 0
task mapping 15
0.0  0.0  0.0    0.0
0.0  0.0  0.0    2.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
task stealth 15  6    0.0  0.0  0.0  0.0  0.0
task stealth 15  7    0.0  0.0  0.0  0.0  0.0
task stealth 15  8    0.0  0.0  0.0  0.0  0.0
task stealth 15  9    13.0  0.0  0.0  10.0  0.0  #MH53
task stealth 15 10    2.0  0.0  0.0  0.0  0.0
task stealth 15 11    0.0  0.0  0.0  0.0  0.0
task stealth 15 17   20.0 12.0 18.0  0.0 13.0  #FGTR
#
# task 16: Exocet missile - fired by Destroyer
# may wish to make this TF=2 and type =S
task general 16  A  XOC  1.3  0.1  3  missile.icon
cluster member 16 11
task name 16 Exocet
task mean 16   5.0  5.0  1.00
task attack 16  0  1 1 1 1 1 1 1 0
task mapping 16
0.0  0.0  0.0    1.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0

```

```

0.0 0.0 0.0 0.0
task stealth 16 6 250. 0. 0. 0.0 0.0
task stealth 16 7 20. 0. 10. 36.0 0.0
task stealth 16 8 20. 0. 10. 0.0 0.0
task stealth 16 9 15. 0. 8. 0.0 0.0
task stealth 16 10 15. 0. 8. 0.0 0.0
task stealth 16 11 10. 0. 5. 0.0 0.0
#
# task 17: Possible hostile air (yes)
task general 17 A PH 1.75 0.1 3 air.icon
cluster member 17 5
task name 17 possible_hostile
task mean 17 10.0 5.0 1.00
task attack 17 0 1 1 1 1 1 1 1 0
task mapping 17
0.0 0.0 0.0 1.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
# these go after big ships -- not aircraft
task stealth 17 6 250. 0. 0. 0.0 0.0
#task stealth 17 7 80. 20. 40. 36.0 3.0
task stealth 17 8 80. 20. 40. 0.0 3.0
task stealth 17 9 60. 0. 30. 0.0 3.0
task stealth 17 10 60. 0. 30. 0.0 3.0
task stealth 17 11 20. 10. 15. 0.0 3.0
#
# task 18: Possible hostile air (no)
task general 18 A PH 1.75 0.1 0 air.icon
cluster member 18 5
task name 18 possible_hostile
task mean 18 75.0 5.0 0.00
task attack 18 0 1 1 1 1 1 1 1 0
task mapping 18
0.0 0.0 0.0 1.0
0.0 0.0 0.0 0.0

```

```

0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
#
# task 19: Possible hostile ship (yes)
task general 19  S  PH  .20  0.1  2  ship.icon
cluster member 19 2
task name 19 possible_hostile
task mean 19   10.0  5.0  1.00
task attack 19  0  1 1 1 1 1 1 1 0
task mapping 19
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    1.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
#
# task 20: Possible hostile ship (no)
task general 20  S  PH  .20  0.1  0  ship.icon
cluster member 20 2
task name 20 possible_hostile
task mean 20   75.0  5.0  0.00
task attack 20  0  1 1 1 1 1 1 1 0
task mapping 20
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    1.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
#
# task 21: MOBILE SAM sites- protected
task general 21  G  SA3  0.06  0.1  3  sam.icon
cluster member 21 21

```

```

task name 21 mobile_SAM
task mean 21 5.0 20.0 1.00
task attack 21 0 1 1 1 1 1 1 0
task mapping 21
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 2.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
task stealth 21 7 30.0 24.00 25.00 0.00 10.00 #F18A
task stealth 21 8 30.0 24.00 26.00 15.00 10.00 #F18S
task stealth 21 9 25.0 25.00 25.00 0.00 12.00 #MH53
task stealth 21 10 15.0 15.00 15.00 0.00 5.00 #HH60
task stealth 21 11 30.0 25.00 25.00 0.00 12.00 #UAV
task stealth 21 14 0.0 0.0 0.0 0.0 0.0 #can't hit with TLAM
task stealth 21 15 0.0 0.0 0.0 0.0 0.0 #can't hit with TTOM
#
# task 22: intel on possible launch
task general 22 G EW 0.0 0.1 0 task.G.icon
cluster member 22 12
task name 22 possible_launch
task mean 22 0.0 2.0 0.00
task attack 22 0 0 0 0 0 0 0 0
task mapping 22
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
task stealth 22 19 600.0 0.0 0.0 0.0 0.0
#
# task 23: rescue effort at sea (may wish to make TF=9)
task general 23 S S&R 0.0 0.1 5 cross.icon
cluster member 23 13
task name 23 rescue_effort

```

```

task mean 23    10.0  10.0  0.00
task attack  23  0  1  1  1  1  1  1  1  0
task mapping 23
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    2.0
0.0  0.0  0.0    0.0
task stealth 23  10    30.0  15.0  25.0  10.0  0.0
task stealth 23  19   700.0  700.0  700.0   0.0  0.0
#
# task 24: air recon
task general 24  A  REC  1.5  0.1  1  air.icon
cluster member 24 5
task name 24 recon_air
task mean 24   2.0  5.0  1.00
task attack  24  0  1  1  1  1  1  1  1  0
task mapping 24
0.0  0.0  0.0    1.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
#
# task 25: enemy ground unit
task general 25  G  RGF  0.0  0.1  2  tank.icon
cluster member 25 14
task name 25 Enemy_ground_force
task mean 25   5.0  30.0  1.00
task attack  25  0  1  1  1  1  1  1  1  0
task mapping 25
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0

```

```

0.0 0.0 0.0 3.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
task stealth 25 6 5.0 0.0 0.0 0.0 0.0
task stealth 25 7 3.0 0.0 2.50 0.0 2.0
task stealth 25 8 3.0 0.0 2.50 10.0 2.0
task stealth 25 9 3.0 0.0 2.50 0.0 2.0
task stealth 25 10 3.0 0.0 2.50 0.0 2.0
task stealth 25 11 20.0 0.0 15.0 0.0 2.0 #UAV can see them
task stealth 25 18 25.0 22.0 20.0 8.0 15.0 #danger for SOF
#
# task 26: ground (SCUD missile SECOND launcher)
# made a TF = 5 to indicate time critical value
task general 26 G SML 0.06 0.1 5 silkworm.icon
cluster member 26 15
task name 26 SCUD_launcher
task mean 26 2.0 10.0 1.00
task attack 26 0 1 1 1 1 1 1 1 0
task mapping 26
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 1.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
#
# task 27: "nothing there" sea report confuse with S&R -- if needed
task general 27 S S&R 0.0 0.1 0 cross.icon
cluster member 27 13
task name 27 rescue_effort
task mean 27 0.0 2.0 0.00
task attack 27 0 0 0 0 0 0 0 0 0
task mapping 27
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0

```

```

0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
task stealth 27 10 30.0 15.0 25.0 10.0 0.0
task stealth 27 19 700.0 0.0 0.0 0.0 0.0
#
# task 28: a major bridge
task general 28 G BR 0.0 0.1 9 bridge.icon
cluster member 28 16
task name 28 major_bridge
task mean 28 30.0 30.0 1.0
task attack 28 0 1 1 1 1 1 1 1 0
task mapping 28
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 2.0
task stealth 28 19 600.0 600.0 600.0 0.0 0.0
#
# task 29: final seaport
task general 29 G PRT 0.0 0.1 9 norfolk.icon
cluster member 29 0
task name 29 capture_port
task mean 29 50.0 40.0 1.0
task attack 29 0 1 1 1 1 1 1 1 0
task mapping 29
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 2.0
task stealth 29 17 20.0 15.0 18.0 12.0 0.0 #so FGTR can attack
task stealth 29 19 600.0 600.0 600.0 0.0 0.0
#
# task 30: a complex AIR task

```

```

task general 30 A TSK 0.0 0.1 5 crusty.icon
cluster member 30 17
task name 30 complex_task
task mean 30 40.0 30.0 1.0
task attack 30 0 1 1 1 1 1 1 1 0
task mapping 30
0.0 0.0 0.0 3.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
task stealth 30 19 600.0 600.0 600.0 0.0 0.0
#
# task 31: a complex SEA task-1
task general 31 S TSK 0.0 0.1 5 crusty.icon
cluster member 31 18
task name 31 complex_task
task mean 31 40.0 30.0 1.0
task attack 31 0 1 1 1 1 1 1 1 0
task mapping 31
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 3.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
task stealth 31 16 0.0 0.0 0.0 0.0 0.0 # can't use HARP
task stealth 31 19 600.0 600.0 600.0 0.0 0.0
#
# task 32: a complex SEA task-2
task general 32 S TSK 0.0 0.1 9 take.icon
cluster member 32 18
task name 32 complex_task
task mean 32 40.0 30.0 1.0
task attack 32 0 1 1 1 1 1 1 1 0
task mapping 32

```

```

0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 1.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
task stealth 32 19 600.0 600.0 600.0 0.0 0.0
#
# task 33: a UT GROUND task
task general 33 G EVA 0.0 0.1 5 cross.icon
cluster member 33 19
task name 33 evacuate wounded
task mean 33 20.0 30.0 0.0
task attack 33 0 1 1 1 1 1 1 1 0
task mapping 33
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 3.0
0.0 0.0 0.0 0.0
task stealth 33 10 15.0 6.0 8.0 10.0 0.0
task stealth 33 19 700.0 700.0 700.0 0.0 0.0
#
# task 34: a UT SEA task-1
task general 34 S GUN 0.20 0.1 1 ship.icon
cluster member 34 2
task name 34 gun_runner
task mean 34 10.0 20.0 1.0
task attack 34 0 1 1 1 1 1 1 1 0
task mapping 34
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 2.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0

```

```

0.0 0.0 0.0 0.0
#task stealth 34 19 600.0 600.0 600.0 0.0 0.0
#
# task 35: a UT SEA task-2
task general 35 S UT 0.0 0.1 9 take.icon
cluster member 35 20
task name 35 unanticipated_task
task mean 35 50.0 60.0 1.0
task attack 35 0 1 1 1 1 1 1 1 0
task mapping 35
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 1.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
task stealth 35 19 600.0 600.0 600.0 0.0 0.0
#
# task 36: a UT SEA task-3
task general 36 S UT 0.0 0.1 9 take.icon
cluster member 36 20
task name 36 unanticiapted_task
task mean 36 50.0 60.0 1.0
task attack 36 0 1 1 1 1 1 1 1 0
task mapping 36
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 1.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
task stealth 36 19 600.0 600.0 600.0 0.0 0.0
#
# task 37: Enemy air defenders
task general 37 A CAP 2.0 0.1 2 air.icon
cluster member 37 5
task name 37 enemy_CAP

```

```

task mean 37 10.0 20.0 1.00
task attack 37 0 1 1 1 1 1 1 1 0
task mapping 37
0.0 0.0 0.0 3.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
task stealth 37 7 50.0 20.00 40.00 36.00 20.00
task stealth 37 8 50.0 20.00 40.00 0.00 27.00
#
# task 38: Hostile air (yes) of a different nature
task general 38 A PH 1.75 0.1 3 air.icon
cluster member 38 5
task name 38 possible_hostile
task mean 38 5.0 5.0 1.00
task attack 38 0 1 1 1 1 1 1 1 0
task mapping 38
0.0 0.0 0.0 2.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
# these go after big ships -- not aircraft
task stealth 38 6 250. 0. 0. 0.0 0.0
#task stealth 38 7 80. 20. 40. 36.0 3.0
task stealth 38 8 80. 20. 40. 0.0 3.0
task stealth 38 9 60. 0. 30. 0.0 3.0
task stealth 38 10 60. 0. 30. 0.0 3.0
task stealth 38 11 20. 10. 15. 0.0 3.0
#
# task 39: Hostile ship (yes) of a different nature
task general 39 S PH .20 0.1 2 ship.icon
cluster member 39 2
task name 39 possible_hostile

```

```

task mean 39 5.0 2.0 1.00
task attack 39 0 1 1 1 1 1 1 1 0
task mapping 39
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 2.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
#
# task 40: SAM clusters
task general 40 G SA6 0.06 0.1 3 sam.icon
cluster member 40 7
task name 40 SAM_cluster
task mean 40 5.0 20.0 1.00
task attack 40 0 1 1 1 1 1 1 1 0
task mapping 40
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 2.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
#aircraft cannot get within 38 miles
task stealth 40 7 55.0 25.00 55.00 0.00 38.00 #F18A
task stealth 40 8 55.0 25.00 55.00 15.00 38.00 #F18S
task stealth 40 9 55.0 25.00 55.00 0.00 38.00 #MH53
task stealth 40 10 25.0 25.00 25.00 0.00 9.00 #HH60
task stealth 40 11 55.0 25.00 55.00 0.00 38.00 #UAV
#
# -----
# TASK HELP INFORMATION
#
task help 0 3
Capturing NBE will require 2 SOF teams. Note
the prerequisites required before completing
this task.

```


task help 1 3
Destroying this naval base (NBW) will require
a coordinated attack using 6 STRK units. The
time window is 40 seconds.

task help 2 2
In order to neutralize the enemy CMD CTR it will
require 2 SOF teams.

task help 3 3
This is an enemy destroyer capable of launching
surface to surface missiles and laying mines.
2 Anti-Surface units are required to destroy this platform.

task help 4 2
This is an enemy fast patrol boat. 1 Anti-Surface
unit is required to destroy this platform.

task help 5 3
This is an enemy Coastal Defense Launcher capable of launching cruise
missiles at surface targets. 1 STRK unit is required to
destroy this target.

task help 6 3
This is a Scud Missile Launcher. 1 STRK unit is required
to destroy this target. Be careful, some are protected by
Surface to Air Missile Launchers.

task help 7 2
This is an enemy fighter aircraft. 1 Anti-Air unit is required
to destroy this platform.

task help 8 4
Capturing this Air Base (ABE) will require 2 SOF teams.
Beware of enemy ground forces when using the SOF teams.
Note any prerequisites required to be completed before
beginning this task.

#

task help 9 3

Destroying this Air Base (ABW) will require a coordinated attack using 6 STRK units. Note any prerequisites required to be completed before beginning this task.

#

task help 10 3

This is an enemy surface to air missile site. Usually guarding such places as Air Bases and Scud Missile Launcher sites. 2 STRK units are required to destroy this target.

#

task help 11 2

This is neutral commercial air. There are penalties for firing on neutral platforms.

#

task help 12 2

This is neutral commercial merchant shipping. There are penalties for firing on neutral platforms.

#

task help 13 2

This is an enemy coastal defense missile launched from a coastal defense launcher. 1 Anti-Air unit is required to destroy this target.

#

task help 14 2

This is an enemy Scud Missile most likely targeting one of the neutral countries. 1 Anti-Ballistic Missile is required to destroy this target.

#

task help 15 2

This is an enemy mine field. 2 Anti-Mine units are required to remove and safely detonate these mines.

#

task help 16 2

This is an Exocet missile most likely fired by an enemy Destroyer. 1 Anti-Air unit is required to destroy this target.

#

task help 17 3

This is a possible hostile aircraft. You must get positive ID on this asset in order to determine if it is actually hostile or not. There are penalties for firing on non-hostile units.

#

task help 18 3

This is a possible hostile aircraft. You must get positive ID on this contact in order to determine if it is actually hostile or not. There are penalties for firing on non-hostile units.

#

task help 19 3

This is a possible hostile ship. You must get positive ID on this contact in order to determine if it is actually hostile or not. There are penalties for firing on non-hostile units.

#

task help 20 3

This is a possible hostile ship. You must get positive ID on this contact in order to determine if it is actually hostile or not. There are penalties for firing on non-hostile units.

#

task help 21 4

This is a mobile Surface to Air Missile Site. Since the exact location may have changed since the last intelligence was received, it is required to use Strike Aircraft to destroy this target. 2 STRK units (1 F18-S) are required to destroy this target.

#

task help 22 2

This is an early warning on a possible SCUD launch received from intelligence. Investigate with ISR in order to locate and destroy the Scud Launcher.

#

task help 23 2

This is a Search and Rescue (SAR) effort. 2 SAR units are required to successfully complete this task.

#

task help 24 2

This is enemy reconnaissance aircraft. This contact has shown no aggression towards our forces. If you wish to destroy it use 1 Anti-Air unit.

#

task help 25 2

This is an enemy ground force. 3 STRK units are required to destroy these enemy forces.

#

task help 26 3

This is a SCUD Missile Launcher. 1 STRK unit is required to destroy this target. Be careful, some are protected by Surface to Air Missile Launchers.

#

task help 27 1

This is believed to be a false distress signal.

#

task help 28 3

This is a key bridge which provides a link to one or more of the enemy's bases and fortifications. 2 SOF teams are required to rig small explosives and destroy the bridge.

#

task help 29 4

This is the port where the government official are being held. You must capture this port and free the hostages. 2 SOF teams are required to complete this task. Note any prerequisites required to be completed before beginning this task.

#

task help 30 3

This is an enemy air strip fortified with enemy fighter aircraft. Destroy the air strip patrol to prevent the launch of enemy aircraft. 3 Anti-Air units are required to complete this task.

#

task help 31 3

This is an enemy surface shipping blockade used to prevent free travel of merchant and friendly shipping. Destroy this blockade. 3 units of Anti-Surface are required to complete this task

#

task help 34 3

This ship is trying to run weapons to the Seaport in the occupied country. Destroy it before it reaches the port to resupply enemy forces. 2 Anti-Surface units are required to destroy this platform.

#

task help 37 2

This is an enemy air attack wave whose mission is to defend valuable enemy assets.

2 Anti-Air units are required to destroy this platform.

#

task help 38 3

This is a possible hostile aircraft. You must get positive ID on this contact in order to determine if it is actually hostile or not. There are penalties for firing on non-hostile units.

#

task help 39 3

This is a possible hostile ship. You must get positive ID on this contact in order to determine if it is actually hostile or not. There are penalties for firing on non-hostile units.

#

task help 40 4

This is a surface to air missile site cluster designed to provide 360 degrees

of coverage to a valuable enemy asset. 2 STRK units are required to destroy

this target. Note that the valuable asset being protected by this cluster of

SAM sites will not be visible to your sensors until this cluster is destroyed.

#

task penetration 0 0 0 0

task penetration 1 0 0 0

task penetration 2 0 0 0

task penetration 3 0 0 0

task penetration 4 0 0 0

task penetration 5 0 0 0

task penetration 6 0 0 0

task penetration 7 0 0 0

task penetration 8 0 0 0

task penetration 9 0 0 0

task penetration 10 0 0 0

task penetration 11 0 0 0

task penetration 12 0 0 0

task penetration 13 0 0 0

task penetration 14 1 1 1

task penetration 15 0 0 0


```

#-----
# Major mission tasks (bases, cmd ctr, bridge, ...)
#-----
    task definition  200  02 0 0  #command ctr
#
    task definition  201  28 0 0  #bridge1
#
    task definition  202  28 0 0  #bridge2
#
    task definition  203  01 0 0  #NBW
#
    task definition  204  28 0 0
#
    task definition  205  15 0 0  #mines
#
    task definition  206  15 0 0  #mines @ NBE
#
    task definition  212  29 0 0  #Tunis (final objective)
#
    task definition  213  31 0 0
#
    task definition  211  00 0 0  #NBE
#
    task definition  207  21 0 0  #SA3
#
    task definition  208  21 0 0  #SA3
#
    task definition  209  09 0 0  #ABW
#
    task definition  210  08 0 0  #ABE
#
    task definition  214  29 0 0
#
    task definition  215  29 0 0
#-----
# Fast Patrol Craft (N=16)
#-----
    task definition  216  04 0 0
#

```

```

    task definition  217  04 0 0
#
    task definition  218  04 0 0
#
    task definition  219  04 0 0
#
    task definition  220  04 0 0
#
    task definition  221  04 0 0
#
    task definition  222  04 0 0
#
    task definition  223  04 0 0
#
    task definition  224  04 0 0
#
    task definition  225  04 0 0
#
    task definition  226  04 0 0
#
    task definition  227  04 0 0
#
    task definition  228  04 0 0
#
    task definition  229  04 0 0
#
    task definition  230  04 0 0
#
    task definition  231  04 0 0
#-----
# Coastal Defense missile launchers (N=22)
#-----
    task definition  232  5 0 0
#
    task definition  233  5 0 0
#
    task definition  234  5 0 0
#
    task definition  235  5 0 0

```

```

#
    task definition  236  5 0 0
#
    task definition  237  5 0 0
#
    task definition  238  5 0 0
#
    task definition  239  5 0 0
#
    task definition  240  5 0 0
#
    task definition  241  5 0 0
#
    task definition  242  5 0 0
#
    task definition  243  5 0 0
#
    task definition  244  5 0 0
#
    task definition  245  5 0 0
#
    task definition  246  5 0 0
#
    task definition  247  5 0 0
#
    task definition  248  5 0 0
#
    task definition  249  5 0 0
#
    task definition  250  5 0 0
#
    task definition  251  5 0 0
#
    task definition  252  5 0 0
#
    task definition  253  5 0 0
#-----
# Red Ground forces (N=4)
#-----

```

```

    task definition  254  25 0 0
#
    task definition  255  25 0 0
#
    task definition  256  25 0 0
#
    task definition  257  25 0 0
#-----
# Complex Air Tasks (N=2)
#-----
    task definition  258  30 0 0
#
    task definition  259  30 0 0
#-----
# Complex Sea Tasks (N=2)
#-----
    task definition  260  31 0 0
#
    task definition  261  31 0 0
#-----
# SCUD missile launchers (N=28, most in pairs)
#-----
    task definition  262  6 0 0
#
    task definition  263  26 0 0 #S262
#
    task definition  264  6 0 0
#
    task definition  265  26 0 0 #S264
#
    task definition  266  6 0 0
#
    task definition  267  26 0 0 #S266
#
    task definition  268  6 0 0
#
    task definition  269  26 0 0 #S268
#
    task definition  270  6 0 0

```

```

#
    task definition  271  26 0 0 #S270
#
    task definition  272  6 0 0
#
    task definition  273  26 0 0 #S272
#
    task definition  274  6 0 0
#
    task definition  275  26 0 0 #S274
#
    task definition  276  6 0 0
#
    task definition  277  26 0 0 #S276
#
    task definition  278  6 0 0
#
    task definition  279  26 0 0 #S278
#
    task definition  280  6 0 0
#
    task definition  281  26 0 0 #S280
#
    task definition  282  6 0 0
#
    task definition  283  26 0 0 #S282
#
    task definition  284  6 0 0
#
    task definition  285  26 0 0 #S284
#
    task definition  286  6 0 0
#
    task definition  287  26 0 0 #S286
#
    task definition  288  6 0 0 #S if attack 254
#
    task definition  289  6 0 0 #S if attack 255
#-----

```

```

# SCUD missiles (N=28 maximum)
#-----
task definition 290 14 0 0 #S262
#
task definition 291 14 0 0 #S263
#
task definition 292 14 0 0 #S264
#
task definition 293 14 0 0 #S265
#
task definition 294 14 0 0 #S266
#
task definition 295 14 0 0 #S267
#
task definition 296 14 0 0 #S268
#
task definition 297 14 0 0 #S269
#
task definition 298 14 0 0 #S270
#
task definition 299 14 0 0 #S271
#
task definition 300 14 0 0 #S272
#
task definition 301 14 0 0 #S273
#
task definition 302 14 0 0 #S274
#
task definition 303 14 0 0 #S275
#
task definition 304 14 0 0 #S276
#
task definition 305 14 0 0 #S277
#
task definition 306 14 0 0 #S278
#
task definition 307 14 0 0 #S279
#
task definition 308 14 0 0 #S280

```

```

#
    task definition  309  14 0 0 #S281
#
    task definition  310  14 0 0 #S282
#
    task definition  311  14 0 0 #S283
#
    task definition  312  14 0 0 #S284
#
    task definition  313  14 0 0 #S285
#
    task definition  314  14 0 0 #S286
#
    task definition  315  14 0 0 #S287
#
    task definition  316  14 0 0 #S288
#
    task definition  317  14 0 0 #S289
#-----
# CD (Exocet-like) missiles (N=22)
#-----
    task definition  318  13 0 0 #S232
#
    task definition  319  13 0 0 #S233
#
    task definition  320  13 0 0 #S234
#
    task definition  321  13 0 0 #S235
#
    task definition  322  13 0 0 #S236
#
    task definition  323  13 0 0 #S237
#
    task definition  324  13 0 0 #S238
#
    task definition  325  13 0 0 #S239
#
    task definition  326  13 0 0 #S240
#

```

```

task definition 327 13 0 0 #S241
#
task definition 328 13 0 0 #S242
#
task definition 329 13 0 0 #S243
#
task definition 330 13 0 0 #S244
#
task definition 331 13 0 0 #S245
#
task definition 332 13 0 0 #S246
#
task definition 333 13 0 0 #S247
#
task definition 334 13 0 0 #S248
#
task definition 335 13 0 0 #S249
#
task definition 336 13 0 0 #S250
#
task definition 337 13 0 0 #S251
#
task definition 338 13 0 0 #S252
#
task definition 339 13 0 0 #S253
#-----
# merchant ships (N=7)
#-----
task definition 340 12 0 0
#
task definition 341 12 0 0
#
task definition 342 12 0 0
#
task definition 343 12 0 0
#
task definition 344 12 0 0
#
task definition 345 12 0 0

```

```

#
    task definition  346  12 0 0
#-----
# possible hostile ships (N=8: 4 and 4)
#-----
    task definition  347  19 0 0
#
    task definition  348  19 0 0
#
    task definition  349  19 0 0
#
    task definition  350  19 0 0
#
    task definition  351  20 0 0
#
    task definition  352  20 0 0
#
    task definition  353  20 0 0
#
    task definition  354  20 0 0
#-----
# SAM sites (N=16)
#-----
    task definition  355  40 0 0  #super SAM
#
    task definition  356  10 0 0
#
    task definition  357  10 0 0
#
    task definition  358  10 0 0
#
    task definition  359  10 0 0
#
    task definition  360  10 0 0
#
    task definition  361  10 0 0
#
    task definition  362  10 0 0
#

```

```

task definition 363 10 0 0
#
task definition 364 10 0 0
#
task definition 365 10 0 0
#
task definition 366 10 0 0
#
task definition 367 40 0 0 #super SAM
#
task definition 368 10 0 0
#
task definition 369 10 0 0
#
task definition 370 10 0 0
#-----
# mine fields (N=12)
#-----
task definition 371 15 0 0
#
task definition 372 15 0 0
#
task definition 373 15 0 0
#
task definition 374 15 0 0
#
task definition 375 15 0 0
#
task definition 376 15 0 0
#
task definition 377 15 0 0
#
task definition 378 15 0 0
#
task definition 379 15 0 0
#
task definition 380 15 0 0
#
task definition 381 15 0 0

```

```

#
    task definition 382 15 0 0
#-----
# DDG-firing exocet missiles (N=12) -- reqs 1 hit now
#-----
    task definition 383 3 0 0
# task repeat 383 1
#
    task definition 384 3 0 0
#
    task definition 385 3 0 0
# task repeat 385 1
#
    task definition 386 3 0 0
#
    task definition 387 3 0 0
# task repeat 387 1
#
    task definition 388 3 0 0
#
    task definition 389 3 0 0
# task repeat 390 1
#
    task definition 390 3 0 0
#
    task definition 391 3 0 0
# task repeat 391 1
#
    task definition 392 3 0 0
#
    task definition 393 3 0 0
#
    task definition 394 3 0 0
#-----
# search and rescue at sea (N=10)
#-----
    task definition 395 23 0 0
#
    task definition 396 23 0 0

```

```

#
    task definition  397  23 0 0
#
    task definition  398  23 0 0
#
    task definition  399  23 0 0
#
    task definition  400  23 0 0
#
    task definition  401  23 0 0
#
    task definition  402  23 0 0
#
    task definition  403  23 0 0
#
    task definition  404  23 0 0
#-----
# red a/c attackers (N=18) - reqs 1 hit
#-----
    task definition  405  7 0 0
#task repeat 405 1
#
    task definition  406  7 0 0
#task repeat 406 1
#
    task definition  407  7 0 0
#task repeat 407 1
#
    task definition  408  7 0 0
#task repeat 408 1
#
    task definition  409  7 0 0
#task repeat 409 1
#
    task definition  410  7 0 0
#task repeat 410 1
#
    task definition  411  7 0 0
#task repeat 411 1

```

```

#
    task definition  412  7 0 0
#task repeat 412 1
#
    task definition  413  7 0 0
#task repeat 413 1
#
    task definition  414  7 0 0
#task repeat 414 1
#
    task definition  415  7 0 0
#task repeat 415 1
#
    task definition  416  7 0 0
#task repeat 416 1
#
    task definition  417  7 0 0
#task repeat 417 1
#
    task definition  418  7 0 0
#task repeat 418 1
#
    task definition  419  7 0 0
#task repeat 419 1
#
    task definition  420  7 0 0
#task repeat 420 1
#
    task definition  421  7 0 0
#task repeat 421 1
#
    task definition  422  7 0 0
#task repeat 422 1
#-----
# commercial air (N=8)
#-----
    task definition  423  11 0 0
#
    task definition  424  11 0 0

```

```

#
    task definition  425  11 0 0
#
    task definition  426  11 0 0
#
    task definition  427  11 0 0
#
    task definition  428  11 0 0
#
    task definition  429  11 0 0
#
    task definition  430  11 0 0
#-----
# possible hostile aircraft (N=8: 3 and 5)
#-----
    task definition  431  17 0 0
#
    task definition  432  17 0 0
#
    task definition  433  17 0 0
#
    task definition  434  18 0 0
#
    task definition  435  18 0 0
#
    task definition  436  18 0 0
#
    task definition  437  18 0 0
#
    task definition  438  18 0 0
#-----
# reconnaissance air (N=4)
#-----
    task definition  439  24 0 0
#
    task definition  440  24 0 0
#
    task definition  441  24 0 0
#

```

```

task definition 442 24 0 0
#-----
# air defenders (N=2)
#-----
task definition 443 37 0 0
#
task definition 444 37 0 0
#-----
# other S&R/mayday reports (N=4)
#-----
task definition 445 33 0 0 #ground SAR
#
task definition 446 27 0 0
#
task definition 447 27 0 0
#
task definition 448 27 0 0
#-----
# Gunrunning patrol boats (N=2)
#-----
task definition 449 34 0 0
#
task definition 450 34 0 0
#-----
# Exocet missiles (N=10)
#-----
task definition 451 16 0 0
#
task definition 452 16 0 0
#
task definition 453 16 0 0
#
task definition 454 16 0 0
#
task definition 455 16 0 0
#
task definition 456 16 0 0
#
task definition 457 16 0 0

```

```

#
    task definition  458  16 0 0
#
    task definition  459  16 0 0
#
    task definition  460  16 0 0
#-----
# SCUD early warnings (N=11)
#-----
    task definition  461  22 0 0
#
    task definition  462  22 0 0
#
    task definition  463  22 0 0
#
    task definition  464  22 0 0
#
    task definition  465  22 0 0
#
    task definition  466  22 0 0
#
    task definition  467  22 0 0
#
    task definition  468  22 0 0
#
    task definition  469  22 0 0
#
    task definition  470  22 0 0
#
    task definition  471  22 0 0
#-----
# mobile SAM sites  (N=1)
#-----
    task definition  472  21 0 0
#-----
# Enemy Aircraft (N=2)
#-----
    task definition  473   7 0 0
#

```

```

    task definition 474 7 0 0
#-----
# task prerequisites id num pr(1) pr(2) ... pr(num)
# id: integer number from 200 to 399, giving an unique id to the
task.
# num: integer number of prerequisite tasks that this task has
# pr(i): the task number of a prerequisite for this class
# Note: prerequisites must have lower task number [i.e. pr(i) <
id ]
# default=task has no prerequisites (num=0)
#-----

    task prerequisites 203 1 200 #NBW <= CMD
    task prerequisites 209 4 203 201 207 208 #ABW <= NBW, Bridge, SA3,
SA3
    task prerequisites 210 1 209 #ABE <= ABW
    task prerequisites 211 2 210 206 #NBE <= ABE, mines
    task prerequisites 212 3 211 205 209 #port <= mines, NBE, ABW
#
#-----
#
# task spawn id num type sid(1) ... sid(5)
# sid(6) ... sid(10)
# ... ...
# sid(num-4) ... sid(num)
# id: integer id of 'spawner' task for which new tasks will be
spawned.
# num: integer number of tasks to be spawned.
# type: character A or D denoting a task Attack or task Disappear
event.
# sid(i): integer ids of 'spawned' tasks.
# NOTE:i) 0 < num < n, where n is specified via 'number_of' statement.
# ii) a task can be both spawned and a spawner (ie, recursive),
# however, a task cannot be spawned by more than one spawner.
# iii) to prevent spawning cycles, ie, X spawns Y spawns X, we
# require id < sid(i), i = 1..num.
# iv) at most 5 spawned task ids specified per line, and, for
# num > 5, only last line can have <= 5 task ids specified.
#
#-----
# timing events
#-----

```

```

# Destroyers that fire XOCs, next location
task spawn 383 2 D 451 384
task spawn 384 2 D 452 393
task spawn 385 2 D 453 386
task spawn 386 1 D 454
task spawn 387 2 D 455 388
task spawn 388 1 D 456
task spawn 389 2 D 457 390
#task spawn 390 1 D 458
task spawn 391 2 D 459 392
task spawn 392 2 D 460 394
# Coastal defense missile launches
task spawn 232 1 D 318
task spawn 233 1 D 319
task spawn 234 1 D 320
task spawn 235 1 D 321
task spawn 236 1 D 322
task spawn 237 1 D 323
task spawn 238 1 D 324
task spawn 239 1 D 325
task spawn 240 1 D 326
task spawn 241 1 D 327
task spawn 242 1 D 328
task spawn 243 1 D 329
task spawn 244 1 D 330
task spawn 245 1 D 331
task spawn 246 1 D 332
task spawn 247 1 D 333
task spawn 248 1 D 334
task spawn 249 1 D 335
task spawn 250 1 D 336
task spawn 251 1 D 337
task spawn 252 1 D 338
task spawn 253 1 D 339
# SCUD missile launches (1st missile @+1; second setup @+60)
task spawn 262 2 D 263 290
task spawn 263 1 D 291
task spawn 264 2 D 265 292
task spawn 265 1 D 293

```

```

task spawn 266 2 D 267 294
task spawn 267 1 D 295
task spawn 268 2 D 269 296
task spawn 269 1 D 297
task spawn 270 2 D 271 298
task spawn 271 1 D 299
task spawn 272 2 D 273 300
task spawn 273 1 D 301
task spawn 274 2 D 275 302
task spawn 275 1 D 303
task spawn 276 2 D 277 304
task spawn 277 1 D 305
task spawn 278 2 D 279 306
task spawn 279 1 D 307
task spawn 280 2 D 281 308
task spawn 281 1 D 309
task spawn 282 2 D 283 310
task spawn 283 1 D 311
task spawn 284 2 D 285 312 # mobile
task spawn 285 1 D 313
task spawn 286 2 D 287 314 # mobile
task spawn 287 1 D 315
# -----
task spawn 210 1 A 445 #SAR at ABE
task spawn 201 1 A 446 #SAR at Bridge 1
task spawn 258 3 D 415 473 474 #attack wave for hidden airbase
# -----
game end 212 60.0 # capturing PORT ends game
#<<<<<<<<< Maneuver Information: N6rn2 >>>>>>>>
#
# maneuver definition id time
# flag(1) x(1) y(1) v(1)
# flag(2) x(2) y(2) v(2)
# ... ..
# flag(m) x(m) y(m) v(m)
# id: integer number uniquely specifying this task.
# time: floating number specifying the task arrival time.
# If this number is omitted, a randomly generated
# arrival time will be assigned to the task.

```

```

# flag(i): one character to indicate the type of the maneuver.
# =m      ordinary maneuver
# =s      maneuver of staying at a point
# =e      ending maneuver
# v(i):   relative velocity ( $0 < v_i \leq 1$ ).
# if      flagi=s, then vi is the task's staying time
#         rather than its velocity.
# x(i),y(i): coordinates, in  $[-0.5, 1.5] \times \text{simu\_scale}$ .
# default straight line maneuvers automatically generated,
#         starting at (simulation scale)/2 and ending
#         in the center of the screen.
#
#-----
# Tasks 200-213 (mission task graph & prerequisites)
#-----
maneuver definition    200  1.00  #command center
s  125.0  330.0  3600.
e  125.0  330.0  0.0
#
maneuver definition    211  1.00  # Naval Base East
s  200.0  200.0  3600.
e  200.0  200.0  0.0
#
maneuver definition    203  1.00  # Naval Base West
s  100.0  200.0  3600.
e  100.0  200.0  0.0
#
maneuver definition    210  1.00  # Air Base East
s   150.0  300.0  3600.
e   150.0  300.0  0.0
#
maneuver definition    209  1.00  # AirBase West
s   50.0  300.0  3600.
e   50.0  300.0  0.0
#
maneuver definition    201  1.00  #bridge1
s   80.0  245.0  3600.
e   80.0  245.0  0.0
#

```

```

maneuver definition 202 1.00 #bridge2
s 140.0 240.0 3600.
e 140.0 240.0 0.0
#
maneuver definition 206 1.00 #mines @ NBE
s 200.0 190.0 3600.
e 200.0 190.0 0.0
#
maneuver definition 204 3000.00
s 100.0 360.0 3600.
e 100.0 360.0 0.0
#
maneuver definition 205 100.00 #mines @ Tunis
s 320.0 190.0 3600.
e 320.0 190.0 0.0
#
maneuver definition 207 10.000 #SAM @ ABW
s 40.0 290.0 3000.0
e 40.0 290.0 0.0
#
maneuver definition 208 10.000 #SAM @ABW
s 60.0 290.0 3000.0
e 60.0 290.0 0.0
#
maneuver definition 212 1.00 #Tunis
s 320.0 200.0 3600.
e 320.0 200.0 0.0
#
maneuver definition 213 3000.00
s 100.0 360.0 3600.
e 100.0 360.0 0.0
#
maneuver definition 214 3000.00
s 100.0 360.0 3600.
e 100.0 360.0 0.0
#
maneuver definition 215 3000.00
s 100.0 360.0 3600.
e 100.0 360.0 0.0

```

```

#
#-----
# Tasks 216 -31 (enemy patrol boats)
#####Patrol Boats
#-----
maneuver definition    216  160.000 # attacks CG
s   230.0   190.0   9.0
m   230.0   190.0   0.8
e   280.0   150.0   0.0
#
maneuver definition    217  180.000 # attacks CVN
m   90.0    160.0   1.0
m   60.0    123.0   0.6
m   160.0   123.0   0.8
e   200.0   100.0   0.0
#
maneuver definition    218  180.000 # attacks DDGC
m  325.0    200.0   0.6
m  375.0    175.0   1.0
m  410.0    160.0   1.0
e  370.0    150.0   0.0
#
maneuver definition    219  160.000 # attacks DDGC
m  375.0    50.0   1.0
m  325.0    100.0   1.0
e  370.0    150.0   0.0
#
maneuver definition    220  2100.000 # attacks CG
m  100.0    200.0   0.7 #out of NBE
e  289.0    153.0   0.0
#
maneuver definition    221  160.000 # attacks CVN
m  200.0    200.0   1.0 #out of NBW
e  200.0    100.0   0.0
#
maneuver definition    222  160.000 # attacks DDGA
m  100.0    200.0   1.0 #out of NBE
e  120.0    150.0   0.0
#

```

```

maneuver definition 223 600.000 # attacks FFG
m 425.0 450.0 0.7 #out of Libya
m 440.0 420.0 1.0
e 440.0 380.0 0.0
#
maneuver definition 224 1200.000 # attacks DDGA
m 100.0 200.0 0.7 #out of NBE
m 160.0 150.0 1.0
e 120.0 150.0 0.0
#
maneuver definition 225 1260.000 # attacks CVN
m 320.0 200.0 1.0 #out of Tunis
m 220.0 180.0 1.0
e 200.0 100.0 0.0
#
maneuver definition 226 1800.000 # attacks CVN
m 200.0 200.0 0.8 #out of NBW
m 240.0 120.0 1.0
e 200.0 100.0 0.0
#
maneuver definition 227 600.000 # attacks CG
m 200.0 200.0 0.7 #out of NBW
m 240.0 125.0 1.0
e 280.0 150.0 0.0
#
maneuver definition 228 160.000 # attacks DDGA
m 100.0 200.0 0.7 #out of NBE
m 160.0 150.0 1.0
e 120.0 150.0 0.0
#
maneuver definition 229 200.000 # attacks CG
m 230.0 200.0 0.7 #out of hiding at shore
m 300.0 170.0 1.0
e 280.0 150.0 0.0
#
maneuver definition 230 180.000 # attacks DDGB
m 360.0 195.0 0.7 #out of hiding at shore
m 400.0 195.0 0.6
m 410.0 240.0 1.0

```

```

e 430.0 240.0 0.0
#
maneuver definition 231 160.00 # attacks FFG
m 425.0 450.0 1.0 #out of Libya
e 440.0 380.0 0.0
#
#-----
# Tasks 232-253 (CD/silkworm launchers)
#####Coastal Defense Launchers
#-----
maneuver definition 232 480.00 # target DDGA
s 80.0 205.0 70.0
e 80.0 205.0 0.0
#
maneuver definition 233 1500.00 # target DDGA
s 90.0 205.0 70.0
e 90.0 205.0 0.0
#
maneuver definition 234 5000.00 # target DDGA
s 110.0 205.0 70.0
e 110.0 205.0 0.0
#
maneuver definition 235 5000.00 # target DDGA
s 120.0 205.0 70.0
e 120.0 205.0 0.0
#
maneuver definition 236 600.00 # target CVN
s 180.0 205.0 70.0
e 180.0 205.0 0.0
#
maneuver definition 237 1200.00 # target CVN
s 190.0 205.0 70.0
e 190.0 205.0 0.0
#
maneuver definition 238 5000.00 # target CVN
s 210.0 205.0 70.0
e 210.0 205.0 0.0
#
maneuver definition 239 5000.00 # target CVN

```

```

s 220.0 205.0 70.0
e 220.0 205.0 0.0
#
maneuver definition 240 1000.00 # target CG
s 290.0 205.0 70.0
e 290.0 205.0 0.0
#
maneuver definition 241 1800.00 # target CG
s 270.0 205.0 70.0
e 270.0 205.0 0.0
#
maneuver definition 242 5000.00 # target CG
s 280.0 205.0 70.0
e 280.0 205.0 0.0
#
maneuver definition 243 5000.00 # target CG
s 280.0 200.0 70.0
e 280.0 200.0 0.0
#
maneuver definition 244 150.00 # target DDGB
s 370.0 210.0 70.0
e 370.0 210.0 0.0
#
maneuver definition 245 1200.00 # target DDGB
s 370.0 230.0 70.0
e 370.0 230.0 0.0
#
maneuver definition 246 5000.00 # target DDGB
s 368.0 250.0 70.0
e 368.0 250.0 0.0
#
maneuver definition 247 5000.00 # target DDGB
s 370.0 270.0 70.0
e 370.0 270.0 0.0
#
maneuver definition 248 110.00 # target FFG
s 370.0 350.0 70.0
e 370.0 350.0 0.0
#

```

```

maneuver definition 249 1250.00 # target FFG
s 370.0 370.0 70.0
e 370.0 370.0 0.0
#
maneuver definition 250 5000.00 # target FFG
s 370.0 390.0 70.0
e 370.0 390.0 0.0
#
maneuver definition 251 5000.00 # target FFG
s 370.0 410.0 70.0
e 370.0 410.0 0.0
#
maneuver definition 252 300.00 # target DDGC
s 320.0 200.0 70.0
e 320.0 200.0 0.0
#
maneuver definition 253 1700.00 # target DDGC
s 325.0 200.0 70.0
e 325.0 200.0 0.0
#
#-----
# Tasks 254-257 (Ground force units)
#-----
maneuver definition 254 10.00 # RGF @ bridge1
s 83.0 241.0 3000.0
e 83.0 241.0 0.0
#
maneuver definition 255 10.00 # RGF @ ABE
s 148.0 305.0 3000.0
e 148.0 305.0 0.0
#
maneuver definition 256 10.00 # RGF @ NBE
s 200.0 205.0 3000.0
e 200.0 205.0 0.0
#
maneuver definition 257 10.00 # RGF 4
s 320.0 320.0 3000.0
e 320.0 320.0 0.0
#

```

```

#-----
# Tasks 258-259 (Complex Air)                #####Complex
Air Tasks#####
#-----
maneuver definition    258  1230.00
s  255.0  300.0  600.0
e  255.0  300.0  0.0
#
maneuver definition    259  5000.00
s  250.0  300.0  10.0
e  250.0  300.0  0.0
#
#-----
# Tasks 260-261 (Complex Sea Tasks)           #####Complex
Sea Tasks#####
#-----
maneuver definition    260  1500.00
s  460.0  280.0  550.0
e  460.0  280.0  0.0
#
maneuver definition    261  840.00
s  175.0  125.0  500.0
e  175.0  125.0  0.0
#
#-----
# Tasks 262-89 (SCUD missile launchers)       #####Scud
Launchers
#-----
maneuver definition    262  1720.000 # colocated with super SAM
s  280.0   262.0  113.0
e  280.0   262.0   0.0
#
maneuver definition    263   2.000 # second launch
s  280.0   262.0  175.0
e  280.0   262.0   0.0
#
maneuver definition    264  1520.000 # colocated with Super SAM
s  100.0   262.0  110.0
e  100.0   262.0   0.0
#

```

```

maneuver definition 265 2.000 # second launch
s 100.0 262.0 164.0
e 100.0 262.0 0.0
#
maneuver definition 266 1720.000
s 200.0 260.0 101.0
e 200.0 260.0 0.0
#
maneuver definition 267 2.000 # second launch
s 200.0 260.0 178.0
e 200.0 260.0 0.0
#
maneuver definition 268 1720.000
s 100.0 300.0 116.0
e 100.0 300.0 0.0
#
maneuver definition 269 2.000 # second launch
s 100.0 300.0 170.0
e 100.0 300.0 0.0
#
maneuver definition 270 5000.000
s 200.0 300.0 97.0
e 200.0 300.0 0.0
#
maneuver definition 271 2.000 # second launch
s 200.0 300.0 160.0
e 200.0 300.0 0.0
#
maneuver definition 272 5000.000
s 80.0 360.0 120.0
e 80.0 360.0 0.0
#
maneuver definition 273 2.000 # second launch
s 80.0 360.0 180.0
e 80.0 360.0 0.0
#
maneuver definition 274 5000.000
s 200.0 360.0 116.0
e 200.0 360.0 0.0

```

```

#
maneuver definition 275 2.000 # second launch
s 200.0 360.0 188.0
e 200.0 360.0 0.0
#
maneuver definition 276 5000.000
s 140.0 410.0 127.0
e 140.0 410.0 0.0
#
maneuver definition 277 2.000 # second launch
s 140.0 410.0 180.0
e 140.0 410.0 0.0
#
maneuver definition 278 5000.000
s 200.0 400.0 96.0
e 200.0 400.0 0.0
#
maneuver definition 279 2.000 # second launch
s 200.0 400.0 160.0
e 200.0 400.0 0.0
#
maneuver definition 280 200.000
s 290.0 320.0 112.0
e 290.0 320.0 0.0
#
maneuver definition 281 2.000 # second launch
s 290.0 320.0 160.0
e 290.0 320.0 0.0
#
maneuver definition 282 880.000
s 290.0 380.0 93.0
e 290.0 380.0 0.0
#
maneuver definition 283 2.000 # second launch
s 290.0 380.0 158.0
e 290.0 380.0 0.0
#
maneuver definition 284 5000.000 # mobile launcher
s 290.0 440.0 110.0

```

```

e 290.0 440.0 0.0
#
maneuver definition 285 2.000 # next position of 284 (333s later)
s 290.0 440.0 1.0
m 290.0 440.0 .95
e 340.0 300.0 0.0
#
maneuver definition 286 5000.000 # mobile launcher
s 200.0 240.0 112.0
e 200.0 240.0 0.0
#
maneuver definition 287 2.000 # next position of 286 (333s later)
m 200.0 240.0 0.99
s 200.0 260.0 98.0
e 200.0 260.0 0.0
#
maneuver definition 288 5000.000
s 245.0 300.0 110.0
e 245.0 300.0 0.0
#
maneuver definition 289 5000.000
s 240.0 300.0 110.0
e 240.0 300.0 0.0
#
#-----
# Tasks 290-317 (SCUD missiles spawned by launchers)
#####Scud Missiles
#-----
maneuver definition 290 1.000 # spawned by 262
s 280.0 262.0 3.0
m 280.0 262.0 1.0
e 440.0 180.0 0.0
#
maneuver definition 291 1.000 # spawned by 263
s 280.0 262.0 3.0
m 280.0 262.0 1.0
e 440.0 180.0 0.0
#
maneuver definition 292 1.000 # spawned by 264

```

```

s 100.0 262.0 3.0
m 100.0 262.0 1.0
e 275.0 40.0 0.0
#
maneuver definition 293 1.000 # spawned by 265
s 100.0 262.0 3.0
m 100.0 262.0 1.0
e 275.0 40.0 0.0
#
maneuver definition 294 1.000 # spawned by 266
s 200.0 260.0 3.0
m 200.0 260.0 1.0
e 430.0 160.0 0.0
#
maneuver definition 295 1.000 # spawned by 267
s 200.0 260.0 3.0
m 200.0 260.0 1.0
e 430.0 160.0 0.0
#
maneuver definition 296 1.000 # spawned by 268
s 100.0 300.0 3.0
m 100.0 300.0 1.0
e 280.0 20.0 0.0
#
maneuver definition 297 1.000 # spawned by 269
s 100.0 300.0 3.0
m 100.0 300.0 1.0
e 280.0 20.0 0.0
#
maneuver definition 298 1.000 # spawned by 270
s 200.0 300.0 3.0
m 200.0 300.0 1.0
e 260.0 100.0 0.0
#
maneuver definition 299 1.000 # spawned by 271
s 200.0 300.0 3.0
m 200.0 300.0 1.0
e 420.0 180.0 0.0
#

```

```

maneuver definition 300 1.000 # spawned by 272
s 80.0 360.0 3.0
m 80.0 360.0 1.0
e 300.0 80.0 0.0
#
maneuver definition 301 1.000 # spawned by 273
s 80.0 360.0 3.0
m 80.0 360.0 1.0
e 300.0 80.0 0.0
#
maneuver definition 302 1.000 # spawned by 274
s 200.0 360.0 3.0
m 200.0 360.0 1.0
e 420.0 180.0 0.0
#
maneuver definition 303 1.000 # spawned by 275
s 200.0 360.0 3.0
m 200.0 360.0 1.0
e 420.0 180.0 0.0
#
maneuver definition 304 1.000 # spawned by 276
s 140.0 410.0 3.0
m 140.0 410.0 1.0
e 300.0 80.0 0.0
#
maneuver definition 305 1.000 # spawned by 277
s 140.0 410.0 3.0
m 140.0 410.0 1.0
e 300.0 80.0 0.0
#
maneuver definition 306 1.000 # spawned by 278
s 200.0 400.0 3.0
m 200.0 400.0 1.0
e 420.0 180.0 0.0
#
maneuver definition 307 1.000 # spawned by 279
s 200.0 400.0 3.0
m 200.0 400.0 1.0
e 420.0 180.0 0.0

```

```

#
maneuver definition 308 1.000 # spawned by 280
s 290.0 320.0 3.0
m 290.0 320.0 1.0
e 430.0 160.0 0.0
#
maneuver definition 309 1.000 # spawned by 281
s 290.0 320.0 3.0
m 290.0 320.0 1.0
e 430.0 160.0 0.0
#
maneuver definition 310 1.000 # spawned by 282
s 290.0 380.0 3.0
m 290.0 380.0 1.0
e 430.0 160.0 0.0
#
maneuver definition 311 1.000 # spawned by 283
s 290.0 380.0 3.0
m 290.0 380.0 1.0
e 430.0 160.0 0.0
#
maneuver definition 312 1.000 # spawned by 284 (mobile)
s 360.0 300.0 3.0
m 360.0 300.0 1.0
e 460.0 200.0 0.0
#
maneuver definition 313 1.000 # spawned by 285 (mobile)
s 340.0 300.0 3.0
m 340.0 300.0 1.0
e 460.0 200.0 0.0
#
maneuver definition 314 1.000 # spawned by 286 (mobile)
s 200.0 240.0 3.0
m 200.0 240.0 1.0
e 300.0 80.0 0.0
#
maneuver definition 315 1.000 # spawned by 287 (mobile)
s 200.0 260.0 3.0
m 200.0 260.0 1.0

```

```

e 300.0    80.0    0.0
#
maneuver definition  316  5000.000 # spawned by 288
s 245.0    300.0    3.0
m 245.0    300.0    1.0
e 320.0    200.0    0.0
#
maneuver definition  317  5000.000 # spawned by 289
s 240.0    300.0    3.0
m 240.0    300.0    1.0
e 320.0    200.0    0.0
#
#-----
# Tasks 318-339 (CD missiles spawned by launchers)
#####CD Missiles
#-----
maneuver definition  318  1.000 # Spawned by 232 target DDGA
m 80.0     205.0    1.0
e 120.0    150.0    0.0
#
maneuver definition  319  1.000 # Spawned by 233 target DDGA
m 90.0     205.0    1.0
e 120.0    150.0    0.0
#
maneuver definition  320  1.000 # Spawned by 234 target DDGA
m 110.0    205.0    1.0
e 120.0    150.0    0.0
#
maneuver definition  321  1.000 # Spawned by 235 target DDGA
m 120.0    205.0    1.0
e 120.0    150.0    0.0
#
maneuver definition  322  1.000 # Spawned by 236 target CVN
m 180.0    205.0    1.0
e 200.0    100.0    0.0
#
maneuver definition  323  1.000 # Spawned by 237 target CVN
m 190.0    205.0    1.0
e 200.0    100.0    0.0

```

```

#
maneuver definition 324 1.000 # Spawned by 238 target CVN
m 210.0 205.0 1.0
e 200.0 100.0 0.0
#
maneuver definition 325 1.000 # Spawned by 239 target CVN
m 220.0 205.0 1.0
e 200.0 100.0 0.0
#
maneuver definition 326 1.000 # Spawned by 240 target CG
m 290.0 205.0 1.0
e 280.0 150.0 0.0
#
maneuver definition 327 1.000 # Spawned by 241 target CG
m 270.0 205.0 1.0
e 280.0 150.0 0.0
#
maneuver definition 328 1.000 # Spawned by 242 target CG
m 280.0 205.0 1.0
e 280.0 150.0 0.0
#
maneuver definition 329 1.000 # Spawned by 243 target CG
m 280.0 200.0 1.0
e 280.0 150.0 0.0
#
maneuver definition 330 1.000 # Spawned by 244 target DDGB
m 370.0 210.0 1.0
e 430.0 240.0 0.0
#
maneuver definition 331 1.000 # Spawned by 245 target DDGB
m 370.0 230.0 1.0
e 430.0 240.0 0.0
#
maneuver definition 332 1.000 # Spawned by 246 target DDGB
m 368.0 250.0 1.0
e 430.0 240.0 0.0
#
maneuver definition 333 1.000 # Spawned by 247 target DDGB
m 370.0 270.0 1.0

```

```

e 430.0 240.0 0.0
#
maneuver definition 334 1.000 # Spawned by 248 target FFG
m 370.0 350.0 1.0
e 440.0 380.0 0.0
#
maneuver definition 335 1.000 # Spawned by 249 target FFG
m 370.0 370.0 1.0
e 440.0 380.0 0.0
#
maneuver definition 336 1.000 # Spawned by 250 target FFG
m 370.0 390.0 1.0
e 440.0 380.0 0.0
#
maneuver definition 337 1.000 # Spawned by 251 target FFG
m 370.0 410.0 1.0
e 440.0 380.0 0.0
#
maneuver definition 338 1.000 # Spawned by 252 target DDGC
m 320.0 200.0 1.0
e 370.0 150.0 0.0
#
maneuver definition 339 1.000 # Spawned by 253 target DDGC
m 325.0 200.0 1.0
e 370.0 150.0 0.0
#
#-----
# Tasks 340-346 (merchant shipping) #####Merchant
Ships
#-----
maneuver definition 340 100.00
s 240.0 100.0 5.0
m 240.0 100.0 0.99
e 240.0 200.0 0.0
#
maneuver definition 341 600.00
s 340.0 100.0 5.0
m 340.0 100.0 0.99
e 340.0 200.0 0.0

```

```

#
maneuver definition 342 1200.00
m 340.0 127.0 0.99
m 375.0 127.0 0.99
e 500.0 50.0 0.0
#
maneuver definition 343 1500.00
m 5.0 127.0 0.99
e 375.0 127.0 0.0
#
maneuver definition 344 1600.00
m 500.0 424.0 0.99
s 424.0 450.0 1.0
m 424.0 450.0 0.99
m 424.0 300.0 0.99
e 375.0 124.0 0.0
#
maneuver definition 345 1700.00
m 500.0 50.0 0.99
m 373.0 122.0 0.99
m 423.0 300.0 0.99
e 425.0 450.0 0.0
#
maneuver definition 346 1500.00
s 426.0 450.0 1.0
m 426.0 450.0 0.99
m 426.0 300.0 0.99
e 375.0 125.0 0.0
#
#-----
# Tasks 347-354 (possible hostile ships)
#####Possible Hostile Ships
#-----
maneuver definition 347 160.00 # hostile to FFG
m 424.0 430.0 0.5
m 424.0 400.0 0.99
e 420.0 380.0 0.0
#
maneuver definition 348 160.00 # hostile to CG

```

```

m 200.0 200.0 0.5
m 270.0 126.0 0.5
m 300.0 126.0 0.99
e 280.0 150.0 0.0
#
maneuver definition 349 200.00 # hostile to DDGA
m 100.0 200.0 0.5
m 90.0 150.0 0.99
e 120.0 150.0 0.0
#
maneuver definition 350 180.00 # hostile to CVN
m 320.0 200.0 0.5
m 220.0 145.0 0.99
e 200.0 100.0 0.0
#
maneuver definition 351 120.00 # not hostile to FFG
m 425.0 440.0 0.99
m 440.0 400.0 0.99
m 475.0 400.0 0.5
e 425.0 440.0 0.0
#
maneuver definition 352 1800.00 # not hostile DDGB
m 428.0 420.0 0.99
m 423.0 300.0 0.99
m 375.0 125.0 0.99
e 500.0 55.0 0.0
#
maneuver definition 353 1500.00 # not hostile DDGB
m 485.0 430.0 0.99
m 440.0 235.0 0.99
e 485.0 430.0 0.0
#
maneuver definition 354 160.00 # not hostile DDGA
m 75.0 75.0 0.99
m 125.0 100.0 0.99
m 175.0 100.0 1.0
e 275.0 130.0 0.0
#
#-----

```

```

# Tasks 355-70 (SAM sites)
Sites #####SAM
#-----
maneuver definition 355 1520.000 #super SAM
s 280.0 260.0 3000.0
e 280.0 260.0 0.0
#
maneuver definition 356 18.000
s 100.0 250.0 3000.0
e 100.0 250.0 0.0
#
maneuver definition 357 18.000
s 200.0 250.0 3000.0
e 200.0 250.0 0.0
#
maneuver definition 358 5000.000
s 210.0 260.0 3000.0
e 210.0 260.0 0.0
#
maneuver definition 359 18.000
s 200.0 290.0 3000.0
e 200.0 290.0 0.0
#
maneuver definition 360 5000.000
s 210.0 300.0 3000.0
e 210.0 300.0 0.0
#
maneuver definition 361 12.000
s 80.0 350.0 3000.0
e 80.0 350.0 0.0
#
maneuver definition 362 12.000
s 200.0 350.0 3000.0
e 200.0 350.0 0.0
#
maneuver definition 363 5000.000
s 210.0 360.0 3000.0
e 210.0 360.0 0.0
#

```

```

maneuver definition 364 12.000
s 140.0 400.0 3000.0
e 140.0 400.0 0.0
#
maneuver definition 365 12.000
s 200.0 390.0 3000.0
e 200.0 390.0 0.0
#
maneuver definition 366 5000.000
s 210.0 400.0 3000.0
e 210.0 400.0 0.0
#
maneuver definition 367 1320.000 #super SAM
s 100.0 300.0 3000.0
e 100.0 300.0 0.0
#
maneuver definition 368 18.000
s 300.0 320.0 3000.0
e 300.0 320.0 0.0
#
maneuver definition 369 18.000
s 300.0 380.0 3000.0
e 300.0 380.0 0.0
#
maneuver definition 370 18.000
s 300.0 440.0 3000.0
e 300.0 440.0 0.0
#
#-----
# Tasks 371-382 (Sea Mines)
#####Sea Mines
#-----
maneuver definition 371 5000.00
s 80.0 180.0 3000.0
e 80.0 180.0 0.0
#
maneuver definition 372 5000.00
s 120.0 180.0 3000.0
e 120.0 180.0 0.0

```

```

#
maneuver definition 373 5000.00 #at NBE
s 180.0 180.0 3000.0
e 180.0 180.0 0.0
#
maneuver definition 374 5000.00 #at NBE
s 220.0 180.0 3000.0
e 220.0 180.0 0.0
#
maneuver definition 375 5000.00
s 320.0 180.0 3000.0
e 320.0 180.0 0.0
#
maneuver definition 376 5000.00
s 150.0 120.0 3000.0
e 150.0 120.0 0.0
#
maneuver definition 377 2.00 #drifts towards CVN
m 240.0 120.0 1.0
e 200.0 100.0 0.0
#
maneuver definition 378 200.00 #drifts towards FFG
m 425.0 450.0 1.0
e 440.0 380.0 0.0
#
maneuver definition 379 5000.00
s 390.0 180.0 3000.0
e 390.0 180.0 0.0
#
maneuver definition 380 1.00 #drifts towards DDGB
m 390.0 240.0 1.0
e 430.0 240.0 0.0
#
maneuver definition 381 5000.00
s 390.0 300.0 3000.0
e 390.0 300.0 0.0
#
maneuver definition 382 5000.00
s 390.0 400.0 3000.0

```

```

e 390.0 400.0 0.0
#
#-----
# Tasks 383-394 (Destroyer paths)
#####Destroyer Maneuvers
#-----
maneuver definition 383 200.00 #attack DDGA
m 60.0 180.0 0.99
e 137.0 167.0 0.0 #fire X0C451, spawn 384
#
maneuver definition 384 240.00 #attack CVN
m 137.0 167.0 0.99
e 180.0 115.0 0.0 #fire X0C452, spawn 393
#
maneuver definition 385 5000.00 #attack DDGB
m 380.0 130.0 0.7
e 410.0 226.0 0.0 #fire X0C453, spawn 386
#
maneuver definition 386 260.00 #attack DDGB
m 410.0 226.0 0.99
m 395.0 240.0 0.99
e 410.0 254.0 0.0 #fire X0C454
#
maneuver definition 387 5000.00 #attack CG
m 200.0 200.0 0.71
m 240.0 126.0 0.70
e 280.0 126.0 0.0 #fire X0C455, spawn 388
#
maneuver definition 388 200.00 #attack CVN
m 280.0 126.0 0.99
e 200.0 124.0 0.0 #fire X0C456
#
maneuver definition 389 1750.00 #attack FFG
m 425.0 450.0 0.75
e 425.0 400.0 0.0 #fire X0C457, spawn 390
#
maneuver definition 390 1.00 #runs away
m 425.0 400.0 0.99
e 425.0 450.0 0.0

```

```

#
maneuver definition 391 280.00 #attack CVN
m 200.0 200.0 0.71
m 240.0 124.0 0.70
e 200.0 124.0 0.0 #fire X0C459, spawn 392
#
maneuver definition 392 300.00 #attack CG
m 200.0 124.0 0.99
e 280.0 126.0 0.0 #fire X0C460, spawn 394
#
maneuver definition 393 210.00
m 180.0 115.0 0.95
e 200.0 200.0 0.0
#
maneuver definition 394 300.00
m 280.0 126.0 0.95
e 320.0 200.0 0.0
#
#-----
# Tasks 395-404 (Sea REScues -- Tavail ~ 550 sec)
#####SAR
#-----
maneuver definition 395 920.000 #MOB for DDGB
s 460.0 240.0 260.0
e 460.0 240.0 0.0
#
maneuver definition 396 200.00 #SAR IN CVN AREA
s 200.0 120.0 560.0
e 200.0 120.0 0.0
#
maneuver definition 397 2000.00 #SOF pickup
s 380.0 340.0 540.0
e 380.0 340.0 0.0
#
maneuver definition 398 1550.000 #SOF pickup
s 220.0 195.0 580.0
e 220.0 195.0 0.0
#
maneuver definition 399 1220.000 #SOF pickup

```

```

s 110.0 195.0 550.0
e 110.0 195.0 0.0
#
maneuver definition 400 1700.00 #MOB at CG
s 260.0 150.0 530.0
e 260.0 150.0 0.0
#
maneuver definition 401 1600.00 #SOF pickup
s 380.0 195.0 590.0
e 380.0 195.0 0.0
#
maneuver definition 402 2000.00 #sea lane
s 400.0 180.0 510.0
e 400.0 180.0 0.0
#
maneuver definition 403 1700.000 #sea lane
s 420.0 400.0 500.0
e 420.0 400.0 0.0
#
maneuver definition 404 1900.00 #plane guard
s 190.0 105.0 570.0
e 190.0 105.0 0.0
#
#-----
# Tasks 405-422 (enemy aircraft attackers)
#####Enemy AC
#-----
maneuver definition 405 1250.00 # attacks FFG
m 255.0 300.0 0.8
e 450.0 380.0 0.0
#
maneuver definition 406 890.00 # attacks DDGC
m 150.0 300.0 0.9
m 320.0 320.0 0.8
e 370.0 150.0 0.0
#
maneuver definition 407 200.00 # attacks DDGA
m 50.0 300.0 0.6
m 5.0 200.0 0.7

```

```

m 100.0 180.0 0.7
e 120.0 150.0 0.0
#
maneuver definition 408 920.00 # attacks FFG
m 150.0 300.0 0.8
m 300.0 280.0 0.8
e 440.0 380.0 0.0
#
maneuver definition 409 200.00 # attacks CG
m 150.0 300.0 0.9
e 280.0 150.0 0.0
#
maneuver definition 410 200.00 # attacks CVN
m 50.0 300.0 0.6
m 170.0 200.0 0.7
e 200.0 100.0 0.0
#
maneuver definition 411 1320.00 # diversion
m 50.0 300.0 0.5
s 5.0 100.0 5.0
m 5.0 100.0 0.5
m 100.0 5.0 0.5
s 200.0 60.0 10.0
e 200.0 60.0 0.0
#
maneuver definition 412 721.00 # attacks DDGA
m 150.0 300.0 0.6
m 180.0 200.0 0.7
m 100.0 180.0 0.7
e 120.0 150.0 0.0
#
maneuver definition 413 721.00 # attacks CG
m 370.0 460.0 0.95
m 260.0 380.0 0.99
e 280.0 150.0 0.0
#
maneuver definition 414 1251.00 # attacks DDGB
m 255.0 300.0 0.7
e 430.0 240.0 0.0

```

```

#
maneuver definition 415 1.00 # attacks CVN
m 255.0 300.0 0.8
e 200.0 100.0 0.0
#
maneuver definition 416 1253.00 # attacks CG
m 255.0 300.0 0.8
e 280.0 150.0 0.0
#
maneuver definition 417 900.00 # attacks DDGB
m 150.0 300.0 0.8
m 300.0 320.0 0.9
m 425.0 300.0 0.9
e 430.0 240.0 0.0
#
maneuver definition 418 1252.00 # attacks DDGC
m 255.0 300.0 0.9
e 370.0 150.0 0.0
#
maneuver definition 419 910.00 # attacks FFG
m 150.0 300.0 0.9
e 440.0 380.0 0.0
#
maneuver definition 420 721.00 # attacks CVN
m 150.0 300.0 0.6
m 200.0 200.0 0.7
e 200.0 100.0 0.0
#
maneuver definition 421 1020.00 # attacks CVN
m 150.0 300.0 0.6
m 170.0 200.0 0.7
e 200.0 100.0 0.0
#
maneuver definition 422 1000.00 # attacks DDGA
m 150.0 300.0 0.6
m 180.0 200.0 0.7
m 100.0 180.0 0.7
e 120.0 150.0 0.0
#

```

```

#-----
# Tasks 423-430 (commercial air)
#####Comm Air
#-----
maneuver definition 423 10.00
m 5.0 205.0 0.9
s 150.0 50.0 10.0
m 150.0 50.0 0.9
e 160.0 0.0 0.0
#
maneuver definition 424 100.00
m 320.0 200.0 0.9
m 150.0 50.0 0.9
e 100.0 0.0 0.0
#
maneuver definition 425 500.00
m 315.0 95.0 0.7
e 320.0 200.0 0.0
#
maneuver definition 426 900.00
m 415.0 455.0 0.8
e 430.0 200.0 0.0
#
maneuver definition 427 1500.00
m 500.0 380.0 0.9
e 315.0 95.0 0.0
#
maneuver definition 428 1500.00
m 315.0 95.0 0.8
e 100.0 200.0 0.0
#
maneuver definition 429 1200.00
m 370.0 460.0 0.9
e 500.0 275.0 0.0
#
maneuver definition 430 1800.00
m 100.0 200.0 0.99
m 150.0 50.0 0.99
e 160.0 0.0 0.0

```

```

#
#-----
# Tasks 431-438 (possible hostile aircraft)          #####Poss
Hostile AC
#-----
maneuver definition    431  460.00  # hostile
m  500.0  500.0  0.7
m  380.0  120.0  0.8
e  280.0  150.0  0.0
#
maneuver definition    432  480.00  # hostile
m  500.0  500.0  0.7
s  315.0   95.0  15.0
m  315.0   95.0  0.7
e  120.0  150.0  0.0
#
maneuver definition    433  721.00  # hostile
m  300.0  400.0  0.8
m  420.0  220.0  0.7
e  430.0  240.0  0.0
#
maneuver definition    434  721.00
m  300.0  440.0  0.8
m  460.0  320.0  0.8
e  500.0  300.0  0.0
#
maneuver definition    435  230.00
m  370.0  460.0  0.7
m  380.0  120.0  0.7
e  290.0  150.0  0.0
#
maneuver definition    436  480.00
m  300.0  400.0  0.7
s  420.0  220.0  15.0
m  420.0  220.0  0.7
m  315.0   95.0  0.7
e  300.0  400.0  0.0
#
maneuver definition    437  480.00

```

```

m 500.0 500.0 0.7
s 315.0 95.0 15.0
m 315.0 95.0 0.7
m 5.0 100.0 0.9
e 500.0 500.0 0.0
#
maneuver definition 438 721.00
m 300.0 400.0 0.8
m 430.0 380.0 0.7
e 430.0 200.0 0.0
#
#-----
# Tasks 439-442 (recon aircraft) #####Recon AC
#-----
maneuver definition 439 1.00
m 50.0 300.0 0.5
m 200.0 170.0 0.5
s 320.0 180.0 10.0
m 320.0 180.0 0.7
e 50.0 300.0 0.0
#
maneuver definition 440 1200.00
m 50.0 300.0 0.5
m 60.0 180.0 0.5
s 200.0 180.0 10.0
m 200.0 180.0 0.7
e 50.0 300.0 0.0
#
maneuver definition 441 1.00
m 150.0 300.0 0.5
m 380.0 200.0 0.5
s 380.0 400.0 10.0
m 380.0 400.0 0.7
e 150.0 300.0 0.0
#
maneuver definition 442 1200.00
m 150.0 300.0 0.5
m 420.0 100.0 0.5
s 460.0 160.0 10.0

```

```

m 460.0 160.0 0.7
e 150.0 300.0 0.0
#
#-----
# Tasks 443-444 (air_defenders/CAP) #####Enemy CAP
#-----
maneuver definition 443 40.00 #at ABW
s 50.0 290.0 2400.
e 50.0 290.0 0.0
#
maneuver definition 444 5000.00 #not used
m 28.5 66.0 0.99
e 62.0 75.0 0.0
#
#-----
# Tasks 445-448 (other SAR incl false reports)
#-----
maneuver definition 445 3.000 #SAR at ABE
s 155.0 295.0 590.0
e 155.0 295.0 0.0
#
maneuver definition 446 3.000 #SAR at Bridge
s 80.0 245.0 590.0
e 80.0 245.0 0.0
#
maneuver definition 447 5000.000
s 430.0 320.0 295.0
e 430.0 320.0 0.0
#
maneuver definition 448 5000.000
s 380.0 260.0 290.0
e 380.0 260.0 0.0
#
#-----
# Tasks 449-450 (patrol boats) - gunrunners
#-----
maneuver definition 449 960.00 #gunrunner
m 320.0 100.0 1.0
e 320.0 200.0 0.0

```

```

#
maneuver definition 450 960.00 #gunrunner
m 260.0 100.0 1.0
m 260.0 190.0 1.0
e 320.0 200.0 0.0
#
#-----
# Tasks 451-460 (Exocet missiles)
#####Destroyer Missiles
#-----
maneuver definition 451 1.00 #target DDGA by 383
m 137.0 167.0 0.99
e 120.0 150.0 0.0
#
maneuver definition 452 1.00 #target CVN by 384
m 180.0 115.0 0.99
e 200.0 100.0 0.0
#
maneuver definition 453 1.00 #target DDGB by 385
m 410.0 226.0 0.99
e 430.0 240.0 0.0
#
maneuver definition 454 1.00 #target DDGB by 386
m 410.0 254.0 0.99
e 430.0 240.0 0.0
#
maneuver definition 455 1.00 #target CG by 387
m 280.0 126.0 0.99
e 280.0 150.0 0.0
#
maneuver definition 456 1.00 #target CVN by 388
m 200.0 124.0 0.99
e 200.0 100.0 0.0
#
maneuver definition 457 1.00 #target FFG by 389
m 425.0 400.0 0.99
e 440.0 380.0 0.0
#
maneuver definition 458 5000.00 #not used

```

```

m 200.0 110.0 0.99
e 200.0 100.0 0.0
#
maneuver definition 459 1.00 #target CVN by 391
m 200.0 124.0 0.99
e 200.0 100.0 0.0
#
maneuver definition 460 1.00 #target CG by 392
m 280.0 126.0 0.99
e 280.0 150.0 0.0
#-----
# tasks 461-471 intel on fixed SCUD launchers #####EW
INTEL on SCUDs
#-----
maneuver definition 461 1520.00 #ew262 at 280,262
s 290.0 260.0 200.0
e 290.0 260.0 0.0
#
maneuver definition 462 1320.00 #ew264 at 100,262
# colocated with super SAM
s 110.0 260.0 200.0
e 110.0 260.0 0.0
#
maneuver definition 463 1620.00 #ew266 at 200,260
s 210.0 250.0 100.0
e 210.0 250.0 0.0
#
maneuver definition 464 1520.00 #ew268 at 100,300
s 110.0 310.0 200.0
e 110.0 310.0 0.0
#
maneuver definition 465 5000.00 #ew270 at 200,300
s 210.0 310.0 100.0
e 210.0 310.0 0.0
#
maneuver definition 466 5000.00 #ew272 at 80,360
s 75.0 365.0 100.0
e 75.0 365.0 0.0
#

```

```

maneuver definition 467 5000.00 #ew274 at 200,360
s 205.0 370.0 100.0
e 205.0 370.0 0.0
#
maneuver definition 468 5000.00 #ew276 at 140,410
s 120.0 390.0 100.0
e 120.0 390.0 0.0
#
maneuver definition 469 5000.00 #ew278 at 200,400
s 220.0 390.0 100.0
e 220.0 390.0 0.0
#
maneuver definition 470 100.00 #ew280 at 290,320
s 295.0 310.0 100.0
e 295.0 310.0 0.0
#
maneuver definition 471 780.00 #ew282 at 290,380
s 280.0 375.0 100.0
e 280.0 375.0 0.0
#-----
# tasks 472 mobile SAM sites (N=3) #####Mobile SAM
Sites
#-----
maneuver definition 472 1.000
s 320.0 230.0 3000.0
e 320.0 230.0 0.0
#
#-----
# tasks 473-474 Enemy Aircraft (N=2)
#####Additional Enemy Aircraft
#-----
maneuver definition 473 1.000 attacks DDGA
m 255.0 300.0 0.9
e 120.0 150.0 0.0
#
maneuver definition 474 1.000 attacks CG
m 255.0 300.0 0.8
e 280.0 150.0 0.0
#
#----- THE END -----

```

B. DIVISIONAL XS FILE

```
#<<<< P8-data root file: June 10 2002 >>>>>>>
decision structure 7
      FLAG    GREEN    BLUE    PURPL    RED    ORNGE    BROWN    INTEL
        0      0      0      0      0      0      0      7
#-----
message file msgsDiv_P8.txt
#
simulation time 2305.0 #time 38mins 25sec
#-----
number_of tasks 275
#-----
simulation scale 500.0
#-----
number_of attributes 3
      Value Time HOSTL
#-----
number_of resources 7
      AAW MINE ASuW BMD STRK SAR SOF
#-----
number_of nets 2
#-----
renew interval 0.5
#-----
random seed 1
#-----
message number 4
#-----
comm epoch 6.0
#-----
comm delay 5.0
#-----
transfer delay 10.0
#-----
attack delay 2.0
#-----
land area 0.0 200.0 375.0 500.0
land area 375.0 450.0 500.0 500.0
land area 260.0 0.0 320.0 100.0 # Sardenia
```

```

land area 420.0 160.0 500.0 205.0 # Sicily
#----- roads
draw line 50. 300. 100. 205. 2
draw line 50. 300. 195. 205. 2
#----- SeaBaselocations
#draw circle 100.0 200.0 10. 1
#draw circle 200.0 200.0 10. 1
#----- AirBaselocations
#draw circle 50.0 300.0 10. 1
#draw circle 150.0 300.0 10. 1
#----- Miscellaneous cities
draw circle 5.0 205. 1.0 2
draw circle 315. 95. 1.0 2
draw circle 370. 460. 1.0 2
draw circle 430. 200. 1.0 2
#draw circle 320. 200. 1.0 2
draw circle 415. 455. 1.0 2
#----- Libya city
draw rectangle 390.0 440.0 50. 20.0 2
#----- country borders
draw line 250. 200. 250.0 500. 3
draw line 300. 450. 300.0 500. 3
draw line 300. 450. 375.0 450. 3
#----- sea lanes
draw line 0. 125. 375.0 125. 3
draw line 375. 125. 500.0 50. 3
draw line 375. 125. 425.0 300. 3
draw line 425. 300. 425.0 450. 3
draw line 425. 450. 500.0 425. 3
#----- air corridors
draw line 5. 205. 150. 50. 1
draw line 100. 200. 150. 50. 1
draw line 200. 200. 150. 50. 1
draw line 320. 200. 150. 50. 1
draw line 150. 50. 160. 0. 1
draw line 150. 50. 100. 0. 1
draw line 100. 200. 315. 95. 1
draw line 320. 200. 315. 95. 1
draw line 400. 0. 315. 95. 1

```



```

0.0  0.0  0.0
0.0  0.0  0.0
#
#
# platform 2: Frigate
platform general 2  S   FFG  0.000  0
                0 1  3000.000  3.000  20.000
platform resource 2    0  0  0  0  0  0  0
platform range    2
    100.0  35.00  70.00  0.00  10.00
    30.00   8.00  28.00  0.00  15.00
    0.00   0.00   0.00  0.00   0.00
platform accuracy  2
0.0  0.0  0.0
0.0  0.0  0.0
0.0  0.0  0.0
#
#
# platform 3: Cruiser
platform general 3  S   CG  0.000  0
                0 1  3000.000  3.000  20.000
platform resource 3    0  0  0  0  0  0  0
platform range    3
    180.0  35.00  100.00  0.00  10.00
    40.00   8.00  30.00  0.00  15.00
    0.00   0.00   0.00  0.00   0.00
platform accuracy  3
0.0  0.0  0.0
0.0  0.0  0.0
0.0  0.0  0.0
#
#
# platform 4: aircraft carrier
platform general 4  S   CVN  0.000  0
                0 1  3000.000  3.000  20.000
platform resource 4    0  0  0  0  0  0  0
platform range    4
    240.0  35.00  150.00  0.00  10.00
    50.00   8.00  30.00  0.00  20.00

```

```

    0.00  0.00  0.00  0.00  0.0
platform accuracy  4
0.0  0.0  0.0
0.0  0.0  0.0
0.0  0.0  0.0
#
#
# platform 5: DestroyerC
platform general 5  S  DDGC  0.000  0
                0  1  3000.000  3.000  20.000
platform resource 5    0  0  0  0  0  0  0
platform range    5
    150.0  35.00  100.00  0.00  10.00
    35.00   8.00  30.00  0.00  15.00
    0.00   0.00   0.00  0.00  0.00
platform accuracy  5
0.0  0.0  0.0
0.0  0.0  0.0
0.0  0.0  0.0
#
#
# platform 6: E2C (nominally from carrier)
platform general 6  A  E2C  0.00  0
                0  1  3000.000  3.000  20.000
platform resource 6    0  0  0  0  0  0  0
platform range    6
    250.0   0.00  0.00  0.00  7.5
    60.00   0.00  0.00  0.00  0.0
    30.00   0.00  0.00  0.00  20.0
platform accuracy  6
0.0  0.0  0.0
0.0  0.0  0.0
0.0  0.0  0.0
#
#
# platform 7: fighter aircraft (from CVN/airbase)
platform general 7  A  F18A  3.17  0
                1  1  900.000  60.000  20.000
platform resource 7    1  0  0  0  0  0  0

```

```

platform attack 7 2
platform range 7
    80.0 20.00 40.00 36.00 3.00 #orig 7.5
    50.0 12.00 25.00 0.00 0.00
    5.0 4.00 2.00 0.00 20.00
platform accuracy 7
0.0 0.0 0.0
0.0 0.0 0.0
0.0 0.0 0.0
#
#
# platform 8: strike a/c package (from CVN/airbase)
platform general 8 A F18S 3.17 0
    1 1 900.000 60.000 20.000
platform resource 8 0 0 0 0 2 0 0
platform attack 8 1
platform range 8
    80.0 20.00 40.00 0.00 5.00 #orig 7.5
    50.0 12.00 25.00 3.00 0.00
    30.0 24.00 25.00 15.00 20.00
platform accuracy 8
0.0 0.0 0.0
0.0 0.0 0.0
0.0 0.0 0.0
#
#
# platform 9: MH53 (from surface ships)- 18 min endurance
platform general 9 A MH53 .60 0
    1 1 1100.000 60.000 10.000
platform resource 9 0 1 0 0 0 0 0
platform attack 9 2
platform range 9
    60.0 0.00 30.00 0.00 7.50
    30.0 12.00 15.00 0.00 0.00
    10.0 4.00 5.00 0.00 20.00 #beware of SAMs!
platform accuracy 9
0.0 0.0 0.0
0.0 0.0 0.0
0.0 0.0 0.0

```

```

#
#
# platform 10: HH60 (from surface ships) - 18 min endurance
platform general 10 A HH60 .60 0
                1 1 1100.000 60.000 10.000
platform resource 10 0 0 0 0 0 1 0
platform attack 10 1
platform range 10
    60.0 0.00 30.00 0.00 7.50
    30.0 12.00 15.00 10.00 0.00
    12.0 6.00 8.00 10.00 9.00 #beware of SAMs!
platform accuracy 10
0.0 0.0 0.0
0.0 0.0 0.0
0.0 0.0 0.0
#
#
# platform 11: UAV (from surface ships)- 60min endurance
platform general 11 A UAV .54 0
                1 1 3600.000 30.000 5.000
platform resource 11 0 0 0 0 0 0 0
platform range 11
    20.0 10.00 15.00 0.00 7.50
    35.0 15.00 20.00 0.00 0.00
    38.0 24.00 22.00 0.00 20.00
platform accuracy 11
0.0 0.0 0.0
0.0 0.0 0.0
0.0 0.0 0.0
#
#
# platform 17: FGTR (attack boats from surface ships)- 20min
endurance
platform general 17 S FGTR .40 0
                1 1 1200.000 30.000 10.000
platform resource 17 0 0 1 0 0 0 0
platform attack 17 2
platform range 17
    10.0 0.00 5.00 0.00 0.00

```

```

    35.0  20.00  30.00  15.00  10.00
    0.0   0.00   0.00   0.00   0.00
platform accuracy  17
0.0  0.0  0.0
0.0  0.0  0.0
0.0  0.0  0.0
#
#
# platform 18: SOF/SEALS (pre-inserted)- infinite endurance
platform general 18  G   SOF  .60  0
                1  1  3600.000  30.000  10.000
platform off_route 18 1
platform resource  18   0  0  0  0  0  0  1
platform range    18
    10.0   0.00   5.00   0.00   0.00
    0.0   0.00   0.00   0.00   0.00
    20.0  10.00  18.00   8.00   5.00
platform accuracy  18
0.0  0.0  0.0
0.0  0.0  0.0
0.0  0.0  0.0
#
# -----
# the following are the weapons
# -----
# platform 12: SM2 (standard anti-air missile)
platform general 12  A   SM2  5.28  0
                0  0  18.9  10.0  1.0
platform weapon 12 1
platform resource  12   1  0  0  0  0  0  0
platform range    12
    0.0  0.0  0.00  6.00  0.00
    0.0  0.0  0.00  0.00  0.00
    0.0  0.0  0.00  0.00  0.00
platform accuracy  12
-1.0 -1.0 -1.0
-1.0 -1.0 -1.0
-1.0 -1.0 -1.0
#

```

```

#
# platform 13: ABM (standard anti-air/BMD missile)
platform general 13 A ABM 6.94 0
                0 0 12.2 10.0 1.0
platform weapon 13 1
platform resource 13 1 0 0 1 0 0 0
platform range 13
    0.0 0.0 0.00 12.00 0.00
    0.0 0.0 0.00 0.00 0.00
    0.0 0.0 0.00 0.00 0.00
platform accuracy 13
-1.0 -1.0 -1.0
-1.0 -1.0 -1.0
-1.0 -1.0 -1.0
#
#
# platform 14: TLAM (tomahawk missile)
platform general 14 A TLAM 2.08 0
                0 0 173.0 10.0 20.0
platform weapon 14 1
platform resource 14 0 0 0 0 1 0 0
platform range 14
    0.0 0.0 0.00 0.00 0.00
    0.0 0.0 0.00 0.00 0.00
    0.0 0.0 0.00 5.00 0.00
platform accuracy 14
-1.0 -1.0 -1.0
-1.0 -1.0 -1.0
-1.0 -1.0 -1.0
#
#
# platform 15: TTOM (steerable tactical tomahawk)
platform general 15 A TTOM 2.08 0
                0 0 240.0 10.0 20.0
platform resource 15 0 0 0 0 1 0 0
platform range 15
    0.0 0.0 0.00 0.00 0.00
    0.0 0.0 0.00 0.00 0.00
    0.0 0.0 0.00 15.00 0.00

```

```

platform accuracy 15
-1.0 -1.0 -1.0
-1.0 -1.0 -1.0
-1.0 -1.0 -1.0
#
#
# platform 16: HARP (harpoon anti-ship missile)
platform general 16 A HARP 1.39 0
0 0 43.0 10.0 5.0
platform weapon 16 1
platform resource 16 0 0 1 0 0 0 0
platform range 16
0.0 0.0 0.00 0.00 0.00
0.0 0.0 0.00 3.00 0.00
0.0 0.0 0.00 0.00 0.00
platform accuracy 16
-1.0 -1.0 -1.0
-1.0 -1.0 -1.0
-1.0 -1.0 -1.0
#
#
# platform 19: forward operating base for SOF, also "intel"
platform general 19 G FOB 0.0 0
1 1 3000.000 3.000 20.000
platform resource 19 1 1 1 1 1 1 1
platform range 19
0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00
platform accuracy 19
0.0 0.0 0.0
0.0 0.0 0.0
0.0 0.0 0.0
#
#
# platform 20: forward air base for F18, maybe also "intel"
platform general 20 G AOF 0.0 0
1 1 3000.000 3.000 20.000
platform resource 20 0 0 0 0 0 0 0

```

```

platform range    20
    200.0  0.0  50.0  0.0  0.0
    0.0  0.0  0.0  0.0  0.0
    0.0  0.0  0.0  0.0  0.0
platform accuracy 20
0.0  0.0  0.0
0.0  0.0  0.0
0.0  0.0  0.0
#
#---- platform-subplatform structure ----
#
# air BASE with fighters, strike a/c
platform subplatform 20 2
    F18A    F18S
    2        2    # number
    5        5    # owner
# -----
#
# FOB with the SOF teams possibly owned by 3 different DMs
platform subplatform 19 3
    SOF      SOF      SOF
    1        1        1    # number
    2        3        6    # owner
# -----
#
# CVN carrying fighters, strike a/c, HH60, UAV, FGTR, MH53
platform subplatform 4 6
    F18A    F18S    HH60    UAV    FGTR    MH53
    2        2        1        1        1        1 # number
    1        1        1        1        1        1 # owner
# -----
#
# DDGA carrying SM2, ABM, TLAM, HARP, TTOM, HH60, UAV, FGTR
platform subplatform 0 8
    SM2  ABM  TLAM  HARP  TTOM  HH60  UAV  FGTR
    6    3    6    2    4    1    1    1    # number
#    1    0    0    0    0    1    0    0    # owner
    2    2    2    2    2    2    2    2
# -----

```



```

task cluster 3 G CDL artillery.icon
task cluster 4 G SML silkworm.icon
task cluster 5 A ?? air.icon
task cluster 6 G AB
task cluster 7 G SAM sam.icon
task cluster 8 A CDM missile.icon
task cluster 9 A MIS silkworm.icon
task cluster 10 S MIN mines.icon
task cluster 11 A XOC missile.icon
task cluster 12 G EW
task cluster 13 S S&R cross.icon
task cluster 14 G RGF tank.icon
task cluster 15 G SML silkworm.icon
task cluster 16 G BR bridge.icon
task cluster 17 A TSK
task cluster 18 S TSK task.icon #complex sea
task cluster 19 G UT task.icon #UT ground
task cluster 20 S UT task.icon #UT sea
task cluster 21 G SAM sam.icon
#
task classes 41
#-----
# task 0: Naval Base (East)
task general 0 G NBE 0.0 0.1 9 norfolk.icon
cluster member 0 0
task name 0 East_Naval_Base
task mean 0 50.0 40.0 1.0
task attack 0 0 1 1 1 1 1 1 1 0
task mapping 0
0.0 0.0 0.0 1.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 2.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 1.0
task stealth 0 7 80.0 20.0 40.0 36.0 3.0 #so F18A can attack
task stealth 0 12 0.0 0.0 0.0 0.0 0.0 # so SM2 can't be used
task stealth 0 19 600.0 600.0 600.0 0.0 0.0

```

```

#
# task 1: Naval Base (West)
task general 1 G NBW 0.0 0.1 9 norfolk.icon
cluster member 1 0
task name 1 West_Naval_Base
task mean 1 50.0 40.0 1.0
task attack 1 0 1 1 1 1 1 1 1 0
task mapping 1
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 3.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
task stealth 1 17 20.0 15.0 18.0 12.0 0.0 #so FGTR can attack
task stealth 1 19 600.0 600.0 600.0 0.0 0.0
#
# task 2: Command center
task general 2 G CMD 0.0 0.1 9 truck.icon
cluster member 2 1
task name 2 command_ctr
task mean 2 25.0 20.0 1.0
task attack 2 0 1 1 1 1 1 1 1 0
task mapping 2
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 1.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 1.0
task stealth 2 19 600.0 600.0 600.0 0.0 0.0
#
# task 3: sea contacts (enemy destroyer)
task general 3 S DG 0.14 0.1 1 ship.icon
cluster member 3 2
task name 3 Enemy_Destroyer
task mean 3 25.0 10.0 1.0

```

```

task attack 3 0 1 1 1 1 1 1 0
task mapping 3
0.0 0.0 0.0 1.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 1.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
# enemy destroyer can fire missiles at 25 miles out
task stealth 3 0 35.0 8.0 30.0 0.0 25.0
task stealth 3 1 35.0 8.0 30.0 0.0 25.0
task stealth 3 2 30.0 8.0 28.0 0.0 25.0
task stealth 3 3 40.0 8.0 30.0 0.0 25.0
task stealth 3 4 50.0 8.0 30.0 0.0 25.0
task stealth 3 5 35.0 8.0 30.0 0.0 25.0
task stealth 3 7 50.0 12.0 25.0 20.0 3.0 #so F18A can attack
#
# task 4: sea contacts (fast patrol boats)
task general 4 S PT 0.20 0.1 2 ship.icon
cluster member 4 2
task name 4 Enemy_Patrol_Boat
task mean 4 5.0 5.0 1.0
task attack 4 0 1 1 1 1 1 1 0
task mapping 4
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 1.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
#
# task 5: ground (Coastal Defense missile battery)
# made a TF = 5 to indicate time critical value
task general 5 G CDL 0.09 0.1 5 artillery.icon
cluster member 5 3
task name 5 CD_Launcher
task mean 5 2.0 5.0 1.00

```

```

task attack 5 0 1 1 1 1 1 1 1 0
task mapping 5
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 1.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
#
# task 6: ground (SCUD missile launcher)
# made a TF = 5 to indicate time critical value
task general 6 G SML 0.06 0.1 5 silkworm.icon
cluster member 6 4
task name 6 SCUD_launcher
task mean 6 5.0 10.0 1.00
task attack 6 0 1 1 1 1 1 1 1 0
task mapping 6
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 1.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
#
# task 7: air attackers of tailorable size
task general 7 A AC 2.0 0.1 3 air.icon
cluster member 7 5
task name 7 hostile_air
task mean 7 5.0 5.0 1.00
task attack 7 0 1 1 1 1 1 1 1 0
task mapping 7
0.0 0.0 0.0 1.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0

```

```

0.0  0.0  0.0    0.0
#
# task 8: Air Base (East)
task general 8  G  ABE  0.0  0.1  9  dallas.icon
cluster member 8 6
task name 8 Air_Base_East
task mean  8  50.0  40.0  1.0
task attack 8  0  1 1 1 1 1 1 1 0
task mapping 8
0.0  0.0  0.0    1.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    2.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    1.0
task stealth 8  19  600.0  600.0  600.0  0.0  0.0
task stealth 8  12   0.0  0.0  0.0  0.0  0.0 # so SM2 can't be used
task stealth 8   7  80.0  20.0  40.0  36.0  3.0 #so F18A can attack
#
# task 9: Air Base (West)
task general 9  G  ABW  0.0  0.1  9  dallas.icon
cluster member 9 6
task name 9 Air_Base_West
task mean  9  50.0  40.0  1.0
task attack 9  0  1 1 1 1 1 1 1 0
task mapping 9
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    3.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
task stealth 9  19  600.0  600.0  600.0  0.0  0.0
#
# task 10: SAM sites- stationary and protected
task general 10 G  SAM  0.0  0.1  3  sam.icon
cluster member 10 7

```

```

task name 10 SAM_site
task mean 10 5.0 20.0 1.00
task attack 10 0 1 1 1 1 1 1 1 0
task mapping 10
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 1.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 1.0
task stealth 10 7 30.0 24.00 28.00 0.00 20.00 #F18A
task stealth 10 8 30.0 24.00 28.00 15.00 20.00 #F18S
task stealth 10 9 25.0 25.00 25.00 0.00 20.00 #MH53
task stealth 10 10 15.0 15.00 15.00 0.00 7.00 #HH60
task stealth 10 11 40.0 24.00 38.00 0.00 20.00 #UAV
#
# task 11: air contacts (commair)
task general 11 A NU 1.25 0.1 0 smiley.icon
cluster member 11 5
task name 11 commercial_air
task mean 11 75.0 5.0 0.00
task attack 11 0 1 1 1 1 1 1 1 0
task mapping 11
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
#
# task 12: sea contacts (merchant)
task general 12 S NU 0.09 0.1 0 smiley.icon
cluster member 12 2
task name 12 merchant_ship
task mean 12 75.0 5.0 0.00
task attack 12 0 1 1 1 1 1 1 1 0
task mapping 12

```

```

0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0
#
# task 13: missile - spawned by a CD launcher
# may wish to make this TF=2 and type =S
# combine with class 16?
task general 13  A  CDM  1.00  0.1  3  missile.icon
cluster member 13 8
task name 13 CD_missle
task mean  13  5.0  5.0  1.00
task attack 13  0  1 1 1 1 1 1 1 0
task mapping 13
0.0  0.0  0.0  1.0
0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0
task stealth 13  6 250.  0.  0.  0.0  0.0
task stealth 13  7 20.  0. 10. 36.0  0.0
task stealth 13  8 20.  0. 10.  0.0  0.0
task stealth 13  9 15.  0.  8.  0.0  0.0
task stealth 13 10 15.  0.  8.  0.0  0.0
task stealth 13 11 10.  0.  5.  0.0  0.0
#
# task 14: SCUD missile - fired by a SCUD launcher
task general 14  A  MIS  1.67  0.1  1  silkworm.icon
cluster member 14 9
task name 14 SCUD_missle
task mean  14 10.0  5.0  1.00
task attack 14  0  1 1 1 1 1 1 1 0
task mapping 14
0.0  0.0  0.0  0.0

```

```

0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0
0.0  0.0  0.0  1.0
0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0
#
# task 15: sea contacts ("drifting" mines)
task general 15  S  MIN  .03  0.1  2  mines.icon
cluster member 15 10
task name 15 mine_field
task mean 15 10.0 10.0 1.00
task attack 15 0 1 1 1 1 1 1 1 0
task mapping 15
0.0  0.0  0.0  1.0
0.0  0.0  0.0  1.0
0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0
task stealth 15 6 0.0 0.0 0.0 0.0 0.0
task stealth 15 7 0.0 0.0 0.0 20.0 0.0 #so F18A can defend
MH53
task stealth 15 8 0.0 0.0 0.0 0.0 0.0
task stealth 15 9 13.0 0.0 0.0 10.0 0.0 #MH53
task stealth 15 10 2.0 0.0 0.0 0.0 0.0
task stealth 15 11 0.0 0.0 0.0 0.0 0.0
task stealth 15 12 0.0 0.0 0.0 0.0 0.0 # so SM2 can't be
used
task stealth 15 17 20.0 12.0 18.0 0.0 13.0 #FGTR
#
# task 16: Exocet missile - fired by Destroyer
# may wish to make this TF=2 and type =S
task general 16  A  XOC  1.3  0.1  3  missile.icon
cluster member 16 11
task name 16 Exocet
task mean 16 5.0 5.0 1.00
task attack 16 0 1 1 1 1 1 1 1 0
task mapping 16

```

```

0.0  0.0  0.0    1.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
task stealth 16   6 250.  0.  0.  0.0  0.0
task stealth 16   7 20.  0. 10. 36.0  0.0
task stealth 16   8 20.  0. 10.  0.0  0.0
task stealth 16   9 15.  0.  8.  0.0  0.0
task stealth 16  10 15.  0.  8.  0.0  0.0
task stealth 16  11 10.  0.  5.  0.0  0.0
#
# task 17: Possible hostile air (yes)
task general 17  A PH 1.75 0.1 3 air.icon
cluster member 17 5
task name 17 possible_hostile
task mean 17  10.0 5.0 1.00
task attack  17  0 1 1 1 1 1 1 1 0
task mapping 17
0.0  0.0  0.0    1.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
# these go after big ships -- not aircraft
task stealth 17   6 250.  0.  0.  0.0  0.0
#task stealth 17   7 80.  20. 40. 36.0 3.0
task stealth 17   8 80.  20. 40.  0.0 3.0
task stealth 17   9 60.   0. 30.  0.0 3.0
task stealth 17  10 60.   0. 30.  0.0 3.0
task stealth 17  11 20. 10. 15.  0.0 3.0
#
# task 18: Possible hostile air (no)
task general 18  A PH 1.75 0.1 0 air.icon
cluster member 18 5

```

```

task name 18 possible_hostile
task mean 18 75.0 5.0 0.00
task attack 18 0 1 1 1 1 1 1 1 0
task mapping 18
0.0 0.0 0.0 1.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
#
# task 19: Possible hostile ship (yes)
task general 19 S PH .20 0.1 2 ship.icon
cluster member 19 2
task name 19 possible_hostile
task mean 19 10.0 5.0 1.00
task attack 19 0 1 1 1 1 1 1 1 0
task mapping 19
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 1.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
#
# task 20: Possible hostile ship (no)
task general 20 S PH .20 0.1 0 ship.icon
cluster member 20 2
task name 20 possible_hostile
task mean 20 75.0 5.0 0.00
task attack 20 0 1 1 1 1 1 1 1 0
task mapping 20
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 1.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0

```

```

0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
#
# task 21: MOBILE SAM sites- protected
task general 21  G  SA3  0.06  0.1  3  sam.icon
cluster member 21 21
task name 21 mobile_SAM
task mean 21  5.0  20.0  1.00
task attack 21  0  1 1 1 1 1 1 1 0
task mapping 21
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    2.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    1.0
task stealth 21  7 30.0  24.00  25.00  0.00  10.00  #F18A
task stealth 21  8 30.0  24.00  26.00  15.00  10.00  #F18S
task stealth 21  9 25.0  25.00  25.00  0.00  12.00  #MH53
task stealth 21 10 15.0  15.00  15.00  0.00  5.00  #HH60
task stealth 21 11 30.0  25.00  25.00  0.00  12.00  #UAV
task stealth 21 14  0.0  0.0  0.0  0.0  0.0 #can't hit with TLAM
task stealth 21 15  0.0  0.0  0.0  0.0  0.0 #can't hit with TTOM
#
# task 22: intel on possible launch
task general 22  G  EW  0.0  0.1  0  task.G.icon
cluster member 22 12
task name 22 possible_launch
task mean 22  0.0  2.0  0.00
task attack 22  0  0 0 0 0 0 0 0 0
task mapping 22
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0

```

```

task stealth 22 19 600.0 0.0 0.0 0.0 0.0
#
# task 23: rescue effort at sea (may wish to make TF=9)
task general 23 S S&R 0.0 0.1 5 cross.icon
cluster member 23 13
task name 23 rescue_effort
task mean 23 10.0 10.0 0.00
task attack 23 0 1 1 1 1 1 1 1 0
task mapping 23
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 1.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 1.0
0.0 0.0 0.0 0.0
task stealth 23 10 30.0 15.0 25.0 10.0 0.0
task stealth 23 16 0.0 0.0 0.0 0.0 0.0 # so can't use HARP
task stealth 23 19 700.0 700.0 700.0 0.0 0.0
#
# task 24: air recon
task general 24 A REC 1.5 0.1 1 air.icon
cluster member 24 5
task name 24 recon_air
task mean 24 2.0 5.0 1.00
task attack 24 0 1 1 1 1 1 1 1 0
task mapping 24
0.0 0.0 0.0 1.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
#
# task 25: enemy ground unit
task general 25 G RGF 0.0 0.1 2 tank.icon
cluster member 25 14
task name 25 Enemy_ground_force

```

```

task mean 25 5.0 30.0 1.00
task attack 25 0 1 1 1 1 1 1 1 0
task mapping 25
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 1.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
task stealth 25 6 5.0 0.0 0.0 0.0 0.0
task stealth 25 7 2.0 0.0 1.50 0.0 2.0
task stealth 25 8 2.0 0.0 1.50 10.0 2.0
task stealth 25 9 2.0 0.0 1.50 0.0 2.0
task stealth 25 10 2.0 0.0 1.50 0.0 2.0
task stealth 25 11 2.0 0.0 1.50 0.0 2.0 #UAV CAN'T see them
task stealth 25 18 25.0 22.0 20.0 8.0 15.0 #danger for SOF
#
# task 26: ground (SCUD missile SECOND launcher)
# made a TF = 5 to indicate time critical value
task general 26 G SML 0.06 0.1 5 silkworm.icon
cluster member 26 15
task name 26 SCUD_launcher
task mean 26 2.0 10.0 1.00
task attack 26 0 1 1 1 1 1 1 1 0
task mapping 26
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 1.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
#
# task 27: "nothing there" sea report confuse with S&R -- if needed
task general 27 S S&R 0.0 0.1 0 cross.icon
cluster member 27 13
task name 27 rescue_effort
task mean 27 0.0 2.0 0.00

```

```

task attack 27 0 0 0 0 0 0 0 0 0
task mapping 27
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
task stealth 27 10 30.0 15.0 25.0 10.0 0.0
task stealth 27 19 700.0 0.0 0.0 0.0 0.0
#
# task 28: a major bridge
task general 28 G BR 0.0 0.1 9 bridge.icon
cluster member 28 16
task name 28 major_bridge
task mean 28 30.0 30.0 1.0
task attack 28 0 1 1 1 1 1 1 1 0
task mapping 28
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 2.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 1.0
task stealth 28 19 600.0 600.0 600.0 0.0 0.0
#
# task 29: final seaport
task general 29 G PRT 0.0 0.1 9 norfolk.icon
cluster member 29 0
task name 29 capture_port
task mean 29 50.0 40.0 1.0
task attack 29 0 1 1 1 1 1 1 1 0
task mapping 29
0.0 0.0 0.0 1.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 1.0
0.0 0.0 0.0 0.0

```

```

0.0  0.0  0.0    0.0
0.0  0.0  0.0    1.0
0.0  0.0  0.0    1.0
task stealth 29  19  600.0  600.0  600.0  0.0  0.0
task stealth 29   7  80.0   20.0  40.0  36.0  3.0 #so F18A can attack
task stealth 29  10  30.0   15.0  25.0  10.0  0.0 #so HH60 can attack
task stealth 29  17  20.0   15.0  18.0  12.0  0.0 #so FGTR can attack
task stealth 29  12   0.0   0.0   0.0   0.0  0.0 # so can't use SM2
task stealth 29  16   0.0   0.0   0.0   0.0  0.0 # so can't use HARP
#
# task 30: a complex SEA task-1
task general 30  S  TSK  0.0  0.1  5  crusty.icon
cluster member 30 18
task name 30 complex_task
task mean 30  40.0  30.0  1.0
task attack  30  0  1 1 1 1 1 1 1 0
task mapping 30
0.0  0.0  0.0    1.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    1.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    0.0
0.0  0.0  0.0    1.0
0.0  0.0  0.0    0.0
task stealth 30   7  0.0   0.0   0.0  20.0   0.0 #so F18A can protect
task stealth 30   9 13.0   0.0   0.0  10.0   0.0 #MH53
task stealth 30  12  0.0   0.0   0.0   0.0   0.0 # so can't use SM2
task stealth 30  16  0.0   0.0   0.0   0.0   0.0 # so can't use HARP
task stealth 30  19  600.0  600.0  600.0  0.0  0.0
#
# task 31: a complex SEA task-2
task general 31  S  TSK  0.0  0.1  9  crusty.icon
cluster member 31 18
task name 31 complex_task
task mean 31  40.0  30.0  1.0
task attack  31  0  1 1 1 1 1 1 1 0
task mapping 31
0.0  0.0  0.0    0.0
0.0  0.0  0.0    1.0

```

```

0.0 0.0 0.0 1.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 1.0
0.0 0.0 0.0 0.0
task stealth 31 7 0.0 0.0 0.0 20.0 0.0 #so F18A can protect
task stealth 31 9 13.0 0.0 0.0 10.0 0.0 #MH53
task stealth 31 12 0.0 0.0 0.0 0.0 0.0 # so can't use SM2
task stealth 31 16 0.0 0.0 0.0 0.0 0.0 # so can't use HARP
task stealth 31 19 600.0 600.0 600.0 0.0 0.0
#
# task 32: a complex SEA task-3
task general 32 S TSK 0.0 0.1 5 crusty.icon
cluster member 32 18
task name 32 complex_task
task mean 32 40.0 30.0 1.0
task attack 32 0 1 1 1 1 1 1 1 0
task mapping 32
0.0 0.0 0.0 1.0
0.0 0.0 0.0 1.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 1.0
0.0 0.0 0.0 0.0
task stealth 32 7 0.0 0.0 0.0 20.0 0.0 #so F18A can protect
task stealth 32 9 13.0 0.0 0.0 10.0 0.0 #MH53
task stealth 32 12 0.0 0.0 0.0 0.0 0.0 #so can't use SM2
task stealth 32 19 600.0 600.0 600.0 0.0 0.0
#
# task 33: a UT GROUND task
task general 33 G EVA 0.0 0.1 5 cross.icon
cluster member 33 19
task name 33 evacuate wounded
task mean 33 20.0 30.0 0.0
task attack 33 0 1 1 1 1 1 1 1 0
task mapping 33
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0

```

```

0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 2.0
0.0 0.0 0.0 1.0
task stealth 33 10 15.0 6.0 8.0 10.0 0.0
task stealth 33 19 700.0 700.0 700.0 0.0 0.0
#
# task 34: a UT SEA task-1
task general 34 S GUN 0.20 0.1 1 ship.icon
cluster member 34 2
task name 34 gun_runner
task mean 34 10.0 20.0 1.0
task attack 34 0 1 1 1 1 1 1 1 0
task mapping 34
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 1.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
#task stealth 34 19 600.0 600.0 600.0 0.0 0.0
#
# task 35: a UT SEA task-2
task general 35 S UT 0.0 0.1 9 take.icon
cluster member 35 20
task name 35 unanticipated_task
task mean 35 50.0 60.0 1.0
task attack 35 0 1 1 1 1 1 1 1 0
task mapping 35
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 1.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
task stealth 35 19 600.0 600.0 600.0 0.0 0.0

```

```

#
# task 36: a UT SEA task-3
task general 36 S UT 0.0 0.1 9 take.icon
cluster member 36 20
task name 36 unanticiapted_task
task mean 36 50.0 60.0 1.0
task attack 36 0 1 1 1 1 1 1 1 0
task mapping 36
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 1.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
task stealth 36 19 600.0 600.0 600.0 0.0 0.0
#
# task 37: Enemy air defenders
task general 37 A CAP 2.0 0.1 2 air.icon
cluster member 37 5
task name 37 enemy_CAP
task mean 37 10.0 20.0 1.00
task attack 37 0 1 1 1 1 1 1 1 0
task mapping 37
0.0 0.0 0.0 2.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
task stealth 37 7 50.0 20.00 40.00 36.00 20.00
task stealth 37 8 50.0 20.00 40.00 0.00 27.00
#
# task 38: Hostile air (yes) of a different nature
task general 38 A PH 1.75 0.1 3 air.icon
cluster member 38 5
task name 38 possible_hostile
task mean 38 5.0 5.0 1.00

```

```

task attack 38 0 1 1 1 1 1 1 1 0
task mapping 38
0.0 0.0 0.0 2.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
# these go after big ships -- not aircraft
task stealth 38 6 250. 0. 0. 0.0 0.0
#task stealth 38 7 80. 20. 40. 36.0 3.0
task stealth 38 8 80. 20. 40. 0.0 3.0
task stealth 38 9 60. 0. 30. 0.0 3.0
task stealth 38 10 60. 0. 30. 0.0 3.0
task stealth 38 11 20. 10. 15. 0.0 3.0
#
# task 39: Hostile ship (yes) of a different nature
task general 39 S PH .20 0.1 2 ship.icon
cluster member 39 2
task name 39 possible_hostile
task mean 39 5.0 2.0 1.00
task attack 39 0 1 1 1 1 1 1 1 0
task mapping 39
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 2.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0
#
# task 40: SAM clusters
task general 40 G SA6 0.06 0.1 3 sam.icon
cluster member 40 7
task name 40 SAM_cluster
task mean 40 5.0 10.0 1.00
task attack 40 0 1 1 1 1 1 1 1 0
task mapping 40

```

```

0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0
0.0  0.0  0.0  2.0
0.0  0.0  0.0  0.0
0.0  0.0  0.0  0.0
#aircraft cannot get within 38 miles
task stealth 40 7 55.0 25.00 55.00 0.00 38.00 #F18A
task stealth 40 8 55.0 25.00 55.00 15.00 38.00 #F18S
task stealth 40 9 55.0 25.00 55.00 0.00 38.00 #MH53
task stealth 40 10 25.0 25.00 25.00 0.00 9.00 #HH60
task stealth 40 11 55.0 25.00 55.00 0.00 38.00 #UAV
#
# -----
# TASK HELP INFORMATION
#
task help 0 3
Capturing NBE will require 1 Anti-Air unit (1 F18-A), 2 STRK units,
and 1 SOF team. Note any prerequisites that may be required
before completing this task.
#
task help 1 3
Destroying this naval base (NBW) will require
3 STRK units. The time window to successfully
detroy the target is 40 seconds.
#
task help 2 2
To neutralize the enemy CMD CTR it will
require 1 STRK unit and 1 SOF team.
#
task help 3 3
This is an enemy destroyer capable of launching surface to surface
missiles and laying mines. 1 Anti-Surface unit and 1 Anti-Air unit
is required to destroy this ship.
#
task help 4 2
This is an enemy fast patrol boat. 1 Anti-Surface
unit is required to destroy this platform.

```

#

task help 5 3

This is an enemy Coastal Defense Launcher capable of launching cruise missiles at surface targets. 1 STRK unit is required to destroy this target.

#

task help 6 3

This is a Scud Missile Launcher. 1 Strike unit is required to destroy this target. Be careful, some are protected by Surface to Air Missile Launchers.

#

task help 7 2

This is an enemy fighter aircraft. 1 Anti-Air unit is required to destroy this platform.

#

task help 8 3

Capturing this Air Base (ABE) will require 1 Anti-Air (1 F18-A) unit,
2 STRK units,
and 1 SOF team. Beware of enemy ground forces when using the SOF teams.

Note any prerequisites required to be completed before beginning this task.

#

task help 9 3

Destroying this Air Base (ABW) will require 3 STRK units.
Note any prerequisites required to be completed before beginning this task.

#

task help 10 2

This is an enemy surface to air missile site. 1 STRK units and 1 SOF team is required to destroy this target.

#

task help 11 2

This is neutral commercial air. There are penalties for firing on neutral platforms.

#

task help 12 2

This is neutral commercial merchant shipping. There are penalties for firing on neutral platforms.

#

task help 13 2

This is an enemy coastal defense missile launched from a coastal defense launcher. 1 Anti-Air unit is required to destroy this target.

#

task help 14 2

This is an enemy Scud Missile most likely targeting one of the neutral countries. 1 Anti-Ballistic Missile is required to destroy this target.

#

task help 15 2

This is an enemy mine field. 1 Anti-Mine unit and 1 Anti-Air unit (1 F18-A) is required to remove and safely detonate these mines.

#

task help 16 2

This is an Exocet missile most likely fired by an enemy Destroyer. 1 Anti-Air unit is required to destroy this target.

#

task help 17 3

This is a possible hostile aircraft. You must get positive ID on this asset in order to determine if it is actually hostile or not. There are penalties for firing on non-hostile units.

#

task help 18 3

This is a possible hostile aircraft. You must get positive ID on this contact in order to determine if it is actually hostile or not. There are penalties for firing on non-hostile units.

#

task help 19 3

This is a possible hostile ship. You must get positive ID on this contact in order to determine if it is actually hostile or not. There are penalties for firing on non-hostile units.

#

task help 20 3

This is a possible hostile ship. You must get positive ID on this contact in order to determine if it is actually hostile or not. There are penalties for firing on non-hostile units.

#

task help 21 3

This is a mobile Surface to Air Missile Site. Since the exact location may have changed

since the last intel was received, it is required to use Strike Aircraft in order to

detroy this target. 2 STRK units (1 f18-S) and 1 SOF team is required to destroy this target.

#

task help 22 2

This is an early warning on a possible scud launch received from intelligence.

Investigate with ISR in order to locate and destroy the Scud Launcher.

#

task help 23 2

This is a Search and Rescue (SAR) effort. 1 Anti-Surface unit and 1 SAR

unit is required to successfully complete this task.

#

task help 24 2

This is an enemy reconnassaince aircraft. This contact has shown no aggression

towards our forces.

#

task help 25 2

This is a camouflaged enemy ground force. 1 STRK unit and 1 SOF team (to designate)

are required to destroy these enemy forces.

#

task help 26 3

This is a Scud Missile Launcher. 1 STRK unit is required to destroy this target. Be careful, some may be protected by Surface to Air Missile Launchers.

#

task help 27 1

This is believed to be a false distress signal.

#

task help 28 3

This is an enemy bridge which provides a link to one or more of the enemy's

bases and fortifications. 1 SOF team and 2 STRK units are required to destroy

the bridge.

#

task help 29 3

This is the port where the government officials are being held. You must capture this port and

free the hostages. 1 SOF team, 1 SAR unit, 1 Anti-Surface unit (1 FGTR), and 1 Anti-Air unit (1 F18-A)

is required to complete this task. Note any prerequisites required to be completed before beginning this task.

#

task help 30 3

Friendly F-14 down. Pilot has reported enemy aircraft and fast boats in his vicinity.

This is a combat Search and Rescue mission. 1 unit of Anti-Air, 1 unit of Anti-Surface,

and 1 unit of SAR will be required to complete this task.

#

task help 32 3

A ship has hit a mine and is under attack by enemy aircraft. This is a combat Search

and Rescue mission. 1 unit of Anti-Air, 1 unit of Mines, and 1 unit of SAR are required

to complete this task.

#

task help 34 3

This ship is trying to run weapons to the Seaport in the occupied country. Destroy it before it reaches the port to resupply enemy forces.

2 Anti-Surface units are required to destroy this platform.

#

task help 37 2

This is an enemy air attack wave who's mission is to defend valuable enemy assets.

1 Anti-Air unit is required to destroy this platform.

#

task help 38 3

This is a possible hostile aircraft. You must get positive ID on this contact in order to determine if it is actually hostile or not.

There are penalties for firing on non-hostile units.

#

task help 39 3

This is a possible hostile ship. You must get positive ID on this contact in order to determine if it is actually hostile or not.

There are penalties for firing on non-hostile units.

```
#
task help 40 3
    This is a surface to air missile site cluster designed to provide 360
degrees of covered to a valuable
    enemy asset. 2 STRK units are required to destroy this target. Note
that the valuable asset being
    protected by this SAM cluster will not be visible to your sensors
until this cluster is destroyed.
```

```
#
# -----
```

```
task penetration 0 0 0 0
task penetration 1 0 0 0
task penetration 2 0 0 0
task penetration 3 0 0 0
task penetration 4 0 0 0
task penetration 5 0 0 0
task penetration 6 0 0 0
task penetration 7 0 0 0
task penetration 8 0 0 0
task penetration 9 0 0 0
task penetration 10 0 0 0
task penetration 11 0 0 0
task penetration 12 0 0 0
task penetration 13 0 0 0
task penetration 14 1 1 1
task penetration 15 0 0 0
task penetration 16 0 0 0
task penetration 17 1 1 0
task penetration 18 0 0 0
task penetration 19 0 0 0
task penetration 20 0 0 0
task penetration 21 0 0 0
task penetration 22 0 0 0
task penetration 23 0 0 0
task penetration 24 0 0 0
task penetration 25 0 0 0
task penetration 26 0 0 0
task penetration 27 0 0 0
task penetration 28 0 0 0
task penetration 29 0 0 0
```



```

#
task definition 206 15 0 0 #mines @ NBE
#
task definition 212 29 0 0 #Tunis (final objective)
#
task definition 213 31 0 0
#
task definition 211 00 0 0 #NBE
#
task definition 207 21 0 0 #SA3
#
task definition 208 21 0 0 #SA3
#
task definition 209 09 0 0 #ABW
#
task definition 210 08 0 0 #ABE
#
task definition 214 29 0 0
#
task definition 215 29 0 0
#-----
# Fast Patrol Craft (N=16)
#-----
task definition 216 04 0 0
#
task definition 217 04 0 0
#
task definition 218 04 0 0
#
task definition 219 04 0 0
#
task definition 220 04 0 0
#
task definition 221 04 0 0
#
task definition 222 04 0 0
#
task definition 223 04 0 0
#

```

```

task definition 224 04 0 0
#
task definition 225 04 0 0
#
task definition 226 04 0 0
#
task definition 227 04 0 0
#
task definition 228 04 0 0
#
task definition 229 04 0 0
#
task definition 230 04 0 0
#
task definition 231 04 0 0
#-----
# Coastal Defense missile launchers (N=22)
#-----
task definition 232 5 0 0
#
task definition 233 5 0 0
#
task definition 234 5 0 0
#
task definition 235 5 0 0
#
task definition 236 5 0 0
#
task definition 237 5 0 0
#
task definition 238 5 0 0
#
task definition 239 5 0 0
#
task definition 240 5 0 0
#
task definition 241 5 0 0
#
task definition 242 5 0 0

```

```

#
task definition 243 5 0 0
#
task definition 244 5 0 0
#
task definition 245 5 0 0
#
task definition 246 5 0 0
#
task definition 247 5 0 0
#
task definition 248 5 0 0
#
task definition 249 5 0 0
#
task definition 250 5 0 0
#
task definition 251 5 0 0
#
task definition 252 5 0 0
#
task definition 253 5 0 0
#-----
# Red Ground forces (N=4)
#-----
task definition 254 25 0 0
#
task definition 255 25 0 0
#
task definition 256 25 0 0
#
task definition 257 25 0 0
#-----
# Complex Sea Tasks (N=4)
#-----
task definition 258 30 0 0
#
task definition 259 30 0 0
#

```

```

task definition 260 32 0 0
#
task definition 261 32 0 0
#-----
# SCUD missile launchers (N=28, most in pairs)
#-----
task definition 262 6 0 0
#
task definition 263 26 0 0 #S262
#
task definition 264 6 0 0
#
task definition 265 26 0 0 #S264
#
task definition 266 6 0 0
#
task definition 267 26 0 0 #S266
#
task definition 268 6 0 0
#
task definition 269 26 0 0 #S268
#
task definition 270 6 0 0
#
task definition 271 26 0 0 #S270
#
task definition 272 6 0 0
#
task definition 273 26 0 0 #S272
#
task definition 274 6 0 0
#
task definition 275 26 0 0 #S274
#
task definition 276 6 0 0
#
task definition 277 26 0 0 #S276
#
task definition 278 6 0 0

```

```

#
task definition 279 26 0 0 #S278
#
task definition 280 6 0 0
#
task definition 281 26 0 0 #S280
#
task definition 282 6 0 0
#
task definition 283 26 0 0 #S282
#
task definition 284 6 0 0
#
task definition 285 26 0 0 #S284
#
task definition 286 6 0 0
#
task definition 287 26 0 0 #S286
#
task definition 288 6 0 0 #S if attack 254
#
task definition 289 6 0 0 #S if attack 255
#-----
# SCUD missiles (N=28 maximum)
#-----
task definition 290 14 0 0 #S262
#
task definition 291 14 0 0 #S263
#
task definition 292 14 0 0 #S264
#
task definition 293 14 0 0 #S265
#
task definition 294 14 0 0 #S266
#
task definition 295 14 0 0 #S267
#
task definition 296 14 0 0 #S268
#

```

task definition 297 14 0 0 #S269

task definition 298 14 0 0 #S270

task definition 299 14 0 0 #S271

task definition 300 14 0 0 #S272

task definition 301 14 0 0 #S273

task definition 302 14 0 0 #S274

task definition 303 14 0 0 #S275

task definition 304 14 0 0 #S276

task definition 305 14 0 0 #S277

task definition 306 14 0 0 #S278

task definition 307 14 0 0 #S279

task definition 308 14 0 0 #S280

task definition 309 14 0 0 #S281

task definition 310 14 0 0 #S282

task definition 311 14 0 0 #S283

task definition 312 14 0 0 #S284

task definition 313 14 0 0 #S285

task definition 314 14 0 0 #S286

task definition 315 14 0 0 #S287

task definition 316 14 0 0 #S288

```

#
    task definition  317  14 0 0 #S289
#-----
# CD (Exocet-like) missiles (N=22)
#-----
    task definition  318  13 0 0 #S232
#
    task definition  319  13 0 0 #S233
#
    task definition  320  13 0 0 #S234
#
    task definition  321  13 0 0 #S235
#
    task definition  322  13 0 0 #S236
#
    task definition  323  13 0 0 #S237
#
    task definition  324  13 0 0 #S238
#
    task definition  325  13 0 0 #S239
#
    task definition  326  13 0 0 #S240
#
    task definition  327  13 0 0 #S241
#
    task definition  328  13 0 0 #S242
#
    task definition  329  13 0 0 #S243
#
    task definition  330  13 0 0 #S244
#
    task definition  331  13 0 0 #S245
#
    task definition  332  13 0 0 #S246
#
    task definition  333  13 0 0 #S247
#
    task definition  334  13 0 0 #S248
#

```

```

task definition 335 13 0 0 #S249
#
task definition 336 13 0 0 #S250
#
task definition 337 13 0 0 #S251
#
task definition 338 13 0 0 #S252
#
task definition 339 13 0 0 #S253
#-----
# merchant ships (N=7)
#-----
task definition 340 12 0 0
#
task definition 341 12 0 0
#
task definition 342 12 0 0
#
task definition 343 12 0 0
#
task definition 344 12 0 0
#
task definition 345 12 0 0
#
task definition 346 12 0 0
#-----
# possible hostile ships (N=8: 4 and 4)
#-----
task definition 347 19 0 0
#
task definition 348 19 0 0
#
task definition 349 19 0 0
#
task definition 350 19 0 0
#
task definition 351 20 0 0
#
task definition 352 20 0 0

```

```

#
task definition 353 20 0 0
#
task definition 354 20 0 0
#-----
# SAM sites (N=16)
#-----
task definition 355 40 0 0 #super SAM
#
task definition 356 10 0 0
#
task definition 357 10 0 0
#
task definition 358 10 0 0
#
task definition 359 10 0 0
#
task definition 360 10 0 0
#
task definition 361 10 0 0
#
task definition 362 10 0 0
#
task definition 363 10 0 0
#
task definition 364 10 0 0
#
task definition 365 10 0 0
#
task definition 366 10 0 0
#
task definition 367 40 0 0 #super SAM
#
task definition 368 10 0 0
#
task definition 369 10 0 0
#
task definition 370 10 0 0
#-----

```

```

# mine fields (N=12)
#-----
task definition 371 15 0 0
#
task definition 372 15 0 0
#
task definition 373 15 0 0
#
task definition 374 15 0 0
#
task definition 375 15 0 0
#
task definition 376 15 0 0
#
task definition 377 15 0 0
#
task definition 378 15 0 0
#
task definition 379 15 0 0
#
task definition 380 15 0 0
#
task definition 381 15 0 0
#
task definition 382 15 0 0
#-----
# DDG-firing exocet missiles (N=12) -- reqs 1 hit in this run
#-----
task definition 383 3 0 0
#task repeat 383 1
#
task definition 384 3 0 0
#
task definition 385 3 0 0
#task repeat 385 1
#
task definition 386 3 0 0
#
task definition 387 3 0 0

```

```

#task repeat 387 1
#
  task definition 388 3 0 0
#
  task definition 389 3 0 0
#task repeat 390 1
#
  task definition 390 3 0 0
#
  task definition 391 3 0 0
#task repeat 391 1
#
  task definition 392 3 0 0
#
  task definition 393 3 0 0
#
  task definition 394 3 0 0
#-----
# search and rescue at sea (N=10)
#-----
  task definition 395 23 0 0
#
  task definition 396 23 0 0
#
  task definition 397 23 0 0
#
  task definition 398 23 0 0
#
  task definition 399 23 0 0
#
  task definition 400 23 0 0
#
  task definition 401 23 0 0
#
  task definition 402 23 0 0
#
  task definition 403 23 0 0
#
  task definition 404 23 0 0

```

```

#-----
# red a/c attackers (N=18) - reqs 1 hit
#-----

    task definition  405  7 0 0
#task repeat 405 1
#
    task definition  406  7 0 0
#task repeat 406 1
#
    task definition  407  7 0 0
#task repeat 407 1
#
    task definition  408  7 0 0
#task repeat 408 1
#
    task definition  409  7 0 0
#task repeat 409 1
#
    task definition  410  7 0 0
#task repeat 410 1
#
    task definition  411  7 0 0
#task repeat 411 1
#
    task definition  412  7 0 0
#task repeat 412 1
#
    task definition  413  7 0 0
#task repeat 413 1
#
    task definition  414  7 0 0
#task repeat 414 1
#
    task definition  415  7 0 0
#task repeat 415 1
#
    task definition  416  7 0 0
#task repeat 416 1
#

```

```

    task definition  417  7 0 0
#task repeat 417 1
#
    task definition  418  7 0 0
#task repeat 418 1
#
    task definition  419  7 0 0
#task repeat 419 1
#
    task definition  420  7 0 0
#task repeat 420 1
#
    task definition  421  7 0 0
#task repeat 421 1
#
    task definition  422  7 0 0
#task repeat 422 1
#-----
# commercial air (N=8)
#-----
    task definition  423  11 0 0
#
    task definition  424  11 0 0
#
    task definition  425  11 0 0
#
    task definition  426  11 0 0
#
    task definition  427  11 0 0
#
    task definition  428  11 0 0
#
    task definition  429  11 0 0
#
    task definition  430  11 0 0
#-----
# possible hostile aircarft (N=8: 3 and 5)
#-----
    task definition  431  17 0 0

```

```

#
task definition 432 17 0 0
#
task definition 433 17 0 0
#
task definition 434 18 0 0
#
task definition 435 18 0 0
#
task definition 436 18 0 0
#
task definition 437 18 0 0
#
task definition 438 18 0 0
#-----
# reconnaissance air (N=4)
#-----
task definition 439 24 0 0
#
task definition 440 24 0 0
#
task definition 441 24 0 0
#
task definition 442 24 0 0
#-----
# air defenders (N=2)
#-----
task definition 443 37 0 0
#
task definition 444 37 0 0
#-----
# other S&R/mayday reports (N=4)
#-----
task definition 445 33 0 0 #ground SAR
#
task definition 446 27 0 0
#
task definition 447 27 0 0
#

```

```

task definition 448 27 0 0
#-----
# Gunrunning patrol boats (N=2)
#-----
task definition 449 34 0 0
#
task definition 450 34 0 0
#-----
# Exocet missiles (N=10)
#-----
task definition 451 16 0 0
#
task definition 452 16 0 0
#
task definition 453 16 0 0
#
task definition 454 16 0 0
#
task definition 455 16 0 0
#
task definition 456 16 0 0
#
task definition 457 16 0 0
#
task definition 458 16 0 0
#
task definition 459 16 0 0
#
task definition 460 16 0 0
#-----
# SCUD early warnings (N=11)
#-----
task definition 461 22 0 0
#
task definition 462 22 0 0
#
task definition 463 22 0 0
#
task definition 464 22 0 0

```

```

#
task definition 465 22 0 0
#
task definition 466 22 0 0
#
task definition 467 22 0 0
#
task definition 468 22 0 0
#
task definition 469 22 0 0
#
task definition 470 22 0 0
#
task definition 471 22 0 0
#-----
# mobile SAM sites (N=3)
#-----
task definition 472 21 0 0
#
task definition 473 21 0 0
#
task definition 474 21 0 0
#-----
# task prerequisites id num pr(1) pr(2) ... pr(num)
# id: integer number from 200 to 399, giving an unique id to the
task.
# num: integer number of prerequisite tasks that this task has
# pr(i): the task number of a prerequisite for this class
# Note: prerequisites must have lower task number [i.e.
pr(i) < id ]
# default=task has no prerequisites (num=0)
#-----
task prerequisites 203 1 200 #NBW <= CMD
task prerequisites 209 4 203 201 207 208 #ABW <= NBW, Bridge,
SA3, SA3
task prerequisites 210 1 209 #ABE <= ABW
task prerequisites 211 2 210 206 #NBE <= ABE, mines
task prerequisites 212 3 211 205 209 #port <= mines, NBE, ABW
#
#-----

```

```

#
# task spawn id num type sid(1) ... sid(5)
#                               sid(6) ... sid(10)
#                               ...    ...    ...
#                               sid(num-4) ... sid(num)
# id:      integer id of 'spawner' task for which new tasks will be
spawned.
# num:      integer number of tasks to be spawned.
# type:     character A or D denoting a task Attack or task Disappear
event.
# sid(i):   integer ids of 'spawned' tasks.
# NOTE:i) 0 < num < n, where n is specified via 'number_of'
statement.
#      ii) a task can be both spawned and a spawner (ie, recursive),
#           however, a task cannot be spawned by more than one
spawned.
#      iii) to prevent spawning cycles, ie, X spawns Y spawns X, we
#            require id < sid(i), i = 1..num.
#      iv)  at most 5 spawned task ids specified per line, and, for
#            num > 5, only last line can have <= 5 task ids specified.
#
#-----
#      timing events
#-----
# Destroyers that fire XOCs, next location
task spawn 383 2 D 451 384
task spawn 384 2 D 452 393
task spawn 385 2 D 453 386
task spawn 386 1 D 454
task spawn 387 2 D 455 388
task spawn 388 1 D 456
task spawn 389 2 D 457 390
#task spawn 390 1 D 458
task spawn 391 2 D 459 392
task spawn 392 2 D 460 394
# Coastal defense missile launches
task spawn 232 1 D 318
task spawn 233 1 D 319
task spawn 234 1 D 320
task spawn 235 1 D 321
task spawn 236 1 D 322

```

```

task spawn 237 1 D 323
task spawn 238 1 D 324
task spawn 239 1 D 325
task spawn 240 1 D 326
task spawn 241 1 D 327
task spawn 242 1 D 328
task spawn 243 1 D 329
task spawn 244 1 D 330
task spawn 245 1 D 331
task spawn 246 1 D 332
task spawn 247 1 D 333
task spawn 248 1 D 334
task spawn 249 1 D 335
task spawn 250 1 D 336
task spawn 251 1 D 337
task spawn 252 1 D 338
task spawn 253 1 D 339
# SCUD missile launches (1st missile @+1; second setup @+60)
task spawn 262 2 D 263 290
task spawn 263 1 D      291
task spawn 264 2 D 265 292
task spawn 265 1 D      293
task spawn 266 2 D 267 294
task spawn 267 1 D      295
task spawn 268 2 D 269 296
task spawn 269 1 D      297
task spawn 270 2 D 271 298
task spawn 271 1 D      299
task spawn 272 2 D 273 300
task spawn 273 1 D      301
task spawn 274 2 D 275 302
task spawn 275 1 D      303
task spawn 276 2 D 277 304
task spawn 277 1 D      305
task spawn 278 2 D 279 306
task spawn 279 1 D      307
task spawn 280 2 D 281 308
task spawn 281 1 D      309
task spawn 282 2 D 283 310

```

```

task spawn 283 1 D 311
task spawn 284 2 D 285 312 # mobile
task spawn 285 1 D 313
task spawn 286 2 D 287 314 # mobile
task spawn 287 1 D 315
# -----
task spawn 210 1 A 445 #SAR at ABE
task spawn 201 1 A 446 #SAR at Bridge 1
# -----
game end 212 60.0 # capturing PORT ends game
#<<<<<<<< Maneuver Information: N6rn2 >>>>>>>>
#
# maneuver definition id time
#      flag(1) x(1) y(1) v(1)
#      flag(2) x(2) y(2) v(2)
#      ... ..
#      flag(m) x(m) y(m) v(m)
# id: integer number uniquely specifying this task.
# time: floating number specifying the task arrival time.
#      If this number is omitted, a randomly generated
#      arrival time will be assigned to the task.
# flag(i): one character to indicate the type of the maneuver.
# =m ordinary maneuver
# =s maneuver of staying at a point
# =e ending maneuver
# v(i): relative velocity ( $0 < v_i \leq 1$ ).
# if flagi=s, then vi is the task's staying time
#      rather than its velocity.
# x(i),y(i): coordinates, in  $[-0.5, 1.5] \times \text{simu\_scale}$ .
# default straight line maneuvers automatically generated,
#      starting at (simulation scale)/2 and ending
#      in the center of the screen.
#
#-----
# Tasks 200-213 (mission task graph & prerequisites)
#-----
maneuver definition 200 1.00 #command center
s 125.0 330.0 3600.
e 125.0 330.0 0.0

```

```

#
maneuver definition 211 1.00 # Naval Base East
s 200.0 200.0 3600.
e 200.0 200.0 0.0
#
maneuver definition 203 1.00 # Naval Base West
s 100.0 200.0 3600.
e 100.0 200.0 0.0
#
maneuver definition 210 1.00 # Air Base East
s 150.0 300.0 3600.
e 150.0 300.0 0.0
#
maneuver definition 209 1.00 # AirBase West
s 50.0 300.0 3600.
e 50.0 300.0 0.0
#
maneuver definition 201 1.00 #bridge1
s 80.0 245.0 3600.
e 80.0 245.0 0.0
#
maneuver definition 202 1.00 #bridge2
s 140.0 240.0 3600.
e 140.0 240.0 0.0
#
maneuver definition 206 1.00 #mines @ NBE
s 200.0 190.0 3600.
e 200.0 190.0 0.0
#
maneuver definition 204 3000.00
s 100.0 360.0 3600.
e 100.0 360.0 0.0
#
maneuver definition 205 100.00 #mines @ Tunis
s 320.0 190.0 3600.
e 320.0 190.0 0.0
#
maneuver definition 207 10.000 #SAM @ ABW
s 40.0 290.0 3000.0

```

```

e 40.0 290.0 0.0
#
maneuver definition 208 10.000 #SAM @ABW
s 60.0 290.0 3000.0
e 60.0 290.0 0.0
#
maneuver definition 212 1.00 #Tunis
s 320.0 200.0 3600.
e 320.0 200.0 0.0
#
maneuver definition 213 3000.00
s 100.0 360.0 3600.
e 100.0 360.0 0.0
#
maneuver definition 214 3000.00
s 100.0 360.0 3600.
e 100.0 360.0 0.0
#
maneuver definition 215 3000.00
s 100.0 360.0 3600.
e 100.0 360.0 0.0
#
#-----
# Tasks 216 -31 (enemy patrol boats)
#####Patrol Boats
#-----
maneuver definition 216 380.000 # 2nd wave attacks DDGC
m 325.0 200.0 0.6
m 375.0 175.0 1.0
m 410.0 160.0 1.0
e 370.0 150.0 0.0
#
maneuver definition 217 380.000 # 2nd wave attacks DDGB
m 360.0 195.0 0.7 #out of hiding at shore
m 400.0 195.0 0.6
e 430.0 240.0 0.0
#
maneuver definition 218 380.000 # 2nd wave attacks CG
m 100.0 200.0 0.7 #out of NBE

```

```

e 289.0 153.0 0.0
#
maneuver definition 219 380.000 # 2nd wave attacks CVN
m 200.0 200.0 1.0 #out of NBW
e 200.0 100.0 0.0
#
maneuver definition 220 380.000 # 2nd wave attacks DDGA
m 100.0 200.0 1.0 #out of NBE
e 120.0 150.0 0.0
#
maneuver definition 221 380.000 # 2nd wave attacks FFG
m 425.0 450.0 1.0 #out of Libya
m 440.0 420.0 1.0
e 440.0 380.0 0.0
#
maneuver definition 222 1300.000 # 4th wave attacks CG
s 230.0 190.0 9.0
m 230.0 190.0 0.8
e 280.0 150.0 0.0
#
maneuver definition 223 1200.000 # 4th wave attacks CVN
m 90.0 160.0 1.0
m 60.0 123.0 1.0
m 160.0 123.0 0.8
e 200.0 100.0 0.0
#
maneuver definition 224 1200.000 # 4th wave attacks DDGA
m 100.0 200.0 0.7 #out of NBE
m 160.0 150.0 1.0
e 120.0 150.0 0.0
#
maneuver definition 225 1300.000 # 4th wave attacks CVN
m 320.0 200.0 1.0 #out of Tunis
m 220.0 180.0 1.0
e 200.0 100.0 0.0
#
maneuver definition 226 360.000 # 2nd wave attacks CVN
m 200.0 200.0 0.8 #out of NBW
m 240.0 120.0 1.0

```

```

e 200.0 100.0 0.0
#
maneuver definition 227 240.000 # game start attacks CG
m 200.0 200.0 0.7 #out of NBW
m 240.0 125.0 1.0
e 280.0 150.0 0.0
#
maneuver definition 228 240.000 # game start attacks DDGA
m 100.0 200.0 0.7 #out of NBE
m 160.0 150.0 1.0
e 120.0 150.0 0.0
#
maneuver definition 229 700.000 # 3rd wave attacks CG
m 230.0 200.0 0.7 #out of hiding at shore
m 300.0 170.0 1.0
e 280.0 150.0 0.0
#
maneuver definition 230 1200.000 # 4th wave attacks DDGB
m 360.0 195.0 0.7 #out of hiding at shore
m 400.0 195.0 0.6
e 430.0 240.0 0.0
#
maneuver definition 231 1200.00 # 4th wave attacks FFG
m 425.0 450.0 1.0 #out of Libya
e 440.0 380.0 0.0
#
#-----
# Tasks 232-253 (CD/silkworm launchers)
#####Coastal Defense Launchers
#-----
maneuver definition 232 300.00 # 2nd wave target DDGA
s 80.0 205.0 70.0
e 80.0 205.0 0.0
#
maneuver definition 233 260.00 # 1ts wave target DDGA
s 90.0 205.0 70.0
e 90.0 205.0 0.0
#
maneuver definition 234 800.00 # 3rd wave target DDGA

```

```

s 110.0 205.0 70.0
e 110.0 205.0 0.0
#
maneuver definition 235 1500.00 # 5th wave target DDGA
s 120.0 205.0 70.0
e 120.0 205.0 0.0
#
maneuver definition 236 300.00 # 2nd wave target CVN
s 180.0 205.0 70.0
e 180.0 205.0 0.0
#
maneuver definition 237 1510.00 # 5th wave target CVN
s 190.0 205.0 70.0
e 190.0 205.0 0.0
#
maneuver definition 238 1400.00 # 4th wave target CVN
s 210.0 205.0 70.0
e 210.0 205.0 0.0
#
maneuver definition 239 240.00 # 1st wave target CVN
s 220.0 205.0 70.0
e 220.0 205.0 0.0
#
maneuver definition 240 300.00 # 2nd wave target CG
s 290.0 205.0 70.0
e 290.0 205.0 0.0
#
maneuver definition 241 800.00 # 3rd wave target CG
s 270.0 205.0 70.0
e 270.0 205.0 0.0
#
maneuver definition 242 1400.00 # 4th wave target CG
s 280.0 205.0 70.0
e 280.0 205.0 0.0
#
maneuver definition 243 1700.00 # target CG
s 280.0 200.0 70.0
e 280.0 200.0 0.0
#

```

```

maneuver definition 244 300.00 # 2nd wave target DDGB
s 370.0 210.0 70.0
e 370.0 210.0 0.0
#
maneuver definition 245 1700.00 # target DDGB
s 370.0 230.0 70.0
e 370.0 230.0 0.0
#
maneuver definition 246 1800.00 # target DDGB
s 368.0 250.0 70.0
e 368.0 250.0 0.0
#
maneuver definition 247 2000.00 # target DDGB
s 370.0 270.0 70.0
e 370.0 270.0 0.0
#
maneuver definition 248 300.00 # 2nd wave target FFG
s 370.0 350.0 70.0
e 370.0 350.0 0.0
#
maneuver definition 249 800.00 # 3rd wave target FFG
s 370.0 370.0 70.0
e 370.0 370.0 0.0
#
maneuver definition 250 100.00 # 3rd wave target FFG
s 370.0 390.0 70.0
e 370.0 390.0 0.0
#
maneuver definition 251 1700.00 # target FFG
s 370.0 410.0 70.0
e 370.0 410.0 0.0
#
maneuver definition 252 300.00 # 2nd wave target DDGC
s 320.0 205.0 70.0
e 320.0 205.0 0.0
#
maneuver definition 253 1700.00 # target DDGC
s 325.0 205.0 70.0
e 325.0 205.0 0.0

```

```

#
#-----
# Tasks 254-257 (Ground force units)
#-----
maneuver definition    254  10.00  # RGF @ bridge1
s  83.0  241.0  3000.0
e  83.0  241.0   0.0
#
maneuver definition    255  10.00  # RGF @ ABE
s  148.0  305.0  3000.0
e  148.0  305.0   0.0
#
maneuver definition    256  10.00  # RGF @ NBE
s  200.0  205.0  3000.0
e  200.0  205.0   0.0
#
maneuver definition    257  10.00  # RGF 4
s  320.0  320.0  3000.0
e  320.0  320.0   0.0
#
#-----
# Tasks 258-59 (Complex Sea Tasks)
#####Complex Sea#####
#-----
maneuver definition    258  1200.00
s  400.0  300.0  500.0
e  400.0  300.0   0.0
#
maneuver definition    259   800.00
s  160.0  120.0  500.0
e  160.0  120.0   0.0
#
#-----
# Tasks 260-261 (Complex Sea Tasks)
#####Complex Sea#####
#-----
maneuver definition    260  1500.00
s  325.0  125.0  500.0
e  325.0  125.0   0.0
#

```

```

maneuver definition 261 5000.00
s 250.0 300.0 500.0
e 250.0 300.0 0.0
#
#-----
# Tasks 262-89 (SCUD missile launchers)
#####Scud Launchers
#-----
maneuver definition 262 1200.000
s 40.0 260.0 113.0
e 40.0 260.0 0.0
#
maneuver definition 263 2.000 # second launch
s 40.0 260.0 175.0
e 40.0 260.0 0.0
#
maneuver definition 264 800.000
s 100.0 260.0 110.0
e 100.0 260.0 0.0
#
maneuver definition 265 2.000 # second launch
s 100.0 260.0 164.0
e 100.0 260.0 0.0
#
maneuver definition 266 1500.000
s 200.0 260.0 101.0
e 200.0 260.0 0.0
#
maneuver definition 267 2.000 # second launch
s 200.0 260.0 178.0
e 200.0 260.0 0.0
#
maneuver definition 268 1500.000 # colocated with Super SAM
s 100.0 302.0 116.0
e 100.0 302.0 0.0
#
maneuver definition 269 2.000 # second launch
s 100.0 300.0 170.0
e 100.0 300.0 0.0

```

```

#
maneuver definition    270  1200.000
s  200.0    300.0   97.0
e  200.0    300.0    0.0
#
maneuver definition    271   2.000 # second launch
s  200.0    300.0  160.0
e  200.0    300.0    0.0
#
maneuver definition    272  600.000 # 3rd wave at Country A
s  80.0     360.0  120.0
e  80.0     360.0    0.0
#
maneuver definition    273   2.000 # second launch
s  80.0     360.0  180.0
e  80.0     360.0    0.0
#
maneuver definition    274  580.000 # 3rd wave at Country B
s  200.0     360.0  116.0
e  200.0     360.0    0.0
#
maneuver definition    275   2.000 # second launch
s  200.0     360.0  188.0
e  200.0     360.0    0.0
#
maneuver definition    276  1800.000
s  140.0    410.0  127.0
e  140.0    410.0    0.0
#
maneuver definition    277   2.000 # second launch
s  140.0    410.0  180.0
e  140.0    410.0    0.0
#
maneuver definition    278  1900.000
s  200.0    400.0   96.0
e  200.0    400.0    0.0
#
maneuver definition    279   2.000 # second launch
s  200.0    400.0  160.0

```

```

e 200.0 400.0 0.0
#
maneuver definition 280 850.000
s 290.0 320.0 112.0
e 290.0 320.0 0.0
#
maneuver definition 281 2.000 # second launch
s 290.0 320.0 160.0
e 290.0 320.0 0.0
#
maneuver definition 282 1500.000 # colocated with the Super SAM
s 290.0 380.0 93.0
e 290.0 380.0 0.0
#
maneuver definition 283 2.000 # second launch
s 290.0 380.0 158.0
e 290.0 380.0 0.0
#
maneuver definition 284 5000.000 # mobile launcher
s 290.0 440.0 110.0
e 290.0 440.0 0.0
#
maneuver definition 285 2.000 # next position of 284 (333s later)
s 290.0 440.0 1.0
m 290.0 440.0 .95
e 340.0 300.0 0.0
#
maneuver definition 286 5000.000 # mobile launcher
s 200.0 240.0 112.0
e 200.0 240.0 0.0
#
maneuver definition 287 2.000 # next position of 286 (333s later)
m 200.0 240.0 0.99
s 200.0 260.0 98.0
e 200.0 260.0 0.0
#
maneuver definition 288 5000.000
s 245.0 300.0 110.0
e 245.0 300.0 0.0

```

```

#
maneuver definition 289 5000.000
s 240.0 300.0 110.0
e 240.0 300.0 0.0
#
#-----
# Tasks 290-317 (SCUD missiles spawned by launchers)
#####Scud Missiles
#-----
maneuver definition 290 1.000 # spawned by 262
s 40.0 260.0 3.0
m 40.0 260.0 1.0
e 275.0 80.0 0.0
#
maneuver definition 291 1.000 # spawned by 263
s 40.0 260.0 3.0
m 40.0 260.0 1.0
e 275.0 80.0 0.0
#
maneuver definition 292 1.000 # spawned by 264
s 100.0 260.0 3.0
m 100.0 260.0 1.0
e 280.0 20.0 0.0
#
maneuver definition 293 1.000 # spawned by 265
s 100.0 260.0 3.0
m 100.0 260.0 1.0
e 280.0 20.0 0.0
#
maneuver definition 294 1.000 # spawned by 266
s 200.0 260.0 3.0
m 200.0 260.0 1.0
e 318.0 90.0 0.0
#
maneuver definition 295 1.000 # spawned by 267
s 200.0 260.0 3.0
m 200.0 260.0 1.0
e 318.0 90.0 0.0
#

```

```

maneuver definition 296 1.000 # spawned by 268
s 100.0 300.0 3.0
m 100.0 300.0 1.0
e 280.0 40.0 0.0
#
maneuver definition 297 1.000 # spawned by 269
s 100.0 300.0 3.0
m 100.0 300.0 1.0
e 280.0 40.0 0.0
#
maneuver definition 298 1.000 # spawned by 270
s 200.0 300.0 3.0
m 200.0 300.0 1.0
e 440.0 180.0 0.0
#
maneuver definition 299 1.000 # spawned by 271
s 200.0 300.0 3.0
m 200.0 300.0 1.0
e 440.0 180.0 0.0
#
maneuver definition 300 1.000 # spawned by 272
s 80.0 360.0 3.0
m 80.0 360.0 1.0
e 280.0 0.0 0.0
#
maneuver definition 301 1.000 # spawned by 273
s 80.0 360.0 3.0
m 80.0 360.0 1.0
e 280.0 0.0 0.0
#
maneuver definition 302 1.000 # spawned by 274
s 200.0 360.0 3.0
m 200.0 360.0 1.0
e 480.0 175.0 0.0
#
maneuver definition 303 1.000 # spawned by 275
s 200.0 360.0 3.0
m 200.0 360.0 1.0
e 480.0 175.0 0.0

```

```

#
maneuver definition 304 1.000 # spawned by 276
s 140.0 410.0 3.0
m 140.0 410.0 1.0
e 310.0 60.0 0.0
#
maneuver definition 305 1.000 # spawned by 277
s 140.0 410.0 3.0
m 140.0 410.0 1.0
e 310.0 60.0 0.0
#
maneuver definition 306 1.000 # spawned by 278
s 200.0 400.0 3.0
m 200.0 400.0 1.0
e 480.0 190.0 0.0
#
maneuver definition 307 1.000 # spawned by 279
s 200.0 400.0 3.0
m 200.0 400.0 1.0
e 480.0 190.0 0.0
#
maneuver definition 308 1.000 # spawned by 280
s 290.0 320.0 3.0
m 290.0 320.0 1.0
e 440.0 160.0 0.0
#
maneuver definition 309 1.000 # spawned by 281
s 290.0 320.0 3.0
m 290.0 320.0 1.0
e 440.0 160.0 0.0
#
maneuver definition 310 1.000 # spawned by 282
s 290.0 380.0 3.0
m 290.0 380.0 1.0
e 425.0 160.0 0.0
#
maneuver definition 311 1.000 # spawned by 283
s 290.0 380.0 3.0
m 290.0 380.0 1.0

```

```

e 425.0 160.0 0.0
#
maneuver definition 312 1.000 # spawned by 284 (mobile)
s 360.0 300.0 3.0
m 360.0 300.0 1.0
e 460.0 200.0 0.0
#
maneuver definition 313 1.000 # spawned by 285 (mobile)
s 340.0 300.0 3.0
m 340.0 300.0 1.0
e 460.0 200.0 0.0
#
maneuver definition 314 1.000 # spawned by 286 (mobile)
s 200.0 240.0 3.0
m 200.0 240.0 1.0
e 300.0 80.0 0.0
#
maneuver definition 315 1.000 # spawned by 287 (mobile)
s 200.0 260.0 3.0
m 200.0 260.0 1.0
e 300.0 80.0 0.0
#
maneuver definition 316 5000.000 # spawned by 288
s 245.0 300.0 3.0
m 245.0 300.0 1.0
e 320.0 200.0 0.0
#
maneuver definition 317 5000.000 # spawned by 289
s 240.0 300.0 3.0
m 240.0 300.0 1.0
e 320.0 200.0 0.0
#
#-----
# Tasks 318-339 (CD missiles spawned by launchers)
#####CD Missiles
#-----
maneuver definition 318 1.000 # Spawned by 232 target DDGA
m 80.0 205.0 1.0
e 120.0 150.0 0.0

```

```

#
maneuver definition 319 1.000 # Spawned by 233 target DDGA
m 90.0 205.0 1.0
e 120.0 150.0 0.0
#
maneuver definition 320 1.000 # Spawned by 234 target DDGA
m 110.0 205.0 1.0
e 120.0 150.0 0.0
#
maneuver definition 321 1.000 # Spawned by 235 target DDGA
m 120.0 205.0 1.0
e 120.0 150.0 0.0
#
maneuver definition 322 1.000 # Spawned by 236 target CVN
m 180.0 205.0 1.0
e 200.0 100.0 0.0
#
maneuver definition 323 1.000 # Spawned by 237 target CVN
m 190.0 205.0 1.0
e 200.0 100.0 0.0
#
maneuver definition 324 1.000 # Spawned by 238 target CVN
m 210.0 205.0 1.0
e 200.0 100.0 0.0
#
maneuver definition 325 1.000 # Spawned by 239 target CVN
m 220.0 205.0 1.0
e 200.0 100.0 0.0
#
maneuver definition 326 1.000 # Spawned by 240 target CG
m 290.0 205.0 1.0
e 280.0 150.0 0.0
#
maneuver definition 327 1.000 # Spawned by 241 target CG
m 270.0 205.0 1.0
e 280.0 150.0 0.0
#
maneuver definition 328 1.000 # Spawned by 242 target CG
m 280.0 205.0 1.0

```

```

e 280.0 150.0 0.0
#
maneuver definition 329 1.000 # Spawned by 243 target CG
m 280.0 200.0 1.0
e 280.0 150.0 0.0
#
maneuver definition 330 1.000 # Spawned by 244 target DDGB
m 370.0 210.0 1.0
e 430.0 240.0 0.0
#
maneuver definition 331 1.000 # Spawned by 245 target DDGB
m 370.0 230.0 1.0
e 430.0 240.0 0.0
#
maneuver definition 332 1.000 # Spawned by 246 target DDGB
m 368.0 250.0 1.0
e 430.0 240.0 0.0
#
maneuver definition 333 1.000 # Spawned by 247 target DDGB
m 370.0 270.0 1.0
e 430.0 240.0 0.0
#
maneuver definition 334 1.000 # Spawned by 248 target FFG
m 370.0 350.0 1.0
e 440.0 380.0 0.0
#
maneuver definition 335 1.000 # Spawned by 249 target FFG
m 370.0 370.0 1.0
e 440.0 380.0 0.0
#
maneuver definition 336 1.000 # Spawned by 250 target FFG
m 370.0 390.0 1.0
e 440.0 380.0 0.0
#
maneuver definition 337 1.000 # Spawned by 251 target FFG
m 370.0 410.0 1.0
e 440.0 380.0 0.0
#
maneuver definition 338 1.000 # Spawned by 252 target DDGC

```

```

m 320.0 200.0 1.0
e 370.0 150.0 0.0
#
maneuver definition 339 1.000 # Spawned by 253 target DDGC
m 325.0 200.0 1.0
e 370.0 150.0 0.0
#
#-----
# Tasks 340-346 (merchant shipping)
#####Merchant Ships
#-----
maneuver definition 340 1200.00
s 240.0 100.0 5.0
m 240.0 100.0 0.99
e 240.0 200.0 0.0
#
maneuver definition 341 300.00
s 340.0 100.0 5.0
m 340.0 100.0 0.99
e 340.0 200.0 0.0
#
maneuver definition 342 300.00
m 340.0 127.0 0.99
m 375.0 127.0 0.99
e 500.0 50.0 0.0
#
maneuver definition 343 800.00
m 5.0 127.0 0.99
e 375.0 127.0 0.0
#
maneuver definition 344 800.00
m 500.0 424.0 0.99
s 424.0 450.0 1.0
m 424.0 450.0 0.99
m 424.0 300.0 0.99
e 375.0 124.0 0.0
#
maneuver definition 345 500.00
m 500.0 50.0 0.99

```

```

m 373.0 122.0 0.99
m 423.0 300.0 0.99
e 425.0 450.0 0.0
#
maneuver definition 346 300.00
s 426.0 450.0 1.0
m 426.0 450.0 0.99
m 426.0 300.0 0.99
e 375.0 125.0 0.0
#
#-----
# Tasks 347-354 (possible hostile ships)
#####Possible Hostile Ships
#-----
maneuver definition 347 380.00 # 2nd wave hostile to FFG
m 424.0 430.0 0.5
m 424.0 400.0 0.99
e 420.0 380.0 0.0
#
maneuver definition 348 1050.00 # 4th wave hostile to CG
m 200.0 200.0 0.5
m 270.0 126.0 0.5
m 300.0 126.0 0.99
e 280.0 150.0 0.0
#
maneuver definition 349 1700.00 # hostile to DDGA
m 100.0 200.0 0.5
m 90.0 150.0 0.99
e 120.0 150.0 0.0
#
maneuver definition 350 2000.00 # hostile to CVN
m 320.0 200.0 0.5
m 220.0 145.0 0.99
e 200.0 100.0 0.0
#
maneuver definition 351 1100.00 # 4th wave not hostile to FFG
m 425.0 440.0 0.99
m 440.0 400.0 0.99
m 475.0 400.0 0.5

```

```

e 425.0 440.0 0.0
#
maneuver definition 352 1100.00 # 4th wave not hostile DDGB
m 428.0 420.0 0.99
m 423.0 300.0 0.99
m 375.0 125.0 0.99
e 500.0 55.0 0.0
#
maneuver definition 353 1700.00 # not hostile DDGB
m 485.0 430.0 0.99
m 440.0 235.0 0.99
e 485.0 430.0 0.0
#
maneuver definition 354 1100.00 # 4th wave not hostile DDGA
m 75.0 75.0 0.99
m 125.0 100.0 0.99
m 175.0 100.0 1.0
e 275.0 130.0 0.0
#
#-----
# Tasks 355-70 (SAM sites)
#####SAM Sites
#-----
268/9 maneuver definition 355 1300.000 #super SAM colocated with SML
s 100.0 300.0 3000.0
e 100.0 300.0 0.0
#
maneuver definition 356 5000.000
s 20.0 260.0 3000.0
e 20.0 260.0 0.0
#
maneuver definition 357 18.000
s 100.0 260.0 3000.0
e 100.0 260.0 0.0
#
maneuver definition 358 18.000
s 180.0 260.0 3000.0
e 180.0 260.0 0.0
#

```

```

maneuver definition 359 18.000
s 220.0 260.0 3000.0
e 220.0 260.0 0.0
#
maneuver definition 360 5000.000
s 100.0 310.0 3000.0
e 100.0 310.0 0.0
#
maneuver definition 361 18.000
s 180.0 340.0 3000.0
e 180.0 340.0 0.0
#
maneuver definition 362 18.000
s 40.0 360.0 3000.0
e 40.0 360.0 0.0
#
maneuver definition 363 18.000
s 120.0 380.0 3000.0
e 120.0 380.0 0.0
#
maneuver definition 364 18.000
s 240.0 380.0 3000.0
e 240.0 380.0 0.0
#
maneuver definition 365 18.000
s 320.0 240.0 3000.0
e 320.0 240.0 0.0
#
maneuver definition 366 5000.000
s 290.0 280.0 3000.0
e 290.0 280.0 0.0
#
maneuver definition 367 1300.000 #super SAM colocated with SML
s 280.0 260.0 3000.0
e 280.0 260.0 0.0
#
maneuver definition 368 18.000
s 290.0 340.0 3000.0

```

```

e 290.0 340.0 0.0
#
maneuver definition 369 18.000
s 340.0 300.0 3000.0
e 340.0 300.0 0.0
#
maneuver definition 370 18.000
s 340.0 420.0 3000.0
e 340.0 420.0 0.0
#
#-----
# Tasks 371-382 (Sea Mines)
#####Sea Mines
#-----
maneuver definition 371 5000.00
s 80.0 180.0 3000.0
e 80.0 180.0 0.0
#
maneuver definition 372 1800.00
s 120.0 180.0 3000.0
e 120.0 180.0 0.0
#
maneuver definition 373 100.00 #at NBE
s 180.0 180.0 3000.0
e 180.0 180.0 0.0
#
maneuver definition 374 100.00 #at NBE
s 220.0 180.0 3000.0
e 220.0 180.0 0.0
#
maneuver definition 375 1200.00
s 320.0 180.0 3000.0
e 320.0 180.0 0.0
#
maneuver definition 376 1500.00
s 150.0 120.0 3000.0
e 150.0 120.0 0.0
#
maneuver definition 377 500.00 # 3rd wave, drifts towards CVN

```

```

m 240.0 120.0 1.0
e 200.0 100.0 0.0
#
maneuver definition 378 500.00 # 3rd wave, drifts towards FFG
m 425.0 450.0 1.0
e 440.0 380.0 0.0
#
maneuver definition 379 500.00 # 3rd wave, drifts towards DDGA
m 60.0 120.0 1.0
e 120.0 150.0 0.0
#
maneuver definition 380 500.00 # 3rd wave, drifts towards DDGB
m 390.0 240.0 1.0
e 430.0 240.0 0.0
#
maneuver definition 381 5000.00
s 390.0 300.0 3000.0
e 390.0 300.0 0.0
#
maneuver definition 382 5000.00
s 390.0 400.0 3000.0
e 390.0 400.0 0.0
#
#-----
# Tasks 383-394 (Destroyer paths)
#####Destroyer Maneuvers
#-----
maneuver definition 383 200.00 #attack DDGA
m 60.0 180.0 0.99
e 137.0 167.0 0.0 #fire XOC451, spawn 384
#
maneuver definition 384 220.00 #attack CVN
m 137.0 167.0 0.99
e 180.0 115.0 0.0 #fire XOC452, spawn 393
#
maneuver definition 385 5000.00 #attack DDGB
m 380.0 130.0 0.7
e 410.0 226.0 0.0 #fire XOC453, spawn 386
#

```

```

maneuver definition 386 240.00 #attack DDGB
m 410.0 226.0 0.99
m 395.0 240.0 0.99
e 410.0 254.0 0.0 #fire XOC454
#
maneuver definition 387 5000.00 #attack CG
m 200.0 200.0 0.71
m 240.0 126.0 0.70
e 280.0 126.0 0.0 #fire XOC455, spawn 388
#
maneuver definition 388 260.00 #attack CVN
m 280.0 126.0 0.99
e 200.0 124.0 0.0 #fire XOC456
#
maneuver definition 389 1750.00 #attack FFG
m 425.0 450.0 0.75
e 425.0 400.0 0.0 #fire XOC457, spawn 390
#
maneuver definition 390 240.00 #runs away
m 425.0 400.0 0.99
e 425.0 450.0 0.0
#
maneuver definition 391 350.00 #attack CVN
m 200.0 200.0 0.71
m 240.0 124.0 0.70
e 200.0 124.0 0.0 #fire XOC459, spawn 392
#
maneuver definition 392 220.00 #attack CG
m 200.0 124.0 0.99
e 280.0 126.0 0.0 #fire XOC460, spawn 394
#
maneuver definition 393 300.00
m 180.0 115.0 0.95
e 200.0 200.0 0.0
#
maneuver definition 394 320.00
m 280.0 126.0 0.95
e 320.0 200.0 0.0
#

```

```

#-----
# Tasks 395-404 (Sea REScues -- Tavail ~ 550 sec)
#####SAR
#-----
maneuver definition 395 560.000 #3rd wave, MOB for DDGB
s 440.0 280.0 260.0
e 460.0 240.0 0.0
#
maneuver definition 396 620.00 #3rd wave, SAR IN CVN AREA
s 200.0 120.0 560.0
e 200.0 120.0 0.0
#
maneuver definition 397 5000.00 #SOF pickup
s 380.0 340.0 540.0
e 380.0 340.0 0.0
#
maneuver definition 398 1200.000 #SOF pickup
s 220.0 195.0 580.0
e 220.0 195.0 0.0
#
maneuver definition 399 2000.000 #SOF pickup
s 110.0 195.0 550.0
e 110.0 195.0 0.0
#
maneuver definition 400 680.00 #3rd wave, MOB at CG
s 260.0 150.0 530.0
e 260.0 150.0 0.0
#
maneuver definition 401 1700.00 #SOF pickup
s 380.0 195.0 590.0
e 380.0 195.0 0.0
#
maneuver definition 402 740.00 #3rd wave, sea lane
s 400.0 180.0 510.0
e 400.0 180.0 0.0
#
maneuver definition 403 2000.000 #sea lane
s 420.0 400.0 500.0
e 420.0 400.0 0.0

```

```

#
maneuver definition 404 1500.00 #plane guard
s 190.0 105.0 570.0
e 190.0 105.0 0.0
#
#-----
# Tasks 405-422 (enemy aircraft attackers)
#####Enemy AC
#-----
maneuver definition 405 205.00 # 1st wave attacks DDGA
m 50.0 300.0 1.0
m 50.0 200.0 1.0
e 120.0 150.0 0.0
#
maneuver definition 406 205.00 # 1st wave attacks CVN
m 150.0 300.0 1.0
e 200.0 100.0 0.0
#
maneuver definition 407 205.00 # 1st wave attacks CG
m 150.0 300.0 1.0
e 280.0 150.0 0.0
#
maneuver definition 408 210.00 # 1st wave attacks DDGC
m 500.0 0.0 1.0
m 480.0 100.0 1.0
e 370.0 150.0 0.0
#
maneuver definition 409 205.00 # 1st wave attacks DDGB
m 300.0 480.0 1.0
e 430.0 240.0 0.0
#
maneuver definition 410 205.00 # 1st wave attacks FFG
m 300.0 480.0 1.0
m 380.0 400.0 1.0
e 440.0 380.0 0.0
#
maneuver definition 411 1200.00 # 4th wave attacks CVN
m 260.0 260.0 1.0
e 200.0 100.0 0.0

```

```

#
maneuver definition 412 1202.00 # 4th wave attacks DDGA
m 260.0 260.0 1.0
e 120.0 150.0 0.0
#
maneuver definition 413 1207.00 # 4th wave attacks CG
m 260.0 260.0 1.0
e 280.0 150.0 0.0
#
maneuver definition 414 1210.00 # 4th wave attacks DDGB
m 260.0 260.0 1.0
e 430.0 240.0 0.0
#
maneuver definition 415 1205.00 # 4th wave attacks CVN
m 260.0 260.0 1.0
e 200.0 100.0 0.0
#
maneuver definition 416 1200.00 # 4th wave attacks DDGC
m 260.0 260.0 1.0
e 370.0 150.0 0.0
#
maneuver definition 417 1300.00 # attacks DDGB
m 150.0 300.0 0.8
m 300.0 320.0 0.9
m 425.0 300.0 0.9
e 430.0 240.0 0.0
#
maneuver definition 418 1200.00 # 4th wave attacks FFG
m 150.0 300.0 0.9
e 440.0 380.0 0.0
#
maneuver definition 419 1300.00 # 4th wave attacks FFG
m 150.0 300.0 0.9
e 440.0 380.0 0.0
#
maneuver definition 420 5000.00 # attacks CVN
m 150.0 300.0 0.6
m 200.0 200.0 0.7
e 200.0 100.0 0.0

```

```

#
maneuver definition 421 1800.00 # attacks CVN
m 150.0 300.0 0.6
m 170.0 200.0 0.7
e 200.0 100.0 0.0
#
maneuver definition 422 1800.00 # attacks DDGA
m 150.0 300.0 0.6
m 180.0 200.0 0.7
m 100.0 180.0 0.7
e 120.0 150.0 0.0
#
#-----
# Tasks 423-430 (commercial air)
#####Comm Air
#-----
maneuver definition 423 10.00
m 5.0 205.0 0.9
s 150.0 50.0 10.0
m 150.0 50.0 0.9
e 160.0 0.0 0.0
#
maneuver definition 424 100.00
m 320.0 200.0 0.9
m 150.0 50.0 0.9
e 100.0 0.0 0.0
#
maneuver definition 425 500.00
m 315.0 95.0 0.7
e 320.0 200.0 0.0
#
maneuver definition 426 900.00
m 415.0 455.0 0.8
e 430.0 200.0 0.0
#
maneuver definition 427 1500.00
m 500.0 380.0 0.9
e 315.0 95.0 0.0
#

```

```

maneuver definition 428 1500.00
m 315.0 95.0 0.8
e 100.0 200.0 0.0
#
maneuver definition 429 1200.00
m 370.0 460.0 0.9
e 500.0 275.0 0.0
#
maneuver definition 430 1800.00
m 100.0 200.0 0.99
m 150.0 50.0 0.99
e 160.0 0.0 0.0
#
#-----
# Tasks 431-438 (possible hostile aircraft) #####Poss
Hostile AC
#-----
maneuver definition 431 800.00 # 3rd wave hostile to CG
m 500.0 500.0 0.7
m 380.0 120.0 0.8
e 280.0 150.0 0.0
#
maneuver definition 432 800.00 # hostile to DDGA
m 500.0 500.0 0.7
s 315.0 95.0 15.0
m 315.0 95.0 0.7
e 120.0 150.0 0.0
#
maneuver definition 433 800.00 # hostile
m 300.0 400.0 0.8
m 420.0 220.0 0.7
e 430.0 240.0 0.0
#
maneuver definition 434 800.00 # 3rd wave, not hostile to DDGA
m 20.0 260.0 1.0
m 40.0 160.0 1.0
m 100.0 150.0 0.8
e 50.0 30.0 0.0
#

```

```

maneuver definition 435 800.00 # 3rd wave, not hostile to CVN
m 60.0 20.0 0.7
m 200.0 80.0 0.7
e 280.0 80.0 0.0
#
maneuver definition 436 2100.00
m 300.0 400.0 0.7
s 420.0 220.0 15.0
m 420.0 220.0 0.7
m 315.0 95.0 0.7
e 300.0 400.0 0.0
#
maneuver definition 437 1700.00
m 500.0 500.0 0.7
s 315.0 95.0 15.0
m 315.0 95.0 0.7
m 5.0 100.0 0.9
e 500.0 500.0 0.0
#
maneuver definition 438 800.00 # 3rd wave, not hostile to FFG
m 300.0 400.0 0.8
m 430.0 380.0 0.7
e 430.0 200.0 0.0
#
#-----
# Tasks 439-442 (recon aircraft) #####Recon AC
#-----
maneuver definition 439 1.00
m 50.0 300.0 0.5
m 200.0 170.0 0.5
s 320.0 180.0 10.0
m 320.0 180.0 0.7
e 50.0 300.0 0.0
#
maneuver definition 440 1200.00
m 50.0 300.0 0.5
m 60.0 180.0 0.5
s 200.0 180.0 10.0
m 200.0 180.0 0.7

```

```

e  50.0  300.0  0.0
#
maneuver definition  441  1.00
m  150.0  300.0  0.5
m  380.0  200.0  0.5
s  380.0  400.0  10.0
m  380.0  400.0  0.7
e  150.0  300.0  0.0
#
maneuver definition  442  1200.00
m  150.0  300.0  0.5
m  420.0  100.0  0.5
s  460.0  160.0  10.0
m  460.0  160.0  0.7
e  150.0  300.0  0.0
#
#-----
# Tasks 443-444 (air_defenders/CAP)                #####Enemy CAP
#-----
maneuver definition  443  40.00 #at ABW
s  50.0  290.0  2400.
e  50.0  290.0  0.0
#
maneuver definition  444  5000.00 #not used
m  28.5  66.0  0.99
e  62.0  75.0  0.0
#
#-----
# Tasks 445-448 (other SAR incl false reports)
#-----
maneuver definition  445  3.000 #SAR at ABE
s  155.0  295.0  590.0
e  155.0  295.0  0.0
#
maneuver definition  446  3.000 #SAR at Bridge
s  80.0  245.0  590.0
e  80.0  245.0  0.0
#
maneuver definition  447  2000.000

```

```

s 430.0 320.0 295.0
e 430.0 320.0 0.0
#
maneuver definition 448 5000.000
s 380.0 260.0 290.0
e 380.0 260.0 0.0
#
#-----
# Tasks 449-450 (patrol boats) - gunrunners
#-----
maneuver definition 449 1100.00 #gunrunner
m 320.0 100.0 1.0
e 320.0 200.0 0.0
#
maneuver definition 450 1200.00 #gunrunner
m 260.0 100.0 1.0
m 260.0 190.0 1.0
e 320.0 200.0 0.0
#
#-----
# Tasks 451-460 (Exocet missiles)
#####Destroyer Missiles
#-----
maneuver definition 451 1.00 #target DDGA by 383
m 137.0 167.0 0.99
e 120.0 150.0 0.0
#
maneuver definition 452 1.00 #target CVN by 384
m 180.0 115.0 0.99
e 200.0 100.0 0.0
#
maneuver definition 453 1.00 #target DDGB by 385
m 410.0 226.0 0.99
e 430.0 240.0 0.0
#
maneuver definition 454 1.00 #target DDGB by 386
m 410.0 254.0 0.99
e 430.0 240.0 0.0
#

```

```

maneuver definition 455 1.00 #target CG by 387
m 280.0 126.0 0.99
e 280.0 150.0 0.0
#
maneuver definition 456 1.00 #target CVN by 388
m 200.0 124.0 0.99
e 200.0 100.0 0.0
#
maneuver definition 457 1.00 #target FFG by 389
m 425.0 400.0 0.99
e 440.0 380.0 0.0
#
maneuver definition 458 5000.00 #not used
m 200.0 110.0 0.99
e 200.0 100.0 0.0
#
maneuver definition 459 1.00 #target CVN by 391
m 200.0 124.0 0.99
e 200.0 100.0 0.0
#
maneuver definition 460 1.00 #target CG by 392
m 280.0 126.0 0.99
e 280.0 150.0 0.0
#-----
# tasks 461-471 intel on fixed SCUD launchers
#####EW INTEL on SCUDs
#-----
maneuver definition 461 1100.00 #ew262 at 40,260
s 50.0 255.0 200.0
e 50.0 255.0 0.0
#
maneuver definition 462 700.00 #ew264 at 100,260
s 120.0 270.0 200.0
e 120.0 270.0 0.0
#
maneuver definition 463 1400.00 #ew266 at 200,260
s 210.0 250.0 100.0
e 210.0 250.0 0.0
#

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```

maneuver definition 464 1300.00 #ew268 at 100,302
# colocated with super SAM
s 110.0 310.0 30.0
e 110.0 310.0 0.0
#
maneuver definition 465 1100.00 #ew270 at 200,300
s 210.0 310.0 200.0
e 210.0 310.0 0.0
#
maneuver definition 466 500.00 #ew272 at 80,360
s 75.0 365.0 200.0
e 75.0 365.0 0.0
#
maneuver definition 467 480.00 #ew274 at 200,360
s 205.0 370.0 200.0
e 205.0 370.0 0.0
#
maneuver definition 468 1700.00 #ew276 at 140,410
s 120.0 390.0 200.0
e 120.0 390.0 0.0
#
maneuver definition 469 1800.00 #ew278 at 200,400
s 220.0 390.0 200.0
e 220.0 390.0 0.0
#
maneuver definition 470 750.00 #ew280 at 290,320
s 295.0 310.0 200.0
e 295.0 310.0 0.0
#
maneuver definition 471 1300.00 #ew282 at 280,262
s 280.0 270.0 30.0
e 280.0 270.0 0.0
#-----
# tasks 472-474 mobile SAM sites (N=3)
#####Mobile SAM Sites
#-----
maneuver definition 472 5000.000
s 30.0 280.0 3000.0
e 30.0 280.0 0.0

```

```
#
maneuver definition 473 5000.000
s 70.0 280.0 3000.0
e 70.0 280.0 0.0
#
maneuver definition 474 5000.000
s 320.0 230.0 3000.0
e 320.0 230.0 0.0
#
#----- THE END -----
```

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