

COMOMAGINST 8550.2  
N3  
15 May 03

COMOMAG INSTRUCTION 8550.2

Subj: PROCEDURES FOR REQUESTING MINE WARFARE EXERCISE AND TRAINING MINES, MINE COUNTERMEASURES TRAINING TARGETS, MISSION PACKAGE MATERIALS AND SERVICES

Ref: (a) OPNAVINST 8010.12F/MCO 8010.12  
(b) OPNAVINST 8550.9K  
(c) COMLANTFLTINST 8027.3E  
(d) COMPACFLTINST 8027.1P  
(e) OPNAVINST S5510.155C  
(f) COMINWARCOMINST 3370.1A  
(g) COMTHIRDFLTINST C3500.5B  
(h) CNO ltr 8550 Ser N852H1/8U652878 of 28 Jun 98  
(i) COMINWARCOM Corpus Christi ltr 3370 Ser N9/S-02-002 of 12 Feb 02  
(j) FACSFACVACAPESINST 3120.1H  
(k) COMOMAGINST 8550.16C

1. Purpose. To publish procedures for requesting Exercise and Training Mines (ET), Mine Countermeasures Training Target Mines (MCMTT) and Mission Packages (MP) material and services, in support of training requirements for Navy and Air Force mine warfare mission areas. In this instruction, the term ET denotes all Exercise and Training mines (inert USN mine shapes for training mine delivery platforms), MCMTT denotes a family of Mine Countermeasures Training Targets (U.S. Replica targets, Foreign Mine Replica targets, and Versatile Exercise Mine, a programmable instrumented training mine) and MP denotes all Mission Package Ordnance and Materials.

2. Cancellation. COMINWARCOMINST 8550.1Q. This is a major revision to the previous instruction and should be read in its entirety.

3. Background. Commander, Mobile Mine Assembly Group (COMOMAG) manages the ET/MCMTT/MP programs for Commander, Mine Warfare Command (COMINWARCOM) in support of U.S. Navy and U.S. Air Force mine warfare exercise and training goals and objectives. This instruction was developed to assist customers with identifying their requirements and to obtain exercise and training mine services.

4. Policy. References (a) through (k) provide direction and guidance concerning ET/MCMTT/MP material. All user commands and activities shall follow the appropriate chapters in this instruction when requesting ET/MCMTT/MP material and support services and when submitting appropriate reports.

COMOMAGINST 8550.2  
15 May 03

5. Funding. Funding guidelines and policy as it pertains to ET/MCMTT and support services can be found in Chapter 1 of this instruction.

6. Definitions. Reference (b) provides definitions of ET material types. These definitions should be referred to when submitting ET/MCMTT mine material requests, reports, and other correspondence pertaining to the ET/MCMTT program. A list of current ET/MCMTT mine types are available in tables 1-3A and 1-3B of this instruction and on the COMOMAG website [www.comomag.navy.mil](http://www.comomag.navy.mil).

7. Action

a. For COMOMAG N3:

(1) Track all known mine warfare exercise and training events and participate in fleet exercise scheduling meetings and conferences. As appropriate, assist with the identification of fleet exercise and training events that require ET/MCMTT/MP material and MOMAG exercise support.

(2) Support the appropriate fleet commanders and mine warfare commands in the development of their training, testing, and current operational requirements (TTCOR) for ET/MCMTT/MP material.

(3) Validate and support the non-combatant expenditure allocations (NCEA) for ET/MCMTT/MP by ensuring requesting units have a properly assigned allocation. Assist fleet units and activities with obtaining an NCEA allocation for ET/MCMTT/MP material from the appropriate source in their chain of command.

(4) Manage the COMINELWARCOM NCEA for ET/MCMTT/MP assets and submit input to Commander, Naval Surface Forces, Atlantic (COMNAVSURFLANT) and Commander, U.S. Atlantic Fleet (COMLANTFLT) as required.

(5) Maintain this instruction.

b. For requesting activities. To ensure compliance with current guidelines and policy, commands and activities requesting ET/MCMTT/MP material and services shall:

(1) Review and adhere to the Chief of Naval Operations' NCEA policy as stated in reference (a).

(2) Review reference (b) and this instruction to determine the mine type and configuration best suited to meet the desired training requirement.

(3) Review and follow the instructions set forth in Chapters 1 through 8 in this instruction for ET/MCMTT/MP material and support services.

/s/  
T. W. AUBERRY

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21A3 COMUSNAVEUR (N53/N37)  
22A1 COMSECONDFLT (J33/J7)  
22A2 COMTHIRDFLT (J313/J31)  
COMSEVENTHFLT (N325/N332)  
22A3 COMSIXTHFLT (N31/N322/N383)  
22A4 COMFIFTHFLT (N3/N31)  
23A2 COMNAVFORJAPAN  
23B2 COMASWFORPAC PEARL HARBOR HI (CTF 70)  
23B3 COMARSURVRECFORSIXTHFLT (CTF 67)  
COMAREASWFORSIXTHFLT (PASS TO CTF 69)  
COMBATTLEFORSIXTHFLT (CTF 60)  
COMARSURVRECFORSIXTHFLT DET SIGONELLA IT (TSC)  
23B4 COMIDEASTFOR  
24A1 COMNAVAIRLANT NORFOLK VA (N85)  
24A2 COMNAVAIRPAC SAN DIEGO CA (N85)  
24D1 COMNAVSURFLANT NORFOLK VA (N44/N51)  
24D2 COMNAVSURFPAC SAN DIEGO CA (N3/N31/N3B/N5/N01R/N46)  
24G1 COMSUBLANT NORFOLK VA (N3/N7/N70)  
24G2 COMSUBPAC PEARL HARBOR HI (N3/N7)  
25A COMINWARCOM CORPUS CHRISTI TX (N3/N4/N8/N9)  
25A1 COMCMRON ONE  
COMCMRON TWO  
COMCMRON THREE  
COMCMDIV ELEVEN  
COMCMDIV THREE ONE  
26A2 COMPHIBGRU ONE  
COMPHIBGRU THREE SAN DIEGO CA  
26F3 COMOPTEVFOR NORFOLK VA  
26GG1 COMEODGRU TWO  
EODMU SIX  
26GG2 COMEODGRU ONE  
EODMU FIVE  
26SS COMOMAG CORPUS CHRISTI TX  
MOMAU ONE SEAL BEACH CA  
MOMAU FIVE SIGONELLA IT  
MOMAU EIGHT GU

COMOMAGINST 8550.2

15 May 03

MOMAU TEN KADENA JA  
MOMAU ELEVEN CHARLESTON SC  
MOMAD TWELVE MISAWA JA  
MOMAU FIFTEEN INGLESIDE TX

28A1 COMCARGRU TWO  
COMCARGRU FOUR  
COMCARGRU SIX  
COMCARGRU EIGHT

28A2 COMCARGRU ONE  
COMCARGRU THREE  
COMCARGRU FIVE  
COMCARGRU SEVEN

28B1 COMCRUDESGRU TWO  
COMCRUDESGRU EIGHT  
COMCRUDESGRU TWELVE

28B2 COMCRUDESGRU ONE  
COMCRUDESGRU THREE  
COMCRUDESGRU FIVE

28C1 COMSURFWARDEVGRU DET WEST CORONADO CA  
COMNAVSURFGRU MED (CTF 63)

28F2 COMLOG WESTPAC (CTF 73)

28K1 COMSUBGRU TWO  
COMSUBGRU EIGHT  
COMSUBRON TWO  
COMSUBRON SIX  
COMSUBRON EIGHT  
COMSUBRON TWO TWO  
COMSUBDEVRON TWELVE

28K2 COMSUBGRU SEVEN  
COMSUBGRU NINE  
COMSUBRON ONE  
COMSUBRON THREE  
COMSUBRON SEVEN  
COMSUBRON SEVENTEEN

29B1 USS ENTERPRISE (CVN 65)  
USS JOHN F KENNEDY (CVN 67)  
USS DWIGHT D EISENHOWER (CVN 69)  
USS THEODORE ROOSEVELT (CVN 71)  
USS GEORGE WASHINGTON (CVN 73)  
USS HARRY S TRUMAN (CVN 75)

29B2 USS KITTY HAWK (CV 63)  
USS CONSTELLATION (CV 64)  
USS NIMITZ (CVN 68)  
USS CARL VINSON (CVN 70)  
USS ABRAHAM LINCOLN (CVN 72)  
USS JOHN C STENNIS (CVN 74)  
USS RONALD REAGAN (CVN 76)

30B MINE HUNTER COASTAL (MHC)  
USS BLACK HAWK (MHC 58)  
USS CARDINAL (MHC 60)  
USS CORMORANT (MHC 57)  
USS FALCON (MHC 59)  
USS HERON (MHC 52)  
USS KINGFISHER (MHC 56)  
USS ORIOLE (MHC 55)  
USS OSPREY (MHC 51)  
USS PELICAN (MHC 53)  
USS RAVEN (MHC 61)  
USS ROBIN (MHC 54)  
USS SHRIKE (MHC 62)

30C MINE COUNTERMEASURES (MCM)  
USS ARDENT (MCM 12)  
USS AVENGER (MCM 1)  
USS CHAMPION (MCM 4)  
USS CHIEF (MCM 14)  
USS DEFENDER (MCM 2)  
USS DEVASTATOR (MCM 6)  
USS DEXTROUS (MCM 13)  
USS GLADIATOR (MCM 11)  
USS GUARDIAN (MCM 5)  
USS PATRIOT (MCM 7)  
USS PIONEER (MCM 9)  
USS SCOUT (MCM 8)  
USS SENTRY (MCM 3)  
USS WARRIOR (MCM 10)

41A COMSC WASHINGTON DC

42A1 COMFAIRCARIB ROOSEVELT ROADS RQ  
COMFAIRKEFLAVIK IC

42B1 COMPATRECONFORLANT NORFOLK VA

42B2 COMPATRECONFORPAC KANEOHE BAY HI

42B3 COMRESPATWING WILLOW GROVE PA  
COMHELWINGRES SAN DIEGO CA

42E1 COMAEWWINGLANT NORFOLK VA  
COMHELTACWINGLANT NORFOLK VA

42E2 COMSTRKFIGHTWINGPAC LEMOORE CA

42J1 COMCARAIRWING ONE  
COMCARAIRWING THREE  
COMCARAIRWING SEVEN  
COMCARAIRWING EIGHT  
COMCARAIRWING SEVENTEEN

42J2 COMCARAIRWING TWO  
COMCARAIRWING FIVE  
COMCARAIRWING NINE  
COMCARAIRWING ELEVEN  
COMCARAIRWING FOURTEEN

42J3 COMCARAIRWINGRES TWO ZERO

COMOMAGINST 8550.2

15 May 03

42P1 COMPATRECONWING FIVE  
PATRON FIVE  
PATRON EIGHT  
PATRON TEN  
COMPATRECONWING ELEVEN JACKSONVILLE FL  
PATRON SIXTEEN  
PATRON TWO SIX  
PATRON FOUR FIVE

42P2 COMPATRECONWING ONE KAMISEYA JA  
COMPATRECONWING TEN WHIDBEY ISLAND WA  
PATRECONWING ONE DET DIEGO GARCIA (CTG 72.8 TURNOVER PUB)  
PATRECONWING ONE DET KADENA JA (CTG 72.2 TURNOVER PUB)  
PATRECONWING ONE DET MISAWA JA (CTG 72.4 TURNOVER PUB)  
PATRON ONE  
PATRON FOUR  
PATRON NINE  
PATRON FOUR ZERO  
PATRON FOUR SIX  
PATRON FOUR SEVEN

42P3 PATRON SIX TWO  
PATRON SIX FOUR  
PATRON SIX FIVE  
PATRON SIX SIX  
PATRON SIX NINE  
PATRON NINE TWO  
PATRON NINE FOUR

42W1 HELMINERON FOURTEEN  
HELMINERON FIFTEEN

45W CGTF 79

46B CG FIRST MAW

46C1 MAG TWELVE  
MAG FOURTEEN

50A USCOMEUR ECJ1-AAL VAIHINGEN GE  
USCOMPAC HONOLULU HI  
USCOMCENT MACDILL AFB FL

50C COMUSKOREA SEOUL KOR  
COMUSJAPAN YOKOTA AB JA

SNDL Part 2

A1A PEO LMW (PMS 490)  
A3 CNO (N752/N78/N77/N411)  
B5 COMLANTAREA COGARD  
COMPACAREA COGARD  
B8A COMUSMARDEZLANT  
B8B COMUSMARDEZPAC  
C20C NRL DET STENNIS SPACE CENTER MS  
C84C NAVUNSEAWARCEN DET NEW LONDON CT  
FD1 COMNAVMETOCCOM (N3)

COMOMAGINST 8550.2  
15 May 03

FD2 NAVOCEANO (N341)  
FF18 NAVTACSUPPACT  
FF44 NAVWARCOL  
FF63 NAVSTKWARCEN FALLON NV  
FKP4A NAVSURWARCEN COASTSYSTA PANAMA CITY FL  
(A01/A60/A62/A90/A93/A83)  
FT22 FLTCOMBATTRACENLANT  
FT43 SWOSCOLCOM  
FT51 MINEWARTRACEN INGLESIDE TX  
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50G AIC NORFOLK VA  
JICPAC

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List I  
List III

TABLE OF CONTENTS

CHAPTER	SUBJECT	PAGE #
CHAPTER 1.	MINE WARFARE EXERCISES, EXERCISE AND TRAINING MINES, MCM TRAINING TARGETS, MISSION PACKAGE MATERIALS AND SERVICES	
1-1	Mine Warfare Exercises and Training Events	1-1
1-2	Training, Testing, and Current Operational Requirements (TTCOR) and Non-Combatant Expenditure Allocation (NCEA)	1-1
1-3	ET Mines and MCM Training Targets	1-1
1-3.1	ET Mines	1-2
Table 1-1	ET Laying and Mobile Mines in MOMAG Inventory	1-2
1-3.2	Mine Countermeasures Training Targets (MCMTT) Mines	1-2
Table 1-2	U.S. E&T Mines used as MCMTT	1-3
1-4	MOMAG Support Services	1-3
Table 1-3	Supported Fleet AOR for each MOMAU	1-4
1-5	Funding Policy	1-4
1-5.1	Funding Requirements Associated with using ET/MCMTT Material in Exercises	1-4
1-6	Exercise Planning Guidelines	1-5
1-6.1	Planning Conference Guidelines	1-5
1-6.2	Additional Planning Guidelines for NATO, Allied, or Non-Allied Exercises	1-8
1-7	Additional Planning Considerations	1-9
Figure 1-1	Sample NCEA Mine Request Header	1-9
1-8	Message Request	1-9
1-9	Transportation of Mines	1-10
1-10	Additional Planning Considerations	1-12
1-11	Allied or NATO Exercises	1-13
1-12	Planning Conference Checklist	1-14
CHAPTER 2.	ET/MCMTT/MP MINE REQUISITION IN ENGLISH (RIE) AND MINE ASSEMBLY TEAM (MAT) REQUEST	
2-1	General	2-1
2-2	Required Information	2-1
Figure 2-1	Sample Confidential ET/MCMTT/MP Material Request Message	2-2
2-3	ET Laying/MCMTT/VEMS Mine Format and Example	2-4
Figure 2-2	Sample Mine Requirements	2-4
2-4	VEMS Support Equipment Requirements Format	2-8
Figure 2-3	VEMS Support Equipment Requirements Format	2-8
2-5	Laying Agent and Stenciling Required Information	2-9
2-6	Laying Agent/Stencil Format	2-9
Figure 2-4	Laying Agent/Stencil Format	2-9

COMOMAGINST 8550.2  
15 May 03

CHAPTER	SUBJECT	PAGE #
2-7	Mine NALC Tables	2-9
Table 2-1	Versatile Exercise Mine (VEM)	2-9
Table 2-2	Mechanical Sweep Mine (MSM)	2-10
Table 2-3	Mine Countermeasure Training Targets (MCMTT)	2-10
Table 2-4	ET Laying Mine (LM)/Hunting Mine (HTM)	2-11
Figure 2-5	ET/MCMTT Mine Requisition	2-12
CHAPTER 3. EXERCISE MINEFIELD PLANNING FOLDER (EXMFPF) REQUEST		
3-1	Minefield Planning Services	3-1
3-2	Request for Operational Setting Change	3-2
Figure 3-1	Sample EXMFPF Message	3-3
CHAPTER 4. MOMAU GUIDELINES AND EXERCISE PREPARATION		
4-1	Review Request	4-1
4-2	Acknowledge Request	4-1
4-3	Mine Preparation	4-1
4-4	Liaison With User Activities	4-1
4-5	Team Composition/Preparation	4-2
4-6	Recovery or Post-Exercise Operations	4-2
4-7	Immediate Post-Analysis Report	4-4
Figure 4-1	Immediate Post-Analysis Report	4-5
4-8	Final Post-Analysis Report	4-6
Figure 4-2	Final Post-Analysis Report	4-7
4-9	Ammunition Transaction Reports (ATR)	4-8
Example 1	Correct Dual UIC Header Procedures for MOMAU	4-8
Example 2	Correct Dual UIC Header Procedures for User with ATR Capabilities and Does Not Hold the NCEA Account	4-9
Example 3	Expenditure (Allocation Other Than Reporting Unit)	4-9
Example 4	Correct Single UIC Header Procedures for Users with ATR Capabilities and Holder of the NCEA Account	4-10
Example 5	Correct Transaction	4-10
Example 6	Incorrect Transaction	4-10
4-10	OPREP-3 Navy Blue Message	4-11
4-11	Trip Reports	4-11
4-12	Post-Exercise Lessons Learned	4-11
Figure 4-3	Post-Exercise Lessons Learned	4-13
4-13	Quarterly ET/MCMTT Usage Reports	4-14
Figure 4-4	ET/MCMTT Mine Usage Report	4-15
4-14	Mine Plant Report	4-15
Figure 4-5	Mine Plant Message Report	4-16

CHAPTER	SUBJECT	PAGE #
CHAPTER 5.	REQUESTING EOD AND RECOVERY SERVICES	
5-1	Customer Information	5-1
5-2	Charleston Mining Range	5-1
5-3	Pacific Missile Test Center (PMCT) Range, Barking Sands	5-1
5-4	FACSFAC VACAPES, Virginia Beach, VA Range	5-2
5-5	Patuxent River Hooper Target Range, Maryland	5-2
5-6	Southern California Off-Shore Range (SCORE)	5-2
5-7	Gulf of Mexico Off-Shore Range, Panama City, Florida	5-3
5-8	Mine Recovery Data	5-3
5-9	Requesting EOD and Recovery Services	5-3
5-10	Atlantic Fleet Recovery and EOD Data Request	5-4
5-11	Pacific Fleet Recovery and EOD Data Request	5-4
Figure 5-1	Location/Scoring/Recovery Service Message Request	5-4
CHAPTER 6.	INTENDED SPLASH POINT MESSAGE FORMAT	
6-1	Intended Splash Point Message	6-1
6-2	Mining Ranges	6-1
Figure 6-1	Intended Splash Point Message	6-3
CHAPTER 7.	POST-EXERCISE AND MINE RECOVERY REPORTING REQUIREMENTS	
7-1	MOMAU/MOMAD Responsibilities	7-1
7-2	Activity Using Mines	7-1
Figure 7-1	Post Mine Plant Message Report	7-2
7-3	Mine Recovery Activity	7-3
Figure 7-2	Mine Exercise Recovery Report	7-4
7-4	Mine Recovery Report	7-6
Figure 7-3	Mine Exercise Recovery (Range Tower)	7-6
CHAPTER 8.	VERSATILE EXERCISE MINE SYSTEM (VEMS) AMPLIFICATION	
8-1	Purpose	8-1
8-2	General Information	8-1
8-3	Operational Sequence	8-3
8-4	Analysis Levels	8-4
8-5	Emulations	8-5
8-6	Security	8-6
8-7	Exercise Limitations	8-8
8-8	VEMS Quick-Look Reporting	8-10
Figure 8-1	VEMS Minefield Guidance Quick-Look Report	8-11
Figure 8-2	VEMS Programming Status Quick-Look Report	8-13
Figure 8-3	VEMS Minefield Status Quick-Look Report	8-14
Figure 8-4	VEMS Post-Exercise Quick-Look Report	8-15

CHAPTER 1

MINE WARFARE EXERCISE AND TRAINING MINES, MINE COUNTERMEASURES  
TRAINING TARGETS, MISSION PACKAGE MATERIALS AND SERVICES

1-1. Mine Warfare Exercises and Training Events. Mine Warfare (MIW) objectives are increasingly included in larger fleet exercise events to develop the necessary skills and disciplines associated with mining and mine countermeasures. In order to ensure exercise and training objectives are met, it is important to review specific goals and objectives for each MIW event prior to requesting the appropriate exercise and training mines, mission package expenditures and services. Exercise and Training mines, Mine Countermeasures Training Targets or Mission Packages may be required to accomplish these objectives. The logistics necessary to get training mines to the exercise area and back to the supporting Mobile Mine Assembly Unit is an important part of a successful event. These mines are not carried as a normal part of a ship load-out and must be transported to the exercise area by surface vessel or aircraft.

1-2. Training, Testing, and Current Operational Requirements (TTCOR) and Non-combatant Expenditure Allocation (NCEA). Commander, Mine Warfare Command (COMINEWARCOM) provides NCEA support for Air Force mining exercises and training events per reference (h). U.S. participants not under operational control of COMINEWARCOM are required to provide Non-combatant Expenditure Allocation (NCEA) by UIC by either their NCEA allocation or higher authority from within their chain of command. The COMINEWARCOM NCEA may also support U.S. allied exercises when required. Upon receipt of a request for exercise and training mine support, COMOMAG will verify the requesting activity's NCEA. If the NCEA of the requesting activity is inadequate to support exercises, operations and certification inspections directed by higher authority, the requesting activity must submit an augment request. Upon confirmation of an augment request approval, COMOMAG will authorize the use of the requested assets.

1-3. ET Mines and MCM Training Targets. The present exercise and training mine inventory consists of inert mines replicating service mines in the U.S. Navy inventory, U.S. Navy inert mine shapes replicating foreign mines, inert mine shapes replicating mines found in the inventories of foreign navies and programmable instrumented mines replicating foreign mine emulations. In order to differentiate between the two categories, U.S. Navy exercise and training mines will be referred to as ET and foreign mine types/foreign countermeasure targets/Versatile Exercise Mine System (VEMS) will be referred to as Mine Countermeasures Training Targets or MCMTT.

COMOMAGINST 8550.2  
15 May 03

1-3.1. ET Mines. ET mines replicate the in-service mines in the U.S. Navy and are primarily used by mine delivery platforms for aerial, surface and subsurface delivery training. They may be used for mine countermeasures training if they serve as suitable representations of a foreign mine threat. ET laying mines are functionally accurate from a delivery standpoint and in external appearance, but have no instrumentation.

The following table shows the ET Laying and Mobile mines available in the MOMAG inventory:

Table 1-1

<u>Mine Nomenclature</u>	<u>Category</u>	<u>Delivery</u>
Mine Mk 56	2000 lb Moored Influence	Air
Mine Mk 62	500 lb Bottom Influence	Air
Mine Mk 63	1000 lb Bottom Influence	Air
Mine Mk 65	2000 lb Bottom Influence	Air
Mine Mk 67	2000 lb Bottom Influence	Submarine

1-3.2. Mine Countermeasures Training Targets (MCMTT) Mines. MCMTT mines represent the threat that could be encountered by our forces throughout the world. The CNO has approved and funded for an inventory of various types, sizes and shapes to improve mine countermeasures proficiency for the active and reserve forces and for research, development, test and evaluation (RDT&E). It will take several years before a sufficient inventory exists to support all customer needs. However, some MCMTT have been procured or built for MCM training and can be made available for fleet use in limited numbers. Early contact with COMOMAG is encouraged to determine availability.

As of the publish date for this instruction, the following are U.S. E&T Mines being used as MCMTT. See table 2-3 on listing of available foreign mine replica targets available:

Table 1-2

<u>Mine Nomenclature</u>	<u>Category</u>	<u>Delivery</u>
Mine Mk 25 <sup>(1)</sup>	2000 lb Bottom	Surface
Mine Mk 36 <sup>(1)</sup>	1000 lb Bottom	Surface
Mine Mk 52AM <sup>(1)</sup>	Bottom Influence	Surface
Mine Mk 52 <sup>(1)</sup>	1000 lb Bottom	Surface/Air
Mine Mk 55 <sup>(1)</sup>	2000 lb Bottom	Surface/Air
Mine MK 56 <sup>(1)</sup>	Moored Influence	Surface
Mine MK 57 <sup>(1)</sup>	Moored Influence	Surface
Mine Mk 6 <sup>(1)</sup>	Moored Contact	Surface
VEMS MK 74/75 <sup>(2)</sup>	Bottom Influence	Surface

(1) The U.S. Mines listed have been removed from the Navy's mine inventory, but are authorized for use as MCM Training Targets until depleted. NCEA is being established on these U.S. Mines that simulate foreign threat mines.

(2) The Versatile Exercise Mine System is the only U.S. Smart Mine available in the U.S. Navy Inventory. Additional details of the system can be found in Chapters 2 and in more detail in Chapter 8 of this instruction.

1-4. MOMAG Support Services. Commander, Mobile Mine Assembly Group (COMOMAG) reports to COMINELCOM, both operationally and administratively. Organized into subordinate units (MOMAU) and detachment (MOMAD), MOMAG maintains exercise and training mines in support of USN fleet, USAF, and RDT&E organizations having mine warfare mission or requirements. Mine Assembly Teams (MATs), usually consisting of two to five personnel, deploy afloat or to land-based sites in support of fleet mine training events. MAT personnel provide mine preparation services and exercise mine logistic support, assist with mine laying and recovery, download instrumented mine data and provide basic post mission analysis to the Officer Conducting the Exercise (OCE) from the perspective of the mine instrumentation. Normally, the MAT chops to the OCE or a designated task unit as a task element and is available to assist with MCM tasks as appropriate when not performing primary task assignments.

The following table delineates which mine assembly activities support which fleet commander and numbered fleet area of responsibility for exercises and IDTC training events; however, if exercise requirements exceed capabilities of any one Mine Activity, COMOMAG has the discretion to task multiple MOMAU's to support:

Table 1-3

<u>Supported Fleet AOR</u>	<u>Supporting MOMAU PLA</u>
COMLANTFLT/Second Fleet	MOMAU ELEVEN CHARLESTON SC//00//
COMINWARCOM/Second Fleet	MOMAU FIFTEEN KINGSVILLE TX//00//
EAST-MID PACFLT/Third Fleet	MOMAU ONE SEAL BEACH CA//00// MOMAU FIFTEEN KINGSVILLE TX//00// <sup>(1)</sup>
COMUSNAVCENT/Fifth Fleet	MOMAU FIVE SIGONELLA IT//00//
COMUSNAVEUR/Sixth Fleet	MOMAU FIVE SIGONELLA IT//00//
COMPACFLT/Seventh Fleet	MOMAU TEN KADENA JA//00// MOMAU EIGHT GU//00// <sup>(2)</sup>

(1) VEMS support to Third Fleet is provided by MOMAU Fifteen.

(2) MOMAU Eight maintains a limited amount of ET Handling Mines for support of local USAF and U.S. Navy squadron support.

1-5. Funding Policy. As delineated by COMLANTFLT, financial resources for ET/MCMTT/MP material and MOMAG exercise support must be identified in the Program Objective Memorandum (POM) and scheduled in the appropriate fleet Joint Exercise Schedule (JES). Ideally, JCS, the fleet commander or numbered fleet, as a normal function of identifying Mine Warfare play in fleet exercises or IDTC events, provides for funding of MOMAG participation and exercise mine usage. The Officer Scheduling the Exercise (OSE) and the Officer Conducting the Exercise (OCE) shall identify and verify the funding source during the exercise planning conference(s) to cover all costs involving the transportation of material and support personnel as well as the recovery/return of all resources prior to submitting an ET/MCMTT mine material request. NCEA and funding issues should be addressed as early as possible in the planning stages to ensure that ET/MCMTT/MP material and support service are provided on time.

1-5.1. Funding requirements associated with using ET/MCMTT material in an exercise or training event include the following:

- a. MOMAG representation at the appropriate planning conference.
- b. MOMAG team participation in the exercise or training event as appropriate.
- c. Transportation of ET/MCMTT to and from the exercise area in the event that existing logistic pipelines and transportation are not available, i.e., strategic or opportune sea lift/air lift.

d. Mine planting and recovery vessel costs in the event that military sources for this important function are not identified.

1-6. Exercise Planning Guidelines. To assist the OSE or OCE with preparing and planning for fleet exercises or IDTC events that include mine warfare objectives, the following guidelines are provided:

a. Identify those exercises and training events with mine warfare training objectives to the appropriate fleet commander for funding in the POM.

b. Submit annual ET/MCMTT mine requirements based on future training and exercise requirements to the appropriate fleet commander.

c. Ensure mine warfare training events and fleet exercises are identified on the appropriate fleet commander joint exercise schedule and that funding has been allocated to support ET/MCMTT mines and services. Funding and NCEA must be in place and available prior to submitting a request for ET/MCMTT mines and services. Advance liaison with COMOMAG (N32) is encouraged to resolve issues relating to exercise support funding and NCEA management.

#### 1-6.1 Planning Conference Guidelines:

a. Ensure appropriate time is allocated for planning of ET/MCMTT mine events to include logistics, transportation, mine laying and recovery, minefield planning requirements, goals and objectives, and to identify data analysis objectives for VEMS.

b. Ensure the appropriate personnel are present for the exercise mine planning (MCM staff, mine-laying platform, mine recovery platform and divers, logistics support personnel, MOMAU representative, etc.). It is normally feasible to conduct all required planning for these events at one planning conference, usually the mid/main planning conference, which will preclude funding of MOMAG participation at all planning conferences.

c. Early planning will identify potential problems and help prevent last minute issues. Discussion and resolution of the following is necessary:

(1) Clear identification of the exercise MIW goals and objectives include laying proficiency, MCM training, Mine Warfare Readiness and Effectiveness Measurement (MIREM), etc. This will help identify appropriate funding sources for MOMAG participation and lay the groundwork for determining ET/MCMTT mine quantities, types, settings and support services.

COMOMAGINST 8550.2  
15 May 03

(2) Identification of Non-combat Expenditure Allocation (NCEA) allocated to the Unit Identification Code (UIC) in order to appropriately charge the expenditure of ET/MCMTT/MP material.

(3) Identification of activity(s) responsible for expenditure of training mine assets via an Ammunition Transaction Reporting (ATR).

(4) Identify the activity responsible for submitting ET/MCMTT mine request, to include the shipment method, delivery point and destination of ET/MCMTT mine material.

(5) Identify Military Personnel (MILPERS) funding for MOMAU Mine Assembly Team (MAT) TAD support including costs for handling equipment, pier crane service costs, etc., to support exercise. Transportation shipping costs for 6T ET/MCMTT shipments will be assigned TAC N132. Liaise with COMOMAG (N32) on any questions pertaining to transportation and MILPERS funding requirements.

(6) ET/MCMTT mine availability includes the type, quantity, configuration, operational assembly (OA), sonar transmitter requirements (for mine recovery purposes), and planting method. This also includes support equipment/handling gear requirements beyond what is normally provided by the MOMAU. Requesting activities are encouraged to request the assets they require, not what they know are available. The supporting MOMAU will provide the assets they are capable of.

(7) Identify mine lay and recovery vessels and support services including availability of EODMU, mammal recovery services, very shallow water platform availability, limits of mines per recovery, etc., return of exercise material, and identification of staging areas. Ensure sufficient time and an appropriate platform with diver and support personnel are scheduled to complete the recovery of ET/MCMTT/MP material.

(8) Mine security watch and range security vessels for moored mines (hazard to navigation), VEMS, SLMM and classified MCMTT when planted outside of U.S. territorial waters. See Chapter 8-6 for exercise mine security.

(9) Type of data collection and reporting required to support exercise and training goals and objectives as required.

(10) Desired target by threat mine type should be identified for mine exercises (MINEX).

(11) Determine the need for an Exercise Minefield Planning Folder (EXMFPPF) and identify the activity submitting the request for a planning folder. Early liaison with COMOMAG (N5) is encouraged regarding this matter.

d. Request ET/MCMTT/MP material and services a minimum of 45 days prior to the required delivery date using procedures outlined in Chapters 1, 2, and 3. Exercises requiring overseas shipment or support from multiple MOMAU require 90-day lead time. Liaison with COMOMAG (N32) is important for determining support requirements. Ensure COMINELCOM Corpus Christi TX (N3/N8) and COMOMAG Corpus Christi TX (N3) are included as information addressees on all correspondence pertaining to ET/MCMTT mine material and exercise support requests.

e. Mines requested for Test & Evaluation Projects or Research & Development (RDT&E) programs shall be requisitioned per guidelines set forth in reference (b) and in paragraph 1-7 of this instruction. Mines generally used for these programs may remain in-water for periods as long as six months or more. Rotation of these mines for maintenance at six months intervals or less is strongly recommended to ensure they remain in serviceable condition.

f. Submit requests for Exercise Minefield Planning Folder(s) (EXMFPPF) per Chapter 3. Include designated mine delivery platforms and mine staging areas. Requests should reach COMOMAG (N5) no later than 30 days prior to required delivery date to ensure preparation of the required Exercise Minefield Planning Folder. Advance liaison with COMOMAG (N5) is encouraged.

g. Request the MOMAU MAT per Chapter 2. Identify berthing and messing facilities available to MOMAU MAT and coordinate land transportation of personnel and equipment as required.

h. Submit EOD/recovery data service request a minimum of 30 days prior to the primary planting date per Chapter 5 and references (c) and (d). Ensure a recovery craft is available prior to planting the mines if required. VEMS cannot be planted if a recovery craft is not scheduled and available. Position scores must be coordinated with EOD prior to recovery operations. COMOMAG (N5) will provide scoring results upon request, based on the latitude/longitude of the intended "splash points" for the mines as provided by the delivery platform and the reported mine recovery position. COMOMAG (N3/N5) should be included as an information addressee on all EOD/recovery data requests, intended splash points, and post exercise messages.

i. Request and confirm mining range clearance per appropriate range manual to prevent scheduling conflicts with other activities

COMOMAGINST 8550.2

15 May 03

conducting exercises. It is especially important in the case of exercises in foreign waters, to work with local navies and authorities to reduce or eliminate, if possible, encroachment into the exercise minefield by non-participating vessels and aircraft.

j. Send an intended splash point message as necessary prior to mine planting per Chapter 6.

k. Unless specified otherwise by the OCE, ensure mine locating sonar transmitters (pingers) are installed on all recoverable ET/MCMTT material. Proper justification should be provided to COMOMAG (N3) along with requests for ET/MCMTT material without recovery pingers. Exploitation mines used for EOD and VSW Detachment training will not normally be equipped with pingers but should be addressed in the request. Delay turn-on pingers are currently available in limited quantities, and they will eventually become the primary item for all ET/MCMTT material. Requests for use of delay turn-on pingers will be approved by COMOMAG on the basis of availability. See Chapter 8 on details of delay pinger use in VEMS fields.

l. Ensure the expeditious recovery and return of ET/MCMTT/MP material, mine components, retrograde, warning streamers and crates to the assembly activity for post exercise analysis and refurbishment for re-use.

m. Loss of floats, recovery line and other pilferable equipment is all too common and costs the mine warfare community thousands of dollars each year and jeopardizes availability of ET/MCMTT/MP for subsequent exercises. All users and exercise participants will return exercise and training mine parts and equipment with the recovered mines to the providing MOMAU. If similar parts are desired, users are encouraged to contact the respective MOMAG activity on stock numbers and sources of purchase.

n. The mine laying agent (aircraft, ship, barge, etc.) will transmit a post mine plant message for each mining mission within 48 hours of mine plant per Chapter 7.

1-6.2. Additional Planning Guidelines for NATO, Allied, or Non-Allied Exercises:

a. The MOMAU Mine Assembly Team (MAT) must receive entry approval to support the exercise and maintain appropriate control of the ET/MCMTT/MP material.

b. Authorization for the MAT to ride on recovery craft must be provided to prevent the loss of mines and important data.

c. Ensure the MAT is assigned to the recovery craft to assist with recovery operations, record post exercise data, and expedite return of ET/MCMTT/MP material. This is especially important when the recovery craft is a foreign vessel.

d. Ensure ET/MCMTT will only be provided for use by allied or other foreign services where there is a mutual training benefit for the participating U.S. forces and when appropriate minefield security and mine recovery services are scheduled.

1-7. Additional Planning Considerations. Requests for mines other than for training or exercise purposes, e.g., operational evaluations (OPEVALS), aircraft and ship compatibility test, and/or special configuration, will be considered by CNO on a case-by-case basis. Per reference (b), NCEA Mine requests should be submitted as follows:

Figure 1-1

SAMPLE NCEA MINE REQUEST HEADER

To: Chief of Naval Operations (N752)  
Via: Appropriate Fleet Commander or TYCOM

Copy to: Chain of Command as appropriate, including:

- (1) Program Executive Office, Mine and Undersea Warfare (PMS 490)
- (2) Commander, Mine Warfare Command (N3/N8/N9)
- (3) Commander, Mobile Mine Assembly Group (N3)
- (4) Naval Surface Warfare Center, Coastal Systems Station, Panama City, FL (A01/A60/A62/A90/A93/A83)

1-8. Message Request. To request Exercise and Training (ET) mines, Mine Countermeasures Training Targets (MCMTT), Mission Packages (MP) and associated services, submit an ET/MCMTT/MP Requisition in English (RIE) to COMOMAG (Code N3) with information addressees including the appropriate type commander, COMINEWARCOM, the supporting MOMAU or MOMAD, and CSS Panama City. All requirements for ET/MCMTT/MP material should be identified in the respective fleet's exercise schedule, COMINEWARCOM six-quarter schedule or in COMOMAG eight-quarter schedules. However, the RIE must be submitted NO LATER THAN a minimum of 45 days prior to the required delivery date. This will ensure the providing MOMAG Activity has time to effectively schedule the exercise into site workload and schedule resources to support deployment teams. Exceptions will be considered on a case-by-case basis but the requesting activity must make every effort to advise COMOMAG and the supporting MOMAU activity of this short notice requirement. Contact COMOMAG N32 as soon as possible. Verify a NCEA exists for ET/MCMTT/MP

COMOMAGINST 8550.2

15 May 03

material prior to submitting your request. In addition, funding for the transportation of material and funding for support personnel must be identified and available (paragraph 1-5). Chapter 2 outlines the minimum information and format for an ET/MCMTT/MP Material RIE. Ensure all exercise and training correspondence contains the exercise name in the subject line.

a. Determine if VEMS will be used and what level of analysis will be required and who will provide analysis. COMOMAG is capable of providing level 1 analysis, the OCE is capable of performing level 2 analysis (with level 1 data), while levels 3 and 4 analysis needs to be performed by NAVSURFWARCEN COASTSYSTA Panama City, FL. Chapter 8 provides information on the analysis levels and funding requirements.

b. If VEMS are to be used, is Post Quick-Look Reporting regarding VEMS armed periods and detonation times necessary? Is real-time detection of VEM detonations necessary and, if so, will the ships involved be MCM (Avenger) Class with operational VEMS hull-mounted transducers?

c. OCE, address/discuss applicable classification issues regarding VEMS emulations and ship signatures.

d. Clear set of objectives, including: Emulation threat, fire logic data (such as ship counts); influence (acoustic, magnetic, pressure, etc.) data recording requirements; and daily Zulu-time operating hours for armed periods for each VEM to determine VEMS emulation programming requirements.

e. Requirements for immediate or daily VEMS acoustic interrogations are:

(1) Platform to perform interrogations should be same as recovery vessel if possible.

(2) Data required during exercise, prior to VEM recovery, should normally be limited to mine fires (actuations and detonations) due to the difficulty and excessive amount of time required to recover large amounts of data through the acoustic link.

(3) POC at command to coordinate minefield operations.

(4) Communications between command ship and interrogation platform.

f. On-site VEMS data requirements after recovery (actuations, fires, heading angles, depth samples, etc.).

g. After all issues have been resolved, submit an ET/MCMTT Requisition in English (RIE) per Chapter 2.

1-9. Transportation of Mines. With the concurrence of the OCE, the individual MOMAU will coordinate the shipment of all CONUS/OCONUS ET/MCMTT mines and equipment in support of exercises through either Naval Air Logistics Office (NALO), Opportune Lift (OPLIFT), Special Assignment Airlift Mission (SAAM), Military Airlift Command channel Flights, or if available, Time Phased Force Directed Deployment (TPFDD).

a. NALO: Shipment of material via NALO is used extensively to support overseas exercises. While NALO costs are transparent to the user and shipper, final confirmation and actual shipment of ET/MCMTT/MP material are totally dependent on in-theater priority and aircraft availability.

b. TPFDD: When authorized, Time-Phased Force Deployment Data (TPFDD) requests are by far the most advantageous since transportation funds are provided by the OCE. ET/MCMTT mine shipments confirmed by TPFDD inputs are limited to commander or fleet sponsored exercises.

c. OPLIFT and Surface: OPLIFT shipments are the most economically feasible method of transportation, however, OPLIFT shipments require long lead times and ET/MCMTT shipments are restricted to mines without batteries connected due to battery life limitations and the length of time required for surface lift.

d. If NALO, OPLIFT and TPFDD are not available, a SAAM request or confirmed surface request may be submitted. Due to transportation costs, SAAM requests and confirmed surface shipment requests require identification of transportation funding via Transportation Accounting Codes (TAC) provided by the requesting activity.

e. The following comments are provided to assist exercise planners throughout the exercise planning conferences:

(1) Identify the responsibility for funding ET/MCMTT/MP material delivery and required MOMAU assembly team support while TAD.

(2) For all exercises, exhaust all means to arrange transportation of ET/MCMTT mines and material, e.g., NALO, OPLIFT, TPFDD or SAAM. Ensure ALCON are aware that aircraft/ship rescheduling may impair the shipment of mine material. If NALO, OPLIFT or TPFDD transportation conveyances are unavailable, obtain TAC from OCE or utilize TAC N132 for transportation of 6T ET/MCMTT

COMOMAGINST 8550.2  
15 May 03

materials. Authorization on use of TAC N132 will be provided and validated by COMOMAG.

(3) Determine responsibility for funding transportation and support of exercises when the OCE is a foreign allied country.

(4) Stress to all participants that without a valid TAC number shipment of ET/MCMTT/MP material/equipment cannot be guaranteed.

#### 1-10. Additional Planning Considerations

a. QUICKSTRIKE assembly training for aviation activities should be requested from the respective Naval Air Maintenance Training Group Detachments (NAMTRAGRUDETS 4030, Mayport, FL; 4032, NAS Norfolk, VA; and 4033, NAS North Island, San Diego, CA.) Requests for training from a local MOMAU may be made directly and are highly encouraged. Ensure both COMINEWARCOM and COMOMAG are information addressees on all requests.

b. Advanced liaison with the cognizant MOMAU is encouraged to confirm the availability of mine types and configurations desired.

c. Allow for recovery of mine assets. ET/MCMTT materials shall not be planted in depths exceeding 120 feet for bottom mines, with the exception of the MK 6. When the anchor is not to be recovered, a maximum case mooring depth of 400 feet is allowed when approved by COMOMAG.

d. Minefields for mine countermeasure training fields should not normally be planned or planted by the requester to ensure realistic training, therefore, when requesting ET/MCMTT material for MCMs, care should be taken to ensure that the unit being exercised receives only that training information intended. Information such as mine settings, quantity, type, emulation, etc., is not normally provided unless specifically desired by the OCE. Paragraph 1-6-1 is provided to aid in the planning of mine warfare exercises.

e. Handling mines (HM), used for load crew training as well as Hunting Mines (HTM) for MCM sonar conditioning checks, will be issued on a sub-custody basis to user activities per reference (k). Maintenance of these mines will be supported by the custodial MOMAU upon request. Requests for establishing or changing handling mine allowances should be submitted to COMOMAG (N3) with COMINEWARCOM (N3/N8), NAVAMMOLOGCEN MECHANICSBURG PA (4311), NAVSURFWARCEN COASTSYSTA PANAMA CITY FL (A01/A60/A62/A90/A93/A83), and the appropriate MOMAU included as information addressees.

f. Requisitioning activities should refer to reference (e) when ordering ET/MCMTT material and services especially if those mines will be:

(1) Laid, swept, or recovered by non-U.S. forces.

(2) Laid in any non-U.S. controlled waters.

(3) Laid in U.S. controlled waters to which non-U.S. personnel have access.

g. The exercise coordinator should submit the request for VEMS exercise employment authorization by message to COMOMAG info COMINWARCOM and the supporting MOMAU. For MIREM exercises, authorization for use by COMSURFWARDEVGRU will be assumed unless otherwise directed. COMOMAG will validate the requested quantity and type of VEMS based on exercise objectives, mines to be emulated and the recovery plan. Additionally, indicate if any foreign allies will be involved in the exercise and any other information relevant to the success of the exercise.

h. All major exercise participants should identify and finalize specific details and responsibilities for the exercise.

i. The attending MOMAU will provide reports to COMOMAG upon completion of all planning conferences via naval message. Messages will include, as a minimum, the NCEA status, funding, transportation method, costs associated, activity providing funds, and mine material required, as well as any information relevant to the success of the exercise.

j. The requesting activities' NCEA for all requested mines should be entered in the Conventional Ammunition Integrated Management System (CAIMS) at the activity level in order for COMOMAG to validate the ET/MCMTT requests. Expenditures must be reported by ATR during the same fiscal year the NCEA was verified in order to prevent discrepancies.

1-11. Allied or NATO Exercises:

a. The use of classified mines in circumstances where they might be recovered and exploited by foreign countries requires adequate safeguarding. Of particular concern are actuation mines and VEMS.

b. Generally, classified ET/MCMTT material is employed in exercises involving foreign countries only if the countries concerned have been authorized disclosure of the associated service mines.

COMOMAGINST 8550.2  
15 May 03

Even in this case, safeguarding and recovering the ET/MCMTT items must be assured.

c. Reference (e) provides general disclosure guidance regarding the employment of U.S. Navy ET/MCMTT/MP material in combined (multinational) exercises. Special requests for exercise mine employment with countries which are not authorized disclosure shall be submitted to Navy International Programs Office (IPO-10) with COMINWARCOM (N2/N3/N8) and COMOMAG (N3) as information addressees.

1-12. Planning Conference Checklist. The following is a list of questions requiring answers prior to executing most MCM/mining requests:

a. What methods of shipment will be used for transportation of mine material?

b. What Transportation Accounting Code (TAC) is to be used for billing purposes?

c. Who will provide funding for support personnel?

d. What UIC will be charged for the expenditure of ET/MCMTT mine material (NCEA account)?

e. If VEMS are being requested, has COMOMAG (N3) approved their use for the exercise? What threat is desired for emulation provisions and what data is required?

f. Who is the MINEX OCE?

g. Who is the MRCI Chief Inspector? (MRCI only)

h. Who is responsible for mining?

i. What MK-MOD and quantity of each mine are required?

j. What are the planting depths, bottoms, and environmental requirements for the plant area?

k. What is the delivery platform?

l. What type of mine countermeasures will be conducted?

m. Will they be required to recover mines?

n. Who will coordinate recovery services? Who will pay for recovery services?

o. What NATO/allied countries will be involved and in what phase of the exercise will they participate?

p. Are the NATO or allied countries involved/cleared for the types mines used per reference (e)?

q. Will MOMAU MAT be required at each mine staging location?

r. When the U.S. Air Force is involved, has funding issues been addressed per reference (i)? Who is the U.S. Air Force's point of contact and what is the telephone number?

s. Have MOMAU representatives been invited to the planning conferences?

t. Is an Exercise Minefield Planning Folder (EXMFPPF) required?

CHAPTER 2

ET/MCMTT/MP REQUISITION IN ENGLISH (RIE) AND  
MINE ASSEMBLY TEAM (MAT) REQUEST

2-1. General. This chapter outlines the minimum information required for requesting ET/MCMTT/MP material and MAT and mine planting teams. For additional information regarding settings or specific requirements, requesting commands should liaison with the appropriate MOMAU. Reference (b) identifies the specific mine types to support different training requirements and procedures to follow for non-standard ET/MCMTT mine requirements. Submit standard requests in accordance with the format used in Figure 2-5. Paragraphs 2 through 7 define the procedures for ET/MCMTT/MP mine requisitions.

2-2. Required Information. The instructions below follow the message text format. Do not skip lines or fields. If information is not needed, use N/A. Submit as a classified message only when required. See Figure 2-1.

COMOMAGINST 8550.2  
15 May 03

Figure 2-1

SAMPLE CONFIDENTIAL ET/MCMTT/MP MATERIAL REQUEST MESSAGE

(This page is unclassified but marked confidential for training purposes only. Consult reference (e) for the proper classification level of ET/MCMTT/MP RIE.)

C O N F I D E N T I A L

FM (Activity requesting ET/MCMTT/MP material)  
TO COMOMAG CORPUS CHRISTI TX//N3//  
INFO COMINWARCOM CORPUS CHRISTI TX//N3/N8//  
NAVAMMOLOGCEN MECHANICSBURG PA//4311//  
NAVSURFWARCEN COASTSYSTA PANAMA CITY FL//A01/A60/A62/A90/A93/A83//  
(APPLICABLE MOMAU, SEE CHAPTER 1 PARAGRAPH 1-4.1 FOR PLA)  
(APPLICABLE CHAIN OF COMMAND AND OTHER COMMANDS INVOLVED AS REQUIRED)  
EXER/EXERCISE NAME//  
SUBJ/(ET/MCMTT/MP) (PICK TYPE OF REQUEST) MATERIAL REQUEST ISO  
(EXERCISE NAME; FOR U.S. AIR FORCE USE SQUADRON NAME)//  
REF/A/DOC/COMOMAG/DATE OF THIS INSTRUCTION//  
AMPN/REF A IS COMOMAGINST 8550.2, PROCEDURES FOR REQUESTING MINE  
WARFARE ET/MCMTT/MP MATERIAL AND SERVICES//  
POC/(NAME OF REQUESTOR AND PHONE/FAX NUMBERS)//  
RMKS/1. (U) PER REF (A), THE FOLLOWING RIE IS SUBMITTED:  
    A. (U) UNIT IDENTIFICATION CODE (UIC) AND THE ACTIVITIES PLAIN  
    LANGUAGE ADDRESS WHOSE NCEA WILL BE CHARGED (NOT NECESSARILY THE USING  
    ACTIVITY). MISSION PACKAGE EXPENDITURES WILL USE UIC N57011-  
    COMINWARCOM NCEA TO CHARGE AGAINST.  
    B. (U) REQUIRED DELIVERY DATE (RDD) (NOTE: A MINIMUM OF A 45-DAY  
    LEAD-TIME PRIOR TO SCHEDULED DELIVERY IS REQUIRED FOR ALL RIES.)  
    C. (U) DELIVERY POINT, COMPLETE SHIPPING ADDRESS AND POINT OF  
    CONTACT  
    D. (C) PLANT DATES (CLASSIFIED ONLY AS REQUIRED)  
    E. (C) PLANT LOCATION (MINE RANGE) (CLASSIFIED ONLY AS REQUIRED)  
    F. (U) OCE/CHIEF INSPECTOR (ACTIVITY AND POC)  
    G. (U) TRANSPORTATION ACCOUNTING CODE (TAC) AND FUNDING  
    INFORMATION. TAC N132 WILL BE UTILIZED FOR ALL SHIPMENTS UNLESS  
    DIRECTED OTHERWISE.  
2. (C) MINE REQUIREMENTS. (CLASSIFIED ONLY AS REQUIRED)  
    A. (C) ET/MCMTT MINE REQUIREMENTS (AS REQUIRED BY NALC AS  
    IDENTIFIED IN TABLE 2-1 AND FORMATTED PER PARAGRAPH 2-3 AND 2-4. SEE  
    MESSAGE FIGURE 2-5.)  
    B. (U) VEMS SUPPORT EQUIPMENT REQUIREMENT (SEE PARAGRAPH 2-4)  
3. (U) MINE ASSEMBLY TEAM (MAT) INFORMATION (FINAL PREPARATION OF ET  
MINES SHOULD BE ACCOMPLISHED BY TRAINED AND CERTIFIED MINEMEN. THE  
OCE SHOULD REQUEST SERVICES OF MAT(S) AND PROVIDE APPROPRIATE FUNDING)

Figure 2-1 (cont.)

SAMPLE CONFIDENTIAL ET/MCMTT/MP MATERIAL REQUEST MESSAGE

(This page is unclassified but marked confidential for training purposes only.)

- A. (U) LOCATION: LOCATION AT WHICH SERVICES ARE DESIRED
- B. (U) TEMADD DATES: APPROXIMATE DATES OF TEMADD
- C. (U) ACCOUNTING DATA: REIMBURSABLE FUNDS OR A LINE OF ACCOUNTING SHOULD BE PROVIDED ON REQUEST OR BY SEPARATE CORRESPONDENCE.
- D. (U) TASKS TO BE PERFORMED:
- E. (U) POINTS OF CONTACT:
- F. (U) COD: CARRIER ONBOARD DELIVERY (COD) INFORMATION AS REQUIRED
- 4. (U) LAYING AGENT AND STENCILING INFORMATION:  
(FORMAT PER PARAGRAPH 2-6)
  - A. (U) MINE NUMBER
  - B. (U) NALC
  - C. (U) MINE TYPE (MK/MOD WITH EITHER LM (LAYING MINE), AM (ACTUATION MINE), HTM (HUNTING MINE), ETC.)
  - D. (U) LAYING AGENT (TYPE OF AIRCRAFT, SUBMARINE, OR SURFACE CRAFT)
  - E. (U) INT OR EXT (INTERNAL OR EXTERNAL CARRIAGE)
  - F. (U) STENCILING INFORMATION: (STENCILING DATA SHALL IDENTIFY THE REQUESTING ACTIVITY OR EXERCISE NAME, AND INCLUDE A 2 DIGIT FY AND A MINE CONTROL NUMBER (MCN). EXAMPLES: CV60-03-0101 THRU 0312, VP45-03-0101 THRU 0112, TH03-0101 THRU 0124). PATRONS WILL IDENTIFY ACTUAL PLANNING ACTIVITY. MCNS WILL RUN CONSECUTIVELY AND WILL BE ASSIGNED IN THE SAME SEQUENCE AS DESCRIBED IN CHAPTER 3)
- 5. (U) RANGE/MINE RECOVERY AND DIVER SUPPORT SERVICES: (LIST AS APPROPRIATE FOR THE RANGE, SPECIFIC VESSELS ASSIGNED RECOVERY OPERATIONS AND SPECIFIC DIVER UNITS ASSIGNED RECOVERY DUTIES)
  - A. (U) NAME OF ACTIVITY/SHIP/DIVER UNIT:
  - B. (U) LOCATION OF RECOVERY OPERATION:
  - C. (U) DATES OF RECOVERY OPERATION:
  - D. (U) POINTS OF CONTACT:
- 6. (U) MISSION PACKAGE EXPENDITURE REQUESTS: (SHIP OR SHIPS EXPENDING MISSION PACKAGES, TYPE OF MISSION PACKAGES EXPENDITURES (MP1/2/3), AND QUANTITY REQUESTED). COMINWARCOM NCEA ACCOUNT N57011 WILL BE USED FOR ALL EXPENDITURES.
- 7. (U) REMARKS: (OTHER PERTINENT INFORMATION TO SUPPORT THE EXERCISE; ALTERNATE POC, SIPRNET E-MAIL ADDRESS, PINGER REQUIREMENTS, ETC.)//  
DECL/XXX//  
BT  
NNNN

C O N F I D E N T I A L

COMOMAGINST 8550.2  
15 May 03

2-3. ET Laying/MCMTT/VEMS Mine format and example:

Figure 2-2

SAMPLE MINE REQUIREMENTS

A. (C) MINE REQUIREMENTS (classified only as required)

NALC/CASE NO./QTY/MK/MOD/OA/MOOR-DPTH/BOTTOM-DPTH/PRESS-SWITCH

/RE07/01-04/04/75-0 VEM/01/NA/90FT/NA/

/RE05/05-12/08/74-1 VEM/01/NA/90FT/NA/

/DW11/13-16/04/6 MSM/03/60FT/90FT/NA/

/R671/17-20/04/52 LM/04/NA/120FT/NA/

/R682/21-24/04/67 LM/06/NA/300FT/OFF/

a. For NCEA purposes, hunting mines use the same NALCs as their laying mine counterparts, thus, for exercises requesting hunting mines, the NCEA will be charged using the laying mine counterpart.

b. Handling mines are requested separately per reference (k) to establish or modify an allowance.

c. For the mine MK 6, cite case mooring depth (distance from surface to top of case) in Column 6 and bottom depth in Column 7.

d. All laying mines MK 52/65 will be provided with locator float assemblies installed unless specifically requested otherwise by the Officer Conducting the Exercise (OCE) and approved by COMOMAG or are configured for MK 5 MMS recovery.

e. In view of their limited availability and to aid in recovery, all ET and MCMTT mines will have MK 87 sonar transmitters installed. VEMS requires transmitters with a delay capability (MK 87 MOD 4 or Dukane DK-187/3). Only if specifically requested, justified by the OCE and approved by COMOMAG will mines be provided without transmitters, i.e., EOD exploitation, ATG and CSS minefield reseedling.

f. MK 52 actuation mines are no longer in service but assets are available for SMCM/UMCM Exploitation and Over Pressurization requirements.

g. Due to past failures, the serial and contract numbers for MK 7 tail sections, along with the manufacturer's contract and lot numbers of MK 144 batteries will be recorded during assembly of each MK 65 laying mine. This information will be forwarded to NAVSURFWARCEN COASTSYSTA with information to COMOMAG on any tail section failures.

h. Welding the blanking plates in lieu of using gaskets on MK 6 cases using local SOPs is authorized. The SOPs must ensure the case meets inspection criteria prior to the welding and that leak test procedures are performed after the welding.

i. Application of a swaged fitting to the wire rope of MK 11 anchor plummet using locally prepared SOPs is authorized.

j. COMOMAG and MOMAUs are not authorized to approve mine requests for training or exercise purposes not addressed in reference (a). Specially configured mines that contain explosives or mines configured in any other fashion which may create potential for personnel or property damage must be requested in accordance with reference (a). Assisting EOD or special warfare activities in fabricating inert shapes to replicate actual mine threats does not necessarily violate this provision. Clarification from COMOMAG should be sought for any questionable requests.

k. MK 67 Laying Mine OA-06 with exercise head MK 91, is the primary exercise system that will be used to support Mine Readiness Certifications, Training Reliability Evaluations, and In-water Reliability Evaluations. Following are recommended settings:

(1) Following settings are recommended: Set Mine at "no Dive", Flare Off, Float Off and Timer setting is not used.

(2) Set Pressure Switch so the anchor will release at the pre-selected depth settings should the mine shut down early in deep water. Pressure Switch activation setting available are: 1=100 Ft., 2=150 Ft., 3=300 Ft., and 4=800 Ft.

1. The VEMS Programmer Decoder (VPD) software is used to produce VEM programs, load programs into the VEM, unload exercise data from the recovered VEM and decode the data for use in the preparation of the post-exercise quick-look report. NAVSEA SW570-FO-MMO-050, VEMS Description and Operation, provides instructions for the use of this software. The following settings will be provided for each VEM via separate cover by COMOMAG (N3) upon receipt of VEM employment authorization message. If this is a MIREM or TACDEVEX, these settings and emulations will be provided by NAVSURFWARCEN COASTSYSTA Panama City, FL., upon receipt of pertinent requirements from COMSURFWARDEVGRU or COMSUBDEVRON TWELVE.

(1) Lay Reference Number (LRN). Up to 7 characters, usually replicating the exercise Mine Control Number (MCN) or Mine Lay Reference Number (LRN) in the ET/MCMTT request should be or end in a 3-digit number from 001 to 999 that can also be used as the Mine ID in

COMOMAGINST 8550.2  
15 May 03

the VPD software to identify a program and its resulting data with a particular VEM.

(2) Acoustic Link ID. A 3-digit Identity Number from 001 to 126 that identifies a particular VEM for acoustic link (underwater) communications. Its last two digits should normally be the same as the in the LRN name. The acoustic link ID also determines the acoustic frequency channel (communications channel) a VEM uses to transmit acoustic signals. Seven available frequencies, F1 through F7 are automatically assigned to VEM programs in a repeating consecutive sequence based on the acoustic link ID numbers, i.e., by modulo 7 arithmetic). In other words, divide the acoustic link ID number by 7 and the remainder (1 through 6) will be the acoustic frequency channel. If the acoustic link ID is evenly divisible by seven, the frequency channel will be F7. This is important because acoustic communication interference can occur between VEMs in close proximity sharing the same frequency channel. If each minefield will contain no more than seven VEMs, all having consecutive LRNs, interference should not be a problem. If a single minefield will contain more than seven VEMs or VEMs whose LRNs will not all be consecutive, select their acoustic link IDs per the guidance above so that any two VEMs sharing the same frequency channel will be planted on opposite sides of the field.

(3) Release Time. This determines when the VEM will self-release its buoy for VEM recovery without divers, if not yet command-released by an operator through the acoustic link. The VPD software will not load a program into a VEM if a release time has not been set. This is to be provided in Zulu time in the following DTG format: DDHHMMMMYY, i.e., 271301ZJUN03. The release time should normally be set beyond the planned recovery time so as to allow sufficient time to execute a controlled operator initiated release by acoustic link command, even if the exercise extends beyond the planned recovery date or if inclement weather prevents recovery on the planned date. To prevent the VEM from being damaged, lost, or becoming a navigation hazard if buoy release occurs with no recovery assets on scene, the release time should be set to a date when recovery assets will still be available, or a sufficiently later date for which recovery assets can be rescheduled. The release time can be set up to 189 days beyond the earliest date on which the program will be loaded into a VEM, a limitation imposed by the VPD software that will prevent program loading if this 189-day limit is exceeded. In any case, the release time should be set to a sufficiently early daylight hour to allow time for recovery before nightfall.

(4) Armed Periods. Up to 30 armed periods can be programmed into a VEM. It is preferred that an armed period be set for each day with a minimum of a one-hour off-time. If acoustic interrogations are

required it is recommended that the off-time be increased to allow sufficient time to interrogate each mine. It should be noted that acoustic interrogations during a VEMS active period might cause false actuations/detonations. The off-time will increase the reliability of the mine by resetting any hardware or software problems that may have occurred during the armed period. If possible, armed periods should be programmed for up to three days after exercise completion to allow for delays in exercise activity due to weather. Armed period start and stop times are to be provided in Zulu time in the following DTG format: DDHMMMMMY, i.e., 271301ZJUN03.

(5) Mine Emulation. For every armed period (operating period) in each VEM, specify the threat mine emulation to be run, using the unclassified emulation ID (SME1, SME2, etc.,). If a particular VEM is only required to collect data and not to emulate a mine (e.g., no mine fires required), list "BASIC." A single VEM can be programmed to run a different emulation in each armed period if required. But a single VEM cannot be programmed to run both the "BASIC" data collection software and threat mine emulations.

(6) Ship Count. This parameter must be specified for every armed period in each VEM that will run a mine-emulation. As with a real mine, the ship count setting determines the number of times an emulation's firing parameters must be satisfied to produce a detonation; all other times will produce actuations. Actuations, like detonations, are normally treated as mine fires during analysis, so the choice of ship count depends on whether or not real-time (instantaneous) feedback of mine fires from the VEM is required. A VEM acoustically signals detonations but not actuations. Therefore, if real-time feedback is required, the ship count should normally be set to the minimum setting (usually 1) so that only detonations will be produced, unless exercise purposes require the use of a specific ship count along with real-time feedback. In this case, refer to the specific emulation SOP or contact COMOMAG (N3) for the range of ship counts available. If real-time feedback is not required, the ship count should be set to the maximum setting allowed by the particular emulation, to minimize the acoustic signaling of detonations. This, in turn, will minimize the drain on the VEM acoustic link battery (which is also needed for buoy release at the end of the exercise), and it will minimize interference by the VEM acoustic transmissions on its other sensors. Even with ship count set to its maximum setting, the tactical evaluation using a specific ship count value can be performed during analysis.

(7) Detonation Dead Period. This parameter must be specified for every armed period in each VEM that will run a mine-emulation.

COMOMAGINST 8550.2  
15 May 03

This is the time (in seconds) that the VEM is dormant after a detonation occurs. The dead period can be set up to a maximum value that varies by emulation. The detonation dead period should normally be set to be the same as the particular emulation's Intercount Dead Period (ICDP). The ICDP is the dormant period between ships counts (actuators) and is a fixed value for each particular emulation. Refer to the specific emulation SOP or contact COMOMAG (N32) for this value.

(8) Other Settings. Various sensitivity, wake-up threshold, and data recording settings must be specified for every armed period in each VEM that will run an emulation. The exact parameters and their available settings vary by emulation, so refer to the specific emulation SOP or contact COMOMAG (N32) for instructions and guidance.

(9) Pinger Delay (in days). This should always be set to arm after the exercise is completed. For the MK 87-1 delay settings are no delay (ND), 2, 4, 8, 16, and 32. For the DK-187/3, delay settings are no delay (ND), 8, 16, and 32. For the MK 87-4, delay settings are 1, 4, 8, 16, and 32.

(10) Recovery Line. The VEM MK 74 has two operational assemblies available. Depending on the required operational plant depths, for depths less than 120 feet use NALC RE06, OA-02 that has 200 feet of recovery line. At greater depths use NALC RE05, OA-01 that has 600 feet of recovery line. The VEM MK 75 uses only a 100 feet recovery line and is limited to maximum plant depth of 120 feet.

2-4. VEMS Support Equipment Requirements Format. See Figure 2-3.

Figure 2-3

VEMS SUPPORT EQUIPMENT REQUIREMENTS FORMAT

(1) CRAFT: USS CRAFT
(2) RDD: 10JUL03
(3) DELIVERY LOCATION: NAVSTA INGLESIDE
(4) REMOVAL DATE: 26JUL03
(5) LOCATION: NAVSTA INGLESIDE
(6) POINT OF CONTACT: LT PLANNER, NAME OF COMMAND, DSN 769-0000, E-MAIL PLANNERLT@NAVY.MIL
(7) REMARKS:

a. The required delivery date (RDD) is immediately prior to the installation date.

b. Delivery location is the port where installation of the ESS/OSBHS occurs.

2-5. Laying Agent and Stenciling Required Information:

a. Laying Agent. Type of aircraft, submarine or surface craft with the number and types of mines by MK/Mod for internal and external carriage. Use the format example shown in paragraph 2-7.

b. Mine Stenciling Data. Stenciling data should identify the requesting activity or exercise and the MCN, e.g., CV60-0101 through 0112, VP45-0101 through 0112, TEAM SPIRIT 0101 through 0124. MCNs are used for identification of each mine requested for EXMFPPFs and should be constructed using numbers consisting of the year and case number, e.g., 0101 through 0199. The MCNs should run consecutively by MK and MOD and should be assigned in the following sequence: MK 6 MSM, MK 36-X, MK 52-X, MK 52-2, MK 52-5, MK 56, QS MK 62, QS MK 63, QS MK 65, SLMM MK 67, VEM MK 74, and VEM MK 75. Use the format example shown in paragraph 2-7.

2-6. Laying Agent/Stencil Format. See Figure 2-4.

Figure 2-4

LAYING AGENT/STENCIL FORMAT

MINE NO/NALC/MINE TYPE/LAYING AGENT/INT-EXT/STENCIL INFO			
01-04/DW11/MK 6 MSM/	USS CRAFT/NA/	TS0101-TS0104	
05-07/R232/MK 56-X LM/F/A-18/INT/	TS0105-TS0107		
08-09/R929/MK 52-2 AM/LCU/NA/	TS0108-TS0109		
10-16/R962/MK 67-2 LM/SSN/NA/	TS0110-TS0116		

2-7. Mine NALC Tables. Mine NALCs are listed in Tables 2-1 through Table 2-4.

Table 2-1

Mine Type: VERSATILE EXERCISE MINE (VEM)

MK/MOD	NALC	OA	DESCRIPTION
74-1	RE04*		SHIPPING CONFIGURATION AUR W/NO LINE
74-1	RE05	01	W/600 FT RECOVERY LINE
74-1	RE06	02	W/200 FT RECOVERY LINE
75-0	RE07*		W/200 FT RECOVERY LINE

COMOMAGINST 8550.2  
15 May 03

Table 2-2

Mine Type: MECHANICAL SWEEP MINE (MSM)

MK	NALC	OA	DESCRIPTION
6	DW11*	01	OPERATIONAL PLUMMET, RAIL PLANTED
6	DW11	02	TETHERED, RAIL PLANTED
6	DW11	03	TETHERED, CRANE PLANTED

Table 2-3

Mine Type: MINE COUNTERMEASURE TRAINING TARGETS (MCMTT)

MK-MOD	NALC	DESCRIPTION
44-0	BWHQ	FOREIGN MINE REPLICA TARGET (MANTA)
44-1	BWHR	FOREIGN MINE REPLICA TARGET (MANTA EXPLOITABLE)
45-0	----	FOREIGN MINE REPLICA TARGET (PDM2)
45-1	BHWS	FOREIGN MINE REPLICA TARGET (PDM2 SHORT VERSION)
46-0	BWHT	FOREIGN MINE REPLICA TARGET (ROCKAN)
47-0	----	FOREIGN MINE REPLICA TARGET (MKB)
48-0	----	FOREIGN MINE REPLICA TARGET (PDM1B)
49-0	----	FOREIGN MINE REPLICA TARGET (MK6)
50-0	----	FOREIGN MINE REPLICA TARGET (PDM2B)
51-0	----	FOREIGN MINE REPLICA TARGET (MDM3)
52-0	----	FOREIGN MINE REPLICA TARGET (MDM4)
53-0	----	FOREIGN MINE REPLICA TARGET (MOORED GENERIC A-TYPE)

Table 2-4

Mine Type: ET LAYING MINE (LM)/HUNTING MINE (HTM)

MK	NALC	NOTE	OA	DESCRIPTION
25	R136	(1)	NA	MK 25 SCC USED FOR MCMTT
36	R168	(1)	NA	MK 36 SCC USED FOR MCMTT
52	R670*	(1)	NA	MK 52 SCC USED FOR MCMTT
52	R671		05K	W/LOCATOR FLOAT USED FOR MCMTT
52	R918	(1)	04K	W/O LOCATOR FLOAT USED FOR MCMTT
52	R919		05K	W/O LOCATOR FLOAT USED FOR MCMTT
56	R232*		05K	UNFAIRED
56	R233		06K	FAIRED
62	CWGN	(1)	03K	EXTERNAL W/MK 15 FIN
62	CWGM		02K	INTERNAL W/MK 15 FIN
62		(2)	06K	W/TAIL SECTION MK 16
62	CWGO*	(3)	09K	W/FIN BSU-86/B
63	XW86		02K	INTERNAL W/FIN MAU-91A/B
63	XW87*	(1)	03K	EXTERNAL W/FIN MAU-91A/B
63		(2)	06K	W/TAIL SECTION MK 12
65	R961*		01K	
67-2	R682*		05K	W/INERT EXP. SECTION MK 13
67-2	R962		06K	W/EXERCISE HEAD MK 91

\* Identifies lead NALC

- NOTES: (1) Use these NALCs when requesting US mines as MCMTT.  
 (2) NALC not assigned; use lead NALC with appropriate OA and specify tail or fin requirement in remarks.  
 (3) Lead NALC (CWGO) replaces the formerly used lead NALC (XW84) for MK 62 mines.

COMOMAGINST 8550.2  
15 May 03

Figure 2-5

ET/MCMTT MINE REQUISITION

(This page is unclassified but marked confidential for training purposes only. Consult reference (e) for the proper classification level of ET/MCMTT RIE.)

C O N F I D E N T I A L

R 251531Z JAN 03 (minimum 45 days prior to requested delivery date)  
FM (COMMAND REQUESTING ET MINES)  
TO COMOMAG CORPUS CHRISTI TX//N3//  
INFO COMINWARCOM CORPUS CHRISTI TX//N3/N8//  
NAVAMMOLOGCEN MECHANICSBURG PA//4311//  
NAVSURFWARCEN COASTSYSTA PANAMA CITY FL//A01/A60/A62/A90/A93/83//  
Applicable MOMAU unit, see chapter 1 paragraph 1-4.1  
Chain of command and commands involved  
CONFIDENTIAL //N08550//  
EXER/GOMEX 03-1//  
MSGID/GENADMIN/(COMMAND REQUESTING)//  
SUBJ/GOMEX 03-1 ET/MCMTT/MP MINE REQUISITION IN ENGLISH (U)//  
REF/A/DOC/COMOMAG/XXMON00//  
AMPN/COMOMAGINST 8550.2, PROCEDURES FOR REQUESTING MINE WARFARE  
ET/MCMTT/MP MATERIAL AND SERVICES//  
POC/PLANNER/RANK/COMMAND/-/DSN PHONE/COMM PHONE/FAX//  
POC/ALTERNATE PLANNER/RANK/COMMAND/-/DSN PHONE/COMM PHONE/FAX//  
RMKS/1. (C) PER REF A, THE FOLLOWING REQS ARE SUBMITTED:  
A. (U) UIC: 57011-COMINWARCOM CORPUS CHRISTI TX  
B. (U) RDD: 23 MAR 03  
C. (U) DELIVERY LOCATION: NSWC CSS PANAMA CITY, FL  
SHIPPING ADDRESS: NSWC CSS, WEAPONS DEPARTMENT BLDG,  
PANAMA CITY, FL  
D. (C) PLANT DATES: 1-3 APR 03  
E. (C) PLANT LOCATION: CSS MINE RANGE (Mine range)  
F. (U) OCE: COMINWARCOM  
G. (U) TAC: N132 (TRANSPORTATION ACCOUNT CODE)  
2. (C) MINE REQUIREMENTS:  
A. (U) ET/MCMTT REQUIREMENTS:  
NALC/CASE NO./QTY/MK-MOD/OA/MOOR DPTH/BOTTOM DPTH/PRESS SWITCH  
R671/001-004/04/52-LM/05K/NA/90FT/NA  
RE05/013/01/74-1/01/NA/100FT/N/A  
DW11/014-15/02/6-MSM/03/5FT/120FT/NA  
R682/016-019/04/67-2/05K/NA/120FT/NA  
B. (C) VEMS SUPPORT EQUIPMENT REQUIREMENTS:  
(1) (U) PLANTING CRAFT: USS PLANTING VESSEL  
(2) (U) RECOVERY CRAFT: USS RECOVERY VESSEL  
(3) (U) REQUIRED DELIVERY DATE: 29 MAR 03

Figure 2-5 (Cont.)

(This page is unclassified but marked confidential for training purposes only.)

(4) (U) DELIVERY LOCATION AND SHIPPING ADDRESS: NSWC CSS, 234 FIFTH ST, BLDG 89, FICTICIOUS ADDRESS, USA ZIP 00000  
(5) (C) REMOVAL DATE: 10 APR 03  
(6) (U) POINT OF CONTACT (NAME/COMMAND/DSN/COMM/FAX/E-MAIL): LT SMITH/USS CRAFT/DSN 861-1234/(512) 861-1234/(512) 861-1235/  
(7) (U) REMARKS: AS REQUIRED TO AMPLIFY ON USE OF ESS OR OSBHS

3. (U) MINE ASSEMBLY TEAM (MAT) DATA:  
A. (C) LOCATION: CSS PANAMA CITY FL  
B. (C) TEMADD DATES: 26 MAR-03 - 06 APR 03.  
C. (U) AA1781804.60CK 000 57011 0 068732 2D 0B1001 301298EL105E  
D. (C) 26-29 MAR, FINAL PREP OF ALL MINES. 30 MAR, INSTALL ESS/OSBHS. 1 APR, SURFACE PLANT MK 6, MK 52 AND VEMS.  
E. (U) POC: YNCS TEMADD, DSN 123-1234.  
F. (U) COD INFO: NA

4. (U) LAYING AGENT AND STENCILING INFORMATION:  
MINE NO/NALC/MINE TYPE/LAYING AGENT/INT-EXT/STENCIL INFO  
001-004/R671/52LM/FA-18/EXT/TS03-001 THRU 004  
013/RE05/74-1/LCU/NA/TS03-013  
014-015/DW11/6MSM/LCU/NA/TS03-014 THRU 015  
016-019/R682/67-2LM/SSN/NA/TS03-016 THRU 019.

5. (U) RANGE/MINE RECOVERY AND DIVER SUPPORT SERVICES:  
A. (U) NAME OF ACTIVITY/SHIP/DIVER UNIT: PCOA/USNS RECOVERY/MDSU-2  
B. (C) LOCATION OF RECOVERY OPERATION: PANAMA CITY, FL  
C. (C) DATES OF RECOVERY OPERATION: 17-28 APR  
D. (U) POINTS OF CONTACT: LT SMITH/USS CRAFT/DSN 861-1234/(512) 861-1234/(512) 861-1235/

6. (U) MISSION PACKAGE EXPENDITURE REQUEST: REQUEST AUTHORIZATION FOR THE FOLLOWING SHIPS TO EXPEND MISSION PACKAGES (AS INDICATED) IAW MINE COUNTERMEASURE OPERATIONS ISO EXERCISE FROM DATES:

SHIP	MISSION PACKAGE	QTY
USS FALCON	MP1	1
USS OSPREY	MP2	1
USS HERON	MP3	1
USS PELICAN	MP1	1
USS CHAMPION	MP2	1
USS PIONEER	MP3	1

7. (U) MISCELLANEOUS REMARKS: NONE  
//  
DECL/-/-/-/X//  
BT  
NNNN

C O N F I D E N T I A L

CHAPTER 3

EXERCISE MINEFIELD PLANNING FOLDER (EXMFPP) REQUEST

3-1. Minefield Planning Service. Minefield planning folder services are available from COMOMAG (N5) using the format provided below and the sample EXMFPP message, Figure 3-1. This format is further amplified in Minefield Planning Folder (MFPP) 00. Requests for exercise folders may be forwarded via message or letter and must reach COMINWARCOM no later than 30 days prior to the required delivery date for the Exercise Minefield Planning Folder. The EXMFPP is accessible on the COMINWARCOM (N9) SIPRNET <http://www.cmwc.navy.smil/mil/n9/n9/>. The following information, along with a secure facsimile phone number, should be provided when requesting an EXMFPP folder. Do not skip lines. If information is not needed, type N/A:

- a. Exercise name.
- b. Geographic coordinates of the minefield area or desired location of the mining range and name. Planning for aircraft lay must include the Initial Point (IP) location by name (with latitude and longitude). For submarine lay, use minefield boundary latitude/longitude and the required number of aimpoints. The choice for a mining area must be a compromise between delivery constraints and the most efficient use of mines available. Chapter 6 contains further guidance concerning mining ranges.
- c. Purpose of the minefield, including desired Minefield Performance Objective (MPO).
- d. Primary target, anticipated depth (if submarine) and speed, e.g., type of submarine, 200 FT, 8 knots.
- e. Secondary target type (see primary target). If so stated, some of the total mines within a segment may be dedicated to the secondary target.
- f. Degree/type of MCM expected.
- g. Laying agents to be used, e.g., type of aircraft, submarine, or surface craft.
- h. Number and types of mines to be laid by MK-MOD, quantity of mines for internal/external carriage and Mine Control Numbers (MCNs). MCNs will run consecutively and are assigned in the same sequence as described in Chapter 2.

COMOMAGINST 8550.2  
15 May 03

i. Desired EXMFPPF distribution. This should include Standard Navy Distribution List (SNDL) identifier and activity name. Include the complete address for non-U.S. commands and the U.S. Air Force.

j. Desired delivery date for the EXMFPPF. It should be within 10 working days prior to planting or underway date to allow for classified material shipment and handling.

k. Date mines are to be laid.

l. Minefield activation date. This may be given as a time interval after the mines are laid.

m. Desired duration of minefield effectiveness and either self-destruct or sterilization.

n. Desired recovery date.

o. Planning conference date and location if either COMOMAG or COMINELWARCOM representative is required.

p. Explanatory narrative, related to the EXMFPPF request, as required.

q. For actual EXMFPPF requests, the overall classification will be Confidential.

3-2. Request for Operational Setting Change. Submit operational setting change request in the same manner as the original request. Allow at least 21 days prior to the delivery date for MOMAU to make mine setting changes.

Figure 3-1

SAMPLE EXMFPP MESSAGE

(This page is unclassified but marked confidential for training purposes only. Consult reference (e) for the proper classification level of ET/MCMTT RIE.)

```

                                C O N F I D E N T I A L
R 010001Z JAN 03
FROM (REQUESTING COMMAND)
TO COMOMAG CORPUS CHRISTI TX//N3/N5//
INFO COMINWARCOM CORPUS CHRISTI TX//N9//
(MOMAU INVOLVED)
(EODMU INVOLVED)
(COMMANDS INVOLVED)
(CHAIN OF COMMAND)
C O N F I D E N T I A L//N03370//
EXER/EXERCISE NAME//
MSGID/GENADMIN// (REQUESTING COMMAND)//
SUBJ/(EXERCISE NAME) EXMFPP REQUEST (U)//
REF/A/DOC/COMOMAG/XXMON00//
AMPN/REF A IS COMOMAGINST 8550.2, PROCEDURES FOR REQUESTING MINE
WARFARE ET/MCMTT/MP MATERIALS AND SERVICES//
POC/PLANNER/RANK OR RATE/COMMAND/-/DSN PHONE/COMM PHONE/SECURE FAX//
RMKS//1. (U) PER REF A, THE FOLLOWING INFORMATION IS PROVIDED:
A. (U) (EXERCISE NAME)
B. (C) (RANGE NAME/GEOGRAPHIC LOCATION OF MINEFIELD AREA)
(LAT/LONG)
C. (C) (PURPOSE AND MOE)
D. (C) (PRIMARY TARGET/DEPTH/SPEED)
E. (C) (SECONDARY TARGET)
F. (C) (DEGREE OF MCM)
G. (C) (LAYING AGENT)
H. (C) (QTY AND TYPE OF MINES, CARRIAGE, AND MCN)
I. (U) (EXMFPP DISTRO) (ACTY NAME, SNDL, NO. OF COPIES)
J. (C) (EXMFPP REQUIRED DATE)
K. (U) (MINING DATE)
L. (C) (MINE ACTIVATION DATE)
M. (C) (DURATION/STERILIZATION OR SELF-DESTRUCT)
N. (C) (RECOVERY DATE)
O. (U) (PLANNING CONFERENCE LOCATION AND DATE)
P. (C) (NARRATIVE AS REQUIRED)
DECL/XXXX//
BT
NNNN
                                C O N F I D E N T I A L
```

CHAPTER 4

MOMAU GUIDELINES AND EXERCISE PREPARATION

4-1. Review Request. Upon receipt of an Requisition in English (RIE) for ET/MCMTT materials or services, COMOMAG will verify the NCEA for the mines requested and task the appropriate MOMAU for action if the NCEA is valid.

4-2. Acknowledge Request. The MOMAU will review the ET/MCMTT request to determine stock availability and acknowledge initial tasking from COMOMAG within five working days. Additional information shall be provided as appropriate:

- a. Alternate mine types to meet training requirements (if required).
- b. Advise what portions of the request can be filled and identify deficiencies or reasons precluding fulfillment of entire request. Include action taken to correct deficiencies when allowance shortages are a factor. Ensure the TYCOM, COMOMAG (N3) and COMINEWARCOM (N3/N9) is included as information addressee.
- c. Recommend other modifications as appropriate.
- d. Track all ET/MCMTT material from the time of shipment until the material is returned, including retrograde from final prep site.
- e. Submit reports required by the Chief Inspector or OCE and this instruction.
- f. Provide ATR expenditure guidance to user activity.
- g. Upon request, provide the mine requesting activity with a copy of this instruction.
- h. Attend the exercise initial planning conference, mid-planning conference, and the final planning conference as applicable.

4-3. Mine Preparation. Mine assembly publications provide assembly procedures, however, certain requirements will arise that cannot be readily adapted to standard assembly documents. The following paragraphs address current policies.

4-4. Liaison with User Activities:

- a. A letter of introduction should be sent to each activity receiving final preparation, planting or recovery personnel. This

COMOMAGINST 8550.2  
15 May 03

letter should address the purpose and responsibilities of MOMAU personnel, assistance required from the receiving activity, the name of the team leader as the point of contact and any information deemed appropriate by the Commander. For those activities that regularly receive MOMAU personnel, telephone communication may be the more appropriate method.

b. Maintaining communication with user activities during non-inspection periods can be extremely beneficial to both commands. Providing an aircraft carrier with Quickstrike assembly training can be invaluable if performed by the site's MAT is only one example of the myriad of possibilities.

4-5. Team Composition/Preparation. The number of MOMAU personnel provided for exercise support for any evolution SHALL be limited to the quantity of personnel required to perform the assigned task safely to meet exercise requirements. The Team Leader should be of a paygrade commensurate with the operation at hand. While considering that the personnel are trained, certified and qualified, they should receive refresher training on the specific tasks they will be performing during the upcoming deployment and any area the Commander deems appropriate. Areas to be considered, as applicable, should include flight deck safety, tool control, post analysis procedures, and any explosive or general safety requirements.

4-6. Recovery or Post-Exercise Operations. The following basic guidance and procedures are to be used by recovery or post analysis personnel in examining mines for failure causes. However, any circumstance that could be used to improve performance, laying and recovery operations, safety, etc., will be reported to COMOMAG and ISEA (CSS). Feedback on anything of potential value is highly encouraged and may help foster change in hardware or processes. The following is not all-inclusive and should not be considered as the sole source for requirements to perform the assigned task:

a. Recovery. Immediate examination of mines upon recovery provides the best information for analysis. The format used for recording the information accurately will differ by mine type and should be locally determined and dictated to meet the need. Certain items will be similar for all weapons, i.e., visual damage (caused by planting or recovery, safing devices or arming wires not removed). Specific post-exercise analysis requirements are provided in the following paragraphs by mine types.

b. VEMS. Information concerning safety, deployment and recovery can be obtained from NAVSEA SW570-FO-MMO-050. A complete download of VEMS should be conducted immediately upon recovery, when feasible. In addition to backing up the data unloaded from the VEMS by the VEM

Programmer Decoder (VPD) software to floppy or zip disks, Acoustic Link Control Software (ALCS) log files should be backed up for reference using the ALCS Logfile Backup Utility. The Ballast Section air pressure should be recorded in cases where VEM MK 74 Buoy Release either failed or was not executed.

c. MCMTT Mines. Conduct visual examination and unusual damage caused by surface lay or recovery crafts. Ensure sonar transmitters are removed and verify condition of handling and recovery lines.

d. ET Laying/Hunting Mines. In most cases, a visual examination is all that is required. Check for damage caused by delivery or recovery, check for arming wires, and ensure sonar transmitters are removed and retained by the recovery personnel.

e. Mechanical Sweep Mines:

(1) If only the case is recovered, case damage and leakage is the only observation possible.

(2) If the mine failed to moor at the intended depth and is in water shallow enough to employ divers, prior communication with the divers concerning their visual observation of the mine condition on the bottom could be the only method available to determine the failure cause:

- (a) Did the Plummet Drop (OA 01)?
- (b) How far above the anchor was the case moored?
- (c) Was the case on the bottom?
- (d) Was there any tangled cable (OA 02/03)?

(3) If the anchor is recovered, a determination regarding the cause of the failure can be accomplished on the recovery vessel (OA 01):

- (a) Check for the fifth wheel locking pin
- (b) Look for wooden plug in the plummet
- (c) Remove the side plates and check for tangled cable
- (d) Examine position of the hold-off nut, hold-off spring and pawl
- (e) Check the position of the brake band slacking nut

COMOMAGINST 8550.2  
15 May 03

(4) The information obtained from these examinations will, under most circumstances, provide the cause of failure.

4-7. Immediate Post-Analysis Report. Post-exercise information contributes tactical information pertinent to the exercise or provides technical information used for mine system and program improvements. Information reported in the immediate post analysis report should always be tactical in nature. Using Figure 4-1, report mines planted and recovered, detonations (mine fires and mine actuations for VEMs), ship counts, mine coordinates, mine orientation (axis 020) (heading angle for VEMs), burial percentage and bottom type, water depth (depth sample for VEMs), and event times. This information will aid the OCE and exercise participants in reconstructing and evaluating key exercise events.

a. Expeditious reporting of any mines that display deficiencies in performance for any reason is paramount for determining effectiveness of the mine laying or mine counter measures operation. An immediate post analysis message report for ET/MCMTT mine operations will be submitted within 48 hours after mine recovery or as soon thereafter as practical.

b. Reports will be addressed to the OCE with info copies to COMOMAG (N3/N32), NAVSURFWARCEN COASTSYSTA (A01/A60/A62/A90/A93/A83) and other addressees as deemed appropriate.

c. This report will contain a complete listing by Mine Control Number (MCN) or Lay Reference Number (LRN) of all mines planted and recovered, delivery problems, actuation summary (if applicable), recovery problems and recommendations for exercise improvements. Only information personally witnessed by the recovery personnel will be reported as such. Referring to the splash point message for indicating a parapack failure is appropriate vice simply reporting an unretarded entry with no documentary support or personal visual confirmation. The format is contained in Figure 4-3.

d. In exercises where a recovery team is not deployed, the EOD/recovery activity's Mine Recovery Report required by Chapter 7 of reference (b) will serve as the Immediate Post Analysis Report, with the following additional information included: mine orientation (axis 020), burial percentage and bottom type. Ensure the activities listed above are addressees of the report.

e. Reports are not required when all facets of the mines' use is performed by the requesting/using activity. Examples include EOD MRCIs or semi-permanent training mine fields where the mines will be planted and used over an extended period. This information will be adequately documented in the Quarterly ET/MCMTT Mine Usage Report.

Figure 4-1

IMMEDIATE POST-ANALYSIS REPORT

(This page is unclassified but marked confidential for training purposes only. Consult reference (e) for the proper classification level of ET/MCMTT RIE.)

C O N F I D E N T I A L

PR 010100Z MAR 03  
FM MOMAU FIFTEEN INGLESIDE TX//00//  
TO EXERCISE OCE//NX//  
INFO COMINWARCOM CORPUS CHRISTI TX//N3/N8//  
COMOMAG CORPUS CHRISTI TX//N3//  
NAVSURFWARCEN COASTSYSTA PANAMA CITY FL//A01/A60/A62/A90/A93/A83//  
ADDITIONAL ADDRESSEES AS APPROPRIATE  
CONFIDENTIAL//N08550//  
EXER/FLEETEX 03-1//  
MSGID/GENADMIN/MOMAU FIFTEEN//  
SUBJ/FLEETEX 03-1 IMMEDIATE POST-ANALYSIS REPORT (U)//  
REF/A/MSG/AVIATION UNIT/230324ZFEB03//  
AMPN/REF A IS SPLASH POINT MSG//  
POC/WORKIN, P J/MN2/MOMAU FIFTEEN/-/TEL: DSN 123-4567//  
RMKS/1. (U) THE FOLLOWING PROVIDES PRELIMINARY POST-ANALYSIS OF MINES  
USED DURING FLEETEX 03-1:  
(C) MINES USED  
MK-MOD/OA/TYPE/MINE NOS/QTY PLANTED/QTY RECOVERED  
6-0/03/MSM/03-0101THRU03-0106/06/05/  
36-0/NA/HTM/03-0107THRU03-0110/04/04/  
65-X/01K/LM/03-0111THRU03-0118/08/06/  
44-0/NA/MCMTT/03-0119THRU03-0122/04/03/  
44-1/NA/MCMTT/03-0123THRU03-0126/04/04/  
74-1/02/VEMS/03-0127THRU03-0130/04/04/  
75-0/01/VEMS/03-0131THRU03-0132/02/02/  
2. (U) DELIVERY PROBLEMS:  
A. REF A INDICATED MINE NUMBERS 0301-11 AND 0301-17 WERE OBSERVED  
ENTERING WATER UNRETARDED.  
B. MINE NUMBER 0101-11 WAS RECOVERED WITH NO DAMAGE TO INDICATE  
UNRETARDED ENTRY, HOWEVER, MINE NUMBER 0301-17 WAS RECOVERED WITH  
EXTENSIVE CASE DAMAGE INDICATIVE OF UNRETARDED ENTRY.  
C. MINE NUMBER 0301-01 WAS LOCATED BY RECOVERY PERSONNEL IN WATER  
DEPTH IN EXCESS OF 200 FEET, OUTSIDE THE MINEFIELD BOUNDARIES. DURING  
RECOVERY FOR ANALYSIS WAS NOT FEASIBLE.  
3. (U) ACTUATION SUMMARY:  
A. (U) ALL MK 74-1 VEMS DATA DOWNLOADED AND FORWARDED FOR ANALYSIS  
B. (U) ALL MK 75-0 VEMS DATA DOWNLOADED AND FORWARDED FOR ANALYSIS

Figure 4-1 (Cont.)

(This page is unclassified but marked confidential for training purposes only.)

4. (C) RECOVERY PROBLEMS:

A. (C) MINE NUMBERS 0101-04, 14 AND 21 WERE NOT LOCATED OR RECOVERED. EXTENSIVE SEARCH IN AREAS INDICATED REF A RESULTED IN NO ACOUSTIC CONTACTS.

B. (U) VEMS MINES WERE SET FOR SIX DAYS RECOVERY.

5. (C) MINE RECOVERY INFORMATION:

MINE NOS	LAT/LONG	BURIAL %	ORIENTATION	BOTTOM TYPE
0301-07	XX XXX.XX/XXX XX.XX	20	120	2
0301-22	XX XXX.XX/XXX XX.XX	15	045	2

6. (U) RECOMMENDATIONS/LESSONS LEARNED:

A. (U) RECOMMEND EVERY EFFORT BE MADE DURING SCHEDULING AND PLANNING PHASES OF FUTURE EXERCISES TO ENSURE RECOVERY OF ACTUATION MINES IS SCHEDULED TO OCCUR AFTER PRESET RECOVERY TIME PROGRAMMED INTO THE MINES. THIS WOULD SIMPLIFY RECOVERY AND SAVE VALUABLE DIVE TIME OF RECOVERY PERSONNEL.

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C O N F I D E N T I A L

4-8. Final Post-Analysis Report.

a. Timeliness is again stressed. Reports submitted months after an evolution, unless they contain significant new information, present no added value. Additionally, new information is generally not worthwhile to the OCE unless it can affect the planning or procedures of future exercises. The fact that a mine failed to function due to a faulty component or personnel error is unimportant to the OCE, beyond the fact that the mine did not function. This information is, however, useful for compiling statistical data to determine areas of concern in mine assembly or component reliability.

b. The report will be submitted as soon as feasible after return of the mines and only when a complete analysis was necessary but was unable to be performed and reported in the immediate post analysis report, or if information is now contradictory to the initial report. The report will be addressed to COMOMAG (N3/N32) info NAVSURFWARCEN COASTSYSTA (A01/A60/A62/A90/A93/A83). COMOMAG will readdress if warranted. See Figure 4-2.

c. This report will finalize any unresolved areas of concern from the initial report. The final post-analysis report will address the

cause of all mine failures. This will include failures identified by testing VEM on DATE (test set).

Figure 4-2

FINAL POST-ANALYSIS REPORT

```
P (DTG OF MSG)
FM MOMAU FIFTEEN INGLESIDE TX//00//
TO COMOMAG CORPUS CHRISTI TX//00/N3//
INFO NAVSURFWARCEN COASTSYSTA PANAMA CITY FL//A01/A60/A62/A90
/A93/A83//
BT
UNCLAS //N08550//
EXER/GOMEX 03//
MSGID/GENADMIN/MOMAU FIFTEEN INGLESIDE TX//
SUBJ/GOMEX 03 POST-ANALYSIS REPORT//
POC/JOHNSON, J G/MN1(SW)/MOMAU FIFTEEN/-/TEL:DSN 876-6649//
RMKS/1. FOL PROVIDES FINAL POST-ANALYSIS REPORT OF MINES USED
DURING GOMEX 03.
2. POST ANALYSIS FINDINGS:
LRN MK FINDINGS
801 74 WEAPON OPERATED SUCCESSFULLY.
802 74 WEAPON OPERATED SUCCESSFULLY.
803 74 WEAPON RELEASED SUCCESSFULLY. WEAPON FAILED TO COMMUNICATE
DURING IN WATER INTERROGATION. DURING EMERGENCY DOWNLOAD PROCEDURES
WEAPON CONTAINED NO DATA, SUSPECT BATTERY FAILURE. DURING DISASSEMBLY
THERE WAS APPROX 1 QUART OF WATER IN BUOY, LEAKAGE APPEARS TO HAVE
OCCURRED AROUND FIRING LINE FEED THROUGH CONNECTOR.
804 74 WEAPON RELEASED SUCCESSFULLY. WEAPON FAILED TO COMMUNICATE
DURING IN WATER INTERROGATION. DURING EMERGENCY DOWNLOAD PROCEDURES
WEAPON CONTAINED NO DATA, SUSPECT BATTERY FAILURE. DURING DISASSEMBLY
THERE WAS APPROX 1 QUART OF WATER IN BUOY, LEAKAGE APPEARS TO HAVE
OCCURRED AROUND FIRING LINE FEED THROUGH CONNECTOR.
1101 75 WEAPON OPERATED SUCCESSFULLY. SINKER LOST IN CCOA OP AREA.
3. UNABLE TO COMPLETE STAGE 1 DOWN POST TESTS DUE TO DATE SYSTEM
FAILURE.
4. VEM BATTERY MANAGEMENT DATA:
LRN V1 V2 V3 V4 TX COUNT
801 18.354193 0.000172 3.758296 2.887912 10896
802 18.348179 0.000093 3.758758 2.885706 5788
803 UNABLE TO RETRIEVE DATA
804 UNABLE TO RETRIEVE DATA
1101 7.893650 0.000215 1.600748 1.253624 596//
BT
XXXX
```

COMOMAGINST 8550.2  
15 May 03

4-9. Ammunition Transaction Reports (ATR). Proper transacting of ET/MCMTT/MP material is essential for accurate recording of NCEA usage. COMOMAG will verify NCEA in Conventional Ammunition Integrated Management System (CAIMS) before providing a tasking message to the appropriate MOMAU in order to prevent unauthorized usage. It is the responsibility of the individual user or MOMAU to report ET/MCMTT usage correctly. If ET/MCMTT mine usage is not reported or reported incorrectly, these procedures are useless and inhibit the NCEA objective. Strict adherence to this instruction is required to accurately reflect ET/MCMTT mine usage. Furthermore, the MOMAU will not provide ET/MCMTT/MP material until tasked by COMOMAG with a verified NCEA.

a. The MOMAU supplying the mines will submit Ammunition Transaction Reports (ATR) issuing the mines by their All-Up-Round (AUR) NALC.

b. The receiving or using activity must submit an ATR indicating the activity whose NCEA will be charged and to report the receipt (transaction code "C") and expenditure (transaction code "F") of the mines. Ensure COMOMAG (N3) and the providing MOMAU are info addressees on all ATRs involving ET/MCMTT mine usage. Following are examples of ATR headers and transaction lines that can be used as guidance for proper reporting of ET/MCMTT mine usage:

(1) MOMAU is not an NCEA account holder and must always use dual UIC reporting procedures when reporting ET/MCMTT mine usage for activities without ATR capabilities. In example (1) below, the reporting activity (N54321) submitted an ATR to report the receipt and expenditure of four MK 52 laying mines with N12345 being the activity whose NCEA will be charged. On the dual UIC header line example above, the reporting activity (N54321) has not been sub-allocated an NCEA. The user of the ET/MCMTT/MP material is normally responsible for submitting an ATR to report the expenditure, however, the user is not always the NCEA account holder.

Example 1:

```
Correct dual UIC header procedures for MOMAU:  
////N54321/232/K/XXX/N12345///  
///R670/A//B0//C4/ASSEM//T4///  
///R670/A//B4//F4//T0///
```

(2) Examples 2 and 3 below reflects the correct way for a user to report an expenditure against another UIC. Furthermore, the receipt or issue must always occur on separate transaction lines for the expenditure to record properly as in the below example.

Example 2:

```
Correct dual UIC header procedures for user with ATR capabilities and  
does not hold the NCEA account:  
////V09621/345/K/XXX/N00060///  
///R670/A//B0//C4/N5432154320054//T4///  
///R670/A//B4//F4//T0///
```

Example 3:

(This page is unclassified but marked confidential for training purposes only. Consult reference (e) for the proper classification level of ET/MCMTT RIE.)

C O N F I D E N T I A L

```
R 021845Z JUL 03  
FM USS KITTY HAWK  
TO NAVAMMOLOGCEN MECHANICSBURG PA//4315//  
INFO AS REQUIRED  
BT  
C O N F I D E N T I A L //N08015//  
SUBJ//AMMO TRANS RPT RCS NAVSUP P-724(C)  
a. (C)  
////R03363/084/D/166/R09745/// Header line  
///A659009356171/A//B10000//F5000//T5000/// Line 1  
///A891005420405/A//B20000//F1200//T18800/// Line 2  
//// Line 3
```

Header Line: R03363 (UIC for USS KITTY HAWK), 084 (ATR serial number), D (activity classification code) on 166 day (15 Jun). R09745 (carrier Air Wing Seventeen) will be charged with the expenditure for this item.

Transaction Line 1: NALC A659, NIIN 009356171. A (condition code) B10000 (beginning balance 10000) F5000 (expend 5000 for training) T5000 (ending balance 5000).

Transaction Line 2: NALC A891, NIIN 005420405, A (condition code), B20000 (beginning balance 20000) F1200 (expend 1200 for training) T18800 (ending balance 18800).

Transaction Line 3: //// Four slashes indicating end of transmission and must stand alone on the last line transmitted.

(3) If the using activity has ATR capabilities and holds the NCEA account as in example (4) below, then the second UIC on the header line will be identical or omitted; it is not required. See Appendix A of NAVSUP P-724 for a complete list of authorized reporters. Single UIC header procedures are for use only by activities who have ATR capabilities and who also hold the NCEA account, i.e., when the activities UIC is the same as the NCEA UIC.

COMOMAGINST 8550.2  
15 May 03

Example 4:

Correct single UIC header procedures for user with ATR capabilities and holder of the NCEA account:

```
////N09621/345/K/XXX/N09621///  
///R670/A//B0//C4/N5432154320054//T4///  
///R670/A//B4//F4//T0///
```

c. Improper transaction codes, such as using "D" vice "F", will not necessarily generate an ATR error report by CAIMS. However, using improper codes will not properly charge ET/MCMTT/MP material against the NCEA account and will allow for continued unauthorized usage. The expenditure code "F" must also be used separate from "C" and "D" transactions.

d. This incorrect example will not generate an error report, however, the expenditure will not record in CAIMS correctly. A reversal of this transaction line will have to occur and a new ATR transacting the receipt "C2" on a separate line from the expenditure "F2" in order to correctly record the expenditure. A "B" and "T" transaction in an attempt to correct the discrepancy may fix the error, but will not record the expenditure properly. All ET/MCMTT/MP material used must be expended correctly in accordance with this instruction and during the fiscal year in which the NCEA was verified.

Example 5:

Correct Transaction:

```
///R670/A//B0//C2/DSASM/T0///  
///R670/A//B0//F2//T0///
```

Example 6:

Incorrect Transaction:

```
Mixing "C" or "D" with "F" transaction codes  
///R670/A//B0//C2/ASSEM//F2//T0///
```

e. ET/MCMTT material that was scheduled to be used in an exercise but was not used will be returned to the issuing mine assembly activity and will be reported as a normal issue and receipt transaction using NALC/NIIN of the AUR in condition code "A".

f. ET/MCMTT/MP material will not be transacted by the recovery vessel except for PYRO Cables recovered by the SMCM. The activity receiving ET/MCMTT/MP PYRO Cables that were used will report them as follows:

```
///NALCNIIN/E//BXX//CXX/GANCT//TXX/// (XX=numerical quantity of item)
```

When ET/MCMTT materials are refurbished they will be reclassified to condition code "E" or applicable condition code and piece parts removed will be gained from disassembly under their appropriate condition codes.

4-10. OPREP-3 Navy Blue Message. Currently, only classified ET/MCMTT require OPREP-3 Navy Blue messages since ammunition transaction reporting of expenditures to training identifies the loss of unclassified mines and financial liability is not in question. Follow the guidance in OPNAVINST 3100.6G using the OPREP-3 Navy Blue message, ensuring submission within 48 hours. All other missing lost or stolen assets requiring reporting will be reported per NAVSUP P-485 using DD Form 200.

4-11. Trip Reports. The requirement for a MAT or recovery team to submit trip reports is at the discretion of the MOMAU Commanding Officer/Officer-in-Charge. Only information of unusual nature, actions requiring assistance to correct policy or procedures, or information or procedures considered of value for future evolutions need be forwarded to COMOMAG for evaluation. Refer to paragraph 4-12 for additional information. However, trip reports are required for all planning conferences and will be forwarded electronically by message or email to COMOMAG (N3/N32).

4-12. Post-Exercise Lessons Learned. Upon completion of an exercise each MOMAU involved will submit via naval message any lessons learned outlining any specific problem areas or successes observed during the exercise process. This report will include data from exercise IPC through ET/MCMTT material returned to the MOMAU. See Example 4-4. Negative reports are required. COMOMAG will collect data provided, track and document trend analysis for the correction of recurring problem areas and forward both success and deficiency data for use in future exercises. The following format guidance applies:

- a. Issue. State the issue in basic terms.
- b. Observation. Give a short factual statement of the observed success or deficiency. Do not submit lesson learned restating existing doctrinal or documented procedures. This does not mean that previously observed lessons should not be reported. Cite if this was included in previously reported item. The details should be included in the discussion paragraph. Address only a single issue per lesson.
- c. Discussion. Amplify the observation paragraph. Explain the who, what, when, where, why, and how of the lesson. For who, include other units involved. For what, include type of ops, sensors,

COMOMAGINST 8550.2

15 May 03

equipment settings, and tactics involved. For where, include location. For when, include dates and time if appropriate. For why and how, amplify as appropriate.

d. Lesson Learned. Describe action taken or working solution suggesting a new or better way to accomplish the task or include a better way to enhance Navy mission accomplishment, including new techniques, tactics, and procedures. Describe how to achieve success in a way that can be used by other units or personnel. This includes the provision of working solutions that promote success but are not a permanent remedy.

e. Recommendation. Include a recommendation for how to permanently address the long-term solution. Procurement or modification of equipment, new or revised pubs, force organizational changes, manpower needs, and additional training are examples of possible recommendations. If the block is not pertinent, do not fill it in; mark it as not applicable. If a recommendation for a solution to a discrepancy is described or if the need for some resource is required, amplifying comments are mandatory in the comments block.

f. Comments. Include any references that are pertinent to the lessons, such as letters, messages, publications, etc.

Figure 4-3

POST-EXERCISE LESSONS LEARNED

R 160132ZMAY03  
FM REPORTING MOMAU  
TO COMOMAG CORPUS CHRISTI TX//00/N3/N5//  
INFO COMINWARCOM CORPUS CHRISTI TX//N3/N8//  
(OTHER COMMANDS AS DETERMINED BY MOMAU COMMANDING OFFICER)//  
CLASSIFICATION (AS REQUIRED)//N08550//  
EXER/GOMEX 03-4 MIREM 23//  
MSGID/GENADMIN/MOMAU XXX/MAY//  
SUBJ/GOMEX 03-4/MIREM 23 LESSONS LEARNED//  
REF/A/DOC/COMOMAG/XXMON00//  
REF/B/MSG/COMINWARCOM/XXX//  
NARR/REF A IS COMOMAGINST 8550.2, PROCEDURES FOR REQUESTING MINE  
WARFARE ET/MCMTT/MP MATERIALS AND SERVICES. REF B IS COMINWARCOM FPC  
SUMMARY FOR EXERCISE GOMEX 03-4 MIREM 23//  
POC/NAME/RANK/MOMAU XXX/-/TEL: COMM (123) 456-7890/  
/TEL: DSN 213-1234/TEL: FAX X4321/EMAIL: (AS NECESSARY)//  
RMKS/1. THE FOLLOWING LESSONS LEARNED ARE SUBMITTED FROM SUBJECT  
EXERCISE:  
A. ISSUE. BERTHING FOR MOMAU FEMALE MINELAY AND RECOVERY TEAM MEMBERS  
ARE NOT AVAILABLE ON MINELAY AND VEMS INTERROGATION SHIP, USS  
DEVASTATOR (MCM 6).  
(1) OBSERVATION. MOMAU EXERCISE TEAM MEMBERS WERE CHANGED LAST MINUTE  
SINCE FEMALE BERTHING NOT AVAILABLE ON USS DEVASTATOR.  
(2) DISCUSSION. DURING EXERCISE IPC, MPC, AND FPC MOMAU REQUIREMENTS  
FOR FEMALE BERTHING WERE DISCUSSED AND VERIFIED WITH COMCMRON TWO AND  
EXERCISE OCE. USS KINGFISHER (MHC 56) WAS DESIGNATED TO PARTICIPATE IN  
THE EXERCISE BUT ENGINEERING PROBLEMS DEVELOPED A WEEK PRIOR TO  
MINELAY PREVENTED HER PARTICIPATION. USS DEVASTATOR WAS SUBSTITUTED  
BUT MOMAU WAS NOT INFORMED UNTIL THEIR TEAM ARRIVED THE MORNING OF THE  
SCHEDULED MINELAY AT PANAMA CITY, FLORIDA.  
(3) LESSON LEARNED. MOMAU REQUIREMENTS WERE ADEQUATELY COMMUNICATED  
DURING THE PLANNING CONFERENCE PROCESS. TEAM MEMBER ASSIGNMENTS WERE  
CHANGED TO ASSURE EXERCISE SUPPORT. FEMALE TEAM MEMBERS REMAINED  
ASHORE TO ASSIST WITH MINE BUILD AND POST-EXERCISE MINE RECOVERY  
OPERATIONS. SOLUTION TO THIS PROBLEM LIES WITH FOLLOW-UP COMMUNICATION  
WITH EXERCISE OCE PRIOR TO TEAM DEPARTURE FROM MOMAU.  
(4) RECOMMENDATION. CHANGES TO AGREED UPON SCHEDULE SHOULD BE  
FORWARDED TO ALL EXERCISE PARTICIPANTS. MOMAU WILL MAKE A PRACTICE OF  
CONTACTING THE EXERCISE OCE PRIOR TO TEAM TRAVEL TO DETERMINE IF ANY  
CHANGES HAVE BEEN IMPLEMENTED. MOMAU WILL ALSO ENSURE TEMADD MESSAGE  
CLEARLY IDENTIFIES FEMALE TEAM MEMBERS AND NEED FOR SPECIFIC BERTHING

COMOMAGINST 8550.2  
15 May 03

Figure 4-3 (Cont.)

ARRANGEMENTS. MOMAU TEAM MEMBER ASSIGNMENTS WILL BE MADE PENDING THE AVAILABILITY OF THIS SPECIFIC NEEDS AVAILABILITY.

(5) COMMENTS. REF A IDENTIFIED SPECIFIC BERTHING REQUIREMENT. MOMAU'S INTENTION IS TO ENSURE ALL ASSIGNED PERSONNEL, MALE AND FEMALE, ARE AFFORDED FLEET TRAINING OPPORTUNITIES.

B. ISSUE: (CONTINUE FORMAT AS REQUIRED).

2. NO OTHER ISSUES TO REPORT.//

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#### 4-13. Quarterly ET/MCMTT Usage Reports.

a. COMOMAG monitors ET/MCMTT mine usage and manages the NCEA for ET/MCMTT material. To ensure accurate records and provide a system of cross checks, MOMAU activities supporting ET/MCMTT exercises will report ET/MCMTT mine usage quarterly by fiscal year due by the 15<sup>th</sup> of each quarter in January, April, July and October using the format in Figure 4-4. ET/MCMTT usage reports will indicate whether the assets were used or not with appropriate remarks (reasons mines not planted or used, etc.) The remarks must clearly identify all assets used or provided during the quarter including additional assets forwarded from other MOMAU sites.

b. COMOMAG tracks and validates the above ET/MCMTT mine usage reports based on the following information: mines requested, mines planted, mines failed, and mines lost. When ET/MCMTT usage reports are received, COMOMAG will verify quantity and type of mines as well as verifying the proper expenditure in CAIMS. Any quantity differences must be noted on the ET/MCMTT usage report.

Figure 4-4

ET/MCMTT MINE USAGE REPORT

```
R (DTG OF MSG)
FM REPORTING MOMAU
TO COMOMAG CORPUS CHRISTI TX//N3//
UNCLAS //N08550//
MSGID/GENADMIN/MOMAU XXX/OCT//
SUBJ/ET/MCMTT USAGE REPORT FOR FOURTH QTR FY03//
REF/A/DOC/COMOMAG/XXMON00//
AMPN/REF A IS COMOMAGINST 8550.2, PROCEDURES FOR REQUESTING MINE
WARFARE ET/MCMTT/MP MATERIALS AND SERVICES//
RMKS/1. PER REF A, FOLLOWING INFO PROVIDED:
A. ET/MCMTT MATERIAL PROVIDED:
EXERCISE NAME/PLANT DATE/USER UIC/NCEA UIC/NALC/MK/QTY/OA/RMKS
/CVW-03/01MAY03/N12345/N09458/R232/56-X/16/05K/NA
/FLEETEX03-2/02JUN03/N34567/V00070/XW84/62-X/08/09K/NA
/RIMPAC03-2/15JUL03/N09485/N57011/XW86/63-X/12/02K/NOTE 1,2
/EODEX03-1/20JUN03/N55569/N55569/DW11/6-X/04/NOTE 3
B. REMARK NOTES:
NOTE 1: MINES SHIPPED 15 JUN 03 WILL BE ATR'D/EXPENDED BY USING
ACTIVITY AGAINST UIC 57011 WHEN PLANTED.
NOTE 2: ELLSWORTH AFB.
NOTE 3: FOUR MINES PROVIDED BUT ONLY TWO PLANTED DUE TO INCLEMENT
WEATHER. ASSETS WILL BE SHIPPED BACK TO COMMAND.
C. ETMCMTT LOST MINE DATA:
EXERCISE/NALC/MK/MCN/LAT/LONG/DEPTH/REMARKS
/FLEETEX03-2/CWGO/62-X/04/UNK/UNK/230FT/DEPTH EXCEEDED DIVER LIMIT/
/FLEETEX03-2/CWGO/62-X/08/UNK/UNK/040FT/NO ACOUSTIC CONTACT. MINE
BELIEVED TO BE BURIED IN MUD/
D. ADDITIONAL AMPLIFYING INFORMATION: NONE//
BT
NNNN
```

4-14. Mine Plant Report. Upon the laying of ET/MCMTT shapes the mine laying platform will submit a mine lay report via naval message. This report will be submitted using the format in Figure 4-5. It will include ET/MCMTT LRN, mine type, planting latitude and longitude and any pertinent data that may have affected the mine lay or mine performance. The report will be addressed to the OCE, COMOMAG (N3/N32) and the recovery activity with info copies to COMINEWARCOM (N3/N8), NAVSURFWARCEN COASTSYSTA (A01/A60/A62/A90/A93/A83) and other addressees as deemed appropriate.

COMOMAGINST 8550.2  
15 May 03

Figure 4-5

MINE PLANT MESSAGE REPORT

(This page is unclassified but marked confidential for training purposes only. Consult reference (e) for the proper classification level of ET/MCMTT RIE.)

C O N F I D E N T I A L

R (MSG DTG)  
FM (COMMAND)  
TO (EXERCISE OCE)  
COMOMAG CORPUS CHRISTI TX//N3//  
INFO COMINWARCOM CORPUS CHRISTI TX//N3/N8//  
NAVSURFWARCEN COASTSYSTA PANAMA CITY FL//A01/A60/A62/A90/A93/A83//  
(MOMAU INVOLVED AND OTHERS AS REQUIRED)  
C O N F I D E N T I A L// N08500//  
EXER/EXERCISE NAME//  
MSGID/GENADMIN/(MINE LAYING PLATFORM)//  
SUBJ/MINE PLANT REPORT OF 20 JAN 03 (U)//  
REF/A/DOC/COMOMAG/XXMON00//  
AMPN/REF A IS COMOMAGINST 8550.2, PROCEDURES FOR REQUESTING MINE  
WARFARE ET/MCMTT/MP MATERIALS AND SERVICES//  
POC/PLANNER/LT/CODE/COMMAND/-/DSN/COMM//  
RMKS/1. (C) PER REF A, THE FOL DATA IS SUBMITTED. READ IN FOUR  
COLUMNS:  
LRN/MINE TYPE/LATITUDE/LONGITUDE/DEPTH  
/001/MK 6/XX XXX.XX/XXX XX.XX/130FT/  
/002/MK52/XX XXX.XX/XXX XX.XX/120FT/  
/003/MK74/XX XXX.XX/XXX XX.XX/090FT/  
2. REMARKS: DURING MINELAY LRN 001 TETHER DID NOT APPEAR TO DEPLOY.  
ALL OTHER MINES WERE PLANTED AND FUNCTIONED AS DESIGNED.//  
DECL/XXX//  
BT  
NNNN

C O N F I D E N T I A L

CHAPTER 5

REQUESTING EOD AND RECOVERY SERVICES

5-1. Customer Information. The following information regarding service locations is provided below.

5-2. Charleston Mining Range. Activities requesting to use the Charleston Mining Range must submit a Navy Service Request to COMLANTFLT requesting permission. If approved, FACSFAC VACAPES will schedule them to use range. Approval to use the range will require the users to fund mine recovery. (U.S. Air Force activities refer to the funding requirements outlined in reference (i)). EODMU Six Mine Recovery Detachment was disestablished 1 October 1998. Concurrent with this disestablishment, EODMU Six will no longer have the capability of recovering exercise mines.

a. EODMU Six will continue to provide diving services in support of location of exercise mines and attachment of required recovery hardware. EODMU Six will coordinate all diving and MK 5 MMS operations with the scheduled recovery activity.

b. Allocation for mine recovery vessels should be requested and coordinated via the COMNAVSURFLANT quarterly schedule process.

c. EOD services for MINEXs not contained in the COMLANTFLT quarterly employment schedule should be coordinated through FACSFAC Jacksonville, FL.

d. EODMU Six is capable of locating and scoring a maximum of 32 mines per week or a total of 100 mines per month.

5-3. Pacific Missile Test Center (PMTTC) Range, Barking Sands:

a. Location, scoring, and recovery services are provided by EODMU Three.

b. EOD and recovery services are normally scheduled through the COMPACFLT Quarterly Employment Schedule/COMTHIRDFLT Scheduling Conference.

c. EOD services for MINEXs not contained in the COMPACFLT quarterly employment schedule should be coordinated through the Fleet Programs Office PMTC.

d. EODMU Three is capable of locating, scoring, and recovering a maximum of 36 mines per week or a total not to exceed 120 mines per month.

COMOMAGINST 8550.2  
15 May 03

e. Scheduling use of the PMTC Range will be per reference (g). The point of contact is available at DSN 471-0533/6231 or commercial (315) 471-0533/6231.

5-4. Fleet Area Control And Surveillance Facility, Virginia Capes, Virginia Beach, VA (FACSFAC VACAPES) Range:

a. All requests for operating areas, targets and services will be in accordance with reference (k). The point of contact is available at DSN 433-1320. For efficient coordination of assets, submit requests at least two weeks prior to intended use. Requests shall be received by FACSFAC VACAPES no later than 0800 local on Monday of the week preceding the week that the event is requested.

b. If services are requested, the originator will ensure an area clearance is requested for the servicing unit(s).

c. 4OSS/OSOF Wing Scheduling is responsible for scheduling the Air Force portion of the Dare County Bombing Range (R-5314A-H, J). The point of contact can be reached at commercial (919) 736-6565/6251, or DSN 888-6565/6251. Requests are to be submitted in accordance with SJAFB supplement 1 AFR 5-46.

d. FACSFAC VACAPES will accept all changes to requests for OPAREAS and services, however, the ability to accommodate changes will depend on sufficient notice for proper coordination. Advance telephone liaison to notify FACSFAC VACAPES of requested changes is strongly encouraged. All changes, regardless of whether or not telephone liaison has been made, require message verification.

5-5. Patuxent River Hooper Target Range, Maryland. All requests for use of the Hooper Target Range should be directed to the Commander, Naval Air Warfare Center Aircraft Division in Patuxent River, MD. The point of contact is available at commercial (301) 342-1208/4607/1169 or DSN 342-1208/4607/1169. This range also provides mine recovery services.

5-6. Southern California Off-Shore Range (SCORE):

a. Location, scoring and recovery vessel services are coordinated by the Southern California Off-Shore Range (SCORE) using the MK 5 Mammal Recovery System. Other EODMU Three services can be scheduled through a service request. Supplemental or alternate scoring is provided for all instrumental aircraft by SCORE Operations Department.

b. Recovery services are normally scheduled through the COMPACFLT quarterly employment schedule or the COMTHIRDFLT scheduling conference.

c. Recovery services for MINEXs not contained in the COMPACFLT quarterly employment schedule should be coordinated through the SCORE Air Program Manager.

d. Availability of the MK 5 Marine Mammal Recovery System will facilitate mining operations during all of SCORE's normal operating days. There are no limitations on the number of mines dropped.

e. ET/MCMTT mine requests should include MK 5 Marine Mammal Recovery System capability. All recoverable mines dropped on SCORE ranges must be marine mammal configured.

f. Scheduling use of SCORE will be in accordance with reference (g). The point of contact is available at DSN 735-6539/8524.

g. No-drop/non-recoverable/pre-MRCI MINEXs can be scheduled in accordance with the SCORE Range Users Manual (FACSFACINST 3120.1 series).

h. Recovery and data requests for SCORE MINEX/MRCI can be sent directly to EODMU Three and FACSFAC San Diego CA (Code 32).

5-7. Gulf of Mexico Off-Shore Range, Panama City, Florida. This shared range requires coordination with the U.S. Air Force for authorization to use the air space if air delivery is desired and Panama City for authorization to use the water space. Contact Panama City Mining Range for recovery services available. The U.S. Air Force point of contact at Eglin AFB is available at DSN 872-4087 x2622. The Panama City Mining Range point of contact is available at DSN 436-4009.

5-8. Mine Recovery Data. All mine recovery data should be provided in WGS84 datum reference.

5-9. Requesting EOD and Recovery Services. Procedures for requesting EOD and Recovery services not identified in the COMLANTFLT/COMPACFLT quarterly employment schedules are contained in references (c) and (d) which require 30-day advance notice. The following minimum information is required on all requests when they are determined as shown in Figure 5-1:

- a. Reason for the request, e.g., command name, MRCI or MINEX.
- b. Proposed date and time of mine plant.
- c. Range or area.
- d. Quantity and type of mines.

COMOMAGINST 8550.2  
15 May 03

NOTE: If data is modified, EOD, the mine issuing activity, and the command assigned mine recovery responsibilities should be notified as soon as possible.

5-10. Atlantic Fleet Recovery and EOD Data Request. Recovery and EOD data requests for MINEX/MRCI listed in the COMLANTFLT Quarterly Employment Schedule should be sent directly to the cognizant EOD and recovery activity. Ensure COMLANTFLT, COMNAVSURFLANT, COMEODGRU TWO, COMINWARCOM (N9), COMOMAG (N3), and the cognizant mine issuing activity are included as information addresses.

5-11. Pacific Fleet Recovery and EOD Data Request. Recovery and EOD data requests for MINEX/MRCI listed in the COMPACFLT Quarterly Employment Schedule should be forwarded directly to EODMU Three, info COMNAVSURFPAC (532), COMEODGRU One, NAS PT Mugu (6000), COMINWARCOM (N3, N8 and N9), COMOMAG (N3), COMNAVAIRWPNDIV PT Mugu CA (C3FR), and the supporting MOMAU.

Figure 5-1

LOCATION/SCORING/RECOVERY SERVICE MESSAGE REQUEST

```
FM REQUESTING ACTIVITY//
TO OTC/NUMBERED FLEET COMMANDER/APPROPRIATE REGIONAL COMMANDER//
INFO COMNAVSURFPAC SAN DIEGO CA//N01//
COMPACFLT PEARL HARBOR HI//N33/N331//
COMINWARCOM CORPUS CHRISTI TX//N3/N8//
COMEODGRU ONE
COMOMAG CORPUS CHRISTI TX//N3//
(CHAIN OF COMMAND)
CLASSIFICATION (AS APPROPRIATE)//N08027//
EXER/EXERCISE NAME//
MSGID/GENADMIN/
SUBJ/EOD SERVICE REQUEST//
REF/A/COMPACFLTINST 8027.1P//
AMPN/
POC/
RMKS/1. PER REF A, REQ EOD SERVICES BE PROVIDED AS FOLLOWS:
ALFA - NATURE OF SERVICES REQUESTED, E.G., RESPONSE TO EXPLOSIVE
ORDNANCE INCIDENT, STAND-BY EOD DET, PARTICIPATION IN TRAINING
EXERCISE, EOD DET FOR SCHEDULED DEPLOYMENT, ETC.
BRAVO - GEOGRAPHIC LOCATION. FOR SHIPS REQUIRING RENDEZVOUS AT SEA,
INCLUDE PLANNED MOVEMENT AND PROPOSED RENDEZVOUS POINT.
CHARLIE - DESCRIPTION AND PHYSICAL LOCATION OF THE EXPLOSIVE ITEM
(MARK/MOD, SHAPE, DIAMETER, LENGTH, FUZING, ARMING STATUS, AND DAMAGE.
PROVIDE ONLY WHEN THIS DATA IS KNOWN OR CAN BE OBTAINED WITHOUT
DISTURBING THE ITEM).
```

Figure 5-1 (Cont.)

DELTA - LOCAL CONTACT OR OFFICER-IN-CHARGE AT THE SCENE. DSN AND/OR COMMERCIAL AND/OR STU-III TELEPHONE NUMBERS AND/OR NIPRNET/SIPRNET E-MAIL ADDRESS. AS APPLICABLE, PRIMARY AND SECONDARY VOICE RADIO FREQUENCIES (VHF/UHF) GUARDED AND AKAI-6 CALL SIGNS.

ECHO - DEPTH OF WATER IF EOD DIVING SERVICES REQUIRED.

FOXTROT - AVAILABILITY OF TRANSPORTATION TO THE SCENE (IF AT A REMOTE AREA). FOR A SHIP/SUBMARINE AT SEA, PROVIDE DATA ON TYPE/QUANTITY OF BOATS AVAILABLE TO RECOVER PARACHUTISTS IN THE EVENT THAT PARACHUTE WATER INSERTION DELIVERY MODE IS NECESSARY.

GOLF - FOR SHIPS/SUBMARINES AT SEA - PRESENT CONDITION OF SHIP/SUBMARINE, E.G., DAMAGE SUSTAINED, DIW, ETC.

HOTEL - ACTION TAKEN OR PLANNED TO REDUCE THE POSSIBILITY OF DETONATION OR MINIMIZE DAMAGE IF A DETONATION OCCURS, E.G., EVACUATE BUILDING, REDUCE ELECTROMAGNETIC RADIATION, FLOOD MAGAZINE, ETC.

INDIA - WEATHER CONDITIONS ON-SCENE TO INCLUDE WINDS, SEA STATE, AIR/WATER TEMPERATURE, VISIBILITY AND CEILING, AS APPLICABLE.

JULIET - INCLUSIVE DATES SERVICES REQUIRED. PROPOSED LOCATION OF EMBARKATION AND DEBARKATION FOR SCHEDULED SHIPBOARD REQUIREMENTS.

KILO - STATEMENT AS TO AVAILABILITY OF GOVERNMENT MESSING AND BERTHING. (INFORMATION REQUIRED FOR TAD COST ESTIMATES. NORMAL EOD DETACHMENT IS COMPOSED OF ONE OFFICER AND FIVE ENLISTED.)

LIMA - FUNDING CITATION OR INFORMATION, E.G., TANGO NUMBERS AND COST ACCOUNTING DATA OR NAVCOMPT 140 FUNDING INFORMATION.//

BT  
NNNN

CHAPTER 6

INTENDED SPLASH POINT MESSAGE FORMAT

6-1. Intended Splash Point Message. The intended splash point message is required as soon as data is known and prior to mine planting:

a. No more than one mine may be planted in an intended splash point position.

b. Intended splash points should be given in WGS-84 datum reference in degrees, minutes, seconds XXX-XX-XX.

c. The format of the data in the message should strictly follow the template in Figure 6-1.

d. All items in boldface in Figure 6-1 should be entered exactly as shown.

e. The minefield boundaries should be listed in clockwise order.

f. Punctuation marks, especially colons, should be placed where shown. Punctuation marks should not appear unless they are in the template.

g. There can be no blank lines throughout the message.

h. There can be no spaces before the aircraft type in the mine data section.

i. Each minefield to be scored must be reported in a separate message.

6-2. Mining Ranges:

a. Charleston Mining Range

(1) Non-recoverable ET/MCMTT/MP material should NOT be planted in the Charleston Mining Range, e.g., BDU 45.

(2) MINEX mines will be planted in the western half and MRCI/AV mines in the eastern half of the Charleston Mining Range.

(3) Coordinates for the current Charleston Mining Range are as follows:

COMOMAGINST 8550.2  
15 May 03

32 35 30N/079 51 30W  
32 35 30N/079 45 00W  
32 31 30N/079 45 00W  
32 31 30N/079 51 30W

b. Vieques Mining Range. Coordinates for the current Vieques mining range are as follows:

North 18 11 28N/06 52 040W  
18 11 28N/06 51 911W  
18 09 25N/06 51 911W  
18 09 25N/06 52 040W

Southeast 18 06 45N/06 51 911W  
18 06 45N/06 52 052W  
18 05 35N/06 52 052W  
18 05 35N/06 51 911W

Southwest 18 06 45N/06 52 052W  
18 05 35N/06 52 052W  
18 05 30N/06 52 212W  
18 06 25N/06 52 228W

c. SCORE Mining Ranges:

(1) Castle Rock, IP 33 02 02N/118 36 56W. Coordinates for the current Castle Rock Mining Range are as follows:

33 00 08N/118 38 20W  
33 00 40N/118 36 00W  
32 55 14N/118 35 16W  
32 55 25N/118 33 23W

(2) Eel Point, IP 32 55 0.5N/118 32 46.6W. Coordinates for the current Eel Point Mining Range are as follows:

32 53 54N/118 33 19W  
32 54 10N/118 32 28W  
32 50 14N/118 32 00W  
32 51 06N/118 30 21W

(3) China Point, IP 32 48 00N/118 25 38W. Coordinates for the current China Point Mining Range are as follows:

32 48 08N/118 24 56W  
32 49 00N/118 20 21W  
32 46 11N/118 24 54W  
32 48 00N/118 19 57W

COMOMAGINST 8550.2  
15 May 03

(4) Pyramid Head, IP 32 48 52N/118 21 20W. Coordinates for the current Pyramid Head Mining Range are as follows:

32 48 19N/118 22 19W  
32 48 15N/118 21 21W  
32 47 08N/118 28 26W  
32 44 40N/118 24 22W

Figure 6-1

INTENDED SPLASH POINT MESSAGE

(This page is unclassified but marked confidential for training purposes only. Consult reference (e) for the proper classification level of ET/MCMTT/RIE.)

C O N F I D E N T I A L

RTTCZYUW RUWHTXB0001 1621630-CCCC--RHMCSUU.  
ZNY CCCCC  
R 111630Z JUN 03  
FM COMPATWING ELEVEN  
TO COMOMAG CORPUS CHRISTI TX//N3/N5//  
EODMU SIX DET TWO (ENTER APPLICABLE EODMU DET)  
INFO COMSEACONWINGLANT CECIL FIELD FL//N3//  
COMCARAIRWING ONE  
COMINWARCOM CORPUS CHRISTI TX//N9//  
FACSFAC JACKSONVILLE FL//31//  
(ENTER OTHER COMMANDS AS APPLICABLE)  
BT  
C O N F I D E N T I A L //N08550//  
EXER/VP-45 MRCI//  
MSGID/GENADMIN/SEACONRON THREE TWO//  
SUBJ/VP-45 MRCI INTENDED SPLASH POINTS (U)//  
REF/A/RMG/PATRON FOUR FIVE/111344ZMAY03//  
REF/B/DOC/COMOMAG/XXMON00//  
NARR/REF A IS INTENDED SPALSH POINTS AND RECOVERY REQUEST. REF B IS  
COMOMAGINST 8550.2, PROCEDURES FOR REQUESTING MINE WARFARE  
ET/MCMTT/MP MATERIALS AND SERVICES//  
POC/LIPSCOMB, G A/LT/VP-45/-/TEL: DSN 642-6232//  
RMKS/1. (C) MINEFIELD PLANNED USING AIMS VER 2.1 SOFTWARE.  
A. DATE/TIME OF PLANT XXXXXXZ XXX XX (PRIMARY)  
XXXXXXXZ XXX XX (SECONDARY)  
B. GRID: WGS-84

COMOMAGINST 8550.2  
15 May 03

Figure 6-1 (Cont.)

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C. MINEFIELD BOUNDARIES:

VERTEX	LATITUDE	LONGITUDE	
1	DDMMSSN#	DDDMMSSW#	(#IS CHECKSUM)
2	DDMMSSN#	DDDMMSSW#	
3	DDMMSSN#	DDDMMSSW#	
4	DDMMSSN#	DDDMMSSW#	

D. (1) 1P FOR A/C 1-6: DDMSN#/DDDMSW#  
(2) IP FOR A/C 7-9: DDMSN#/DDDMSW#

2. (C) VP-45:A/C NO 1 HEADING DDDT

A/C	MCN	TYPE	SPLASH PT
P-3C	9830	MK-65	DDMMSSN#/DDDMMSSW#
P-3C	9831	MK-65	DDMMSSN#/DDDMMSSW#
P-3C	9832	MK-65	DDMMSSN#/DDDMMSSW#
P-3C	9833	MK-65	DDMMSSN#/DDDMMSSW#

A/C	MCN	TYPE	SPLASH PT
P-3C	9834	MK-56	DDMMSSN#/DDDMMSSW#
P-3C	9835	MK-56	DDMMSSN#/DDDMMSSW#
P-3C	9836	MK-56	DDMMSSN#/DDDMMSSW#
P-3C	9837	MK-56	DDMMSSN#/DDDMMSSW#//

DECL/-/-/-/X4//  
BT  
NNNN

C O N F I D E N T I A L

CHAPTER 7

POST-EXERCISE AND MINE RECOVERY REPORTING REQUIREMENTS

7-1. MOMAU/MOMAD Responsibilities. The MOMAU issuing mines will submit reports as required by the Chief Inspector and the Officer Conducting the Exercise (OCE).

7-2. Activity Using Mines. The air activity involved using mines will submit message reports for each mining mission within 48 hours of mine plant for all ET exercises. The post-exercise report addressees are COMINEWARCOM (N3/N9), the EOD Group, the unit providing location and scoring services, and command assigned mine recovery. Ensure COMNAVAIRSYSCOM, COMOMAG (N3/N32), NAVSURFWARCEN COASTSYSTA (A01/A60/A62/A90/A93/A83), the supporting MOMAU, and Weapons Station Yorktown (SED) are included as information addressees on all subject reports. See Figure 7-1 and the following regarding information required in the Post-Mine Plant Message Reports.

- a. The air wing/squadron involved.
- b. Date exercise conducted.
- c. Number and types of mine employed.
- d. Mine type and case number of jettisoned mines.
- e. Mine type and case number of second pass mines.
- f. Mine type and case number of mines not planted, reason hung or aborted, and location.
- g. Mines planted greater than 500 yards from intended position (MCN and estimated latitude/longitude).
- h. Performance of flight gear. Ensure the mine case number for any flight gear failure is provided.
- i. Aircraft used, aircraft stations, and employed/rack types.
- j. Date conventional weapons release control checks completed or identify if not applicable.
- k. Indicated air speed, altitude, flying time to drop area.
- l. Angle and indicated speed of descent to drop area.
- m. Release conditions (altitude (AGL) and indicated air speed).

COMOMAGINST 8550.2  
15 May 03

- n. Solenoid position selected (tail or nose/tail).
- o. Aircraft stations reported with missing arming wires and the part number of the solenoid used.
- p. Value derived in non-energized force checks of solenoids not retaining arming wires/swivels.

Figure 7-1

POST-MINE PLANT MESSAGE REPORT

(This page is unclassified but marked confidential for training purposes only. Consult reference (e) for the proper classification level of ET/MCMTT/RIE.)

C O N F I D E N T I A L

R 010001Z JAN 03  
FM (COMMAND)  
TO COMOMAG CORPUS CHRISTI TX//N3//  
EODMU INVOLVED  
COMMAND ASSIGNED MINE RECOVERY  
INFO COMNAVAIRSYSCOM WASHINGTON DC//54OD//  
COMINWARCOM CORPUS CHRISTI TX//N3/N8//  
MOMAU INVOLVED  
NAVSURFWARCEN COASTSYSTA PANAMA CITY FL//A01/A60/A62/A90/A93/A83//  
WPNSTA YORKTOWN VA//SED//  
C O N F I D E N T I A L//N08500//  
EXER/EXERCISE NAME//  
MSGID/GENADMIN/CVW-1//  
SUBJ/CVW-XX MINEX POST MINE PLANT REPORT OF 20 JAN 03 (U)//  
REF/A/DOC/COMOMAG/XXMON00//  
AMPN/REF A IS COMOMAGINST 8550.2, PROCEDURES FOR REQUESTING MINE  
WARFARE ET/MCMTT/MP MATERIALS AND SERVICES.//  
POC/PLANNER, I A/LT/CODE/COMMAND/-/DSN/COMM//  
RMKS/1.(C) PER REF A, THE FOL DATA IS SUBMITTED:  
A. CVW-XX/VA-XX/USS XXXXX  
B. 20 JAN 03  
C. 3 MK 56  
    2 MK 65  
    10 MK 62  
D. MK 62 9401, JETTISONED  
E. MK 56 9424, 9425 SECOND PASS  
F. MK 62 9413, HUNG WILL DELIVER TO NS NORFOLK FOR RETURN  
G. MK 62 9421, 12345N6/0543216W7  
H. ALL FLIGHT GEAR DEPLOYED PROPERLY  
I. A-6/STA X AND X/MER, S-3/STA X, X, CENTER/STA X)

Figure 7-1 (Cont.)

(This page is unclassified but marked confidential for training purposes only)

J. 1-10 JAN  
K. A-6 XXX KIAS, FL XXX, X+XX/S-3  
L. XX DEGREES/XXX KIAS  
M. A-6 XXX FT LEVEL, XXX KIAS/S-3  
N. NOSE/TAIL  
O. AS REQUIRED  
P. AS REQUIRED  
DECL/-/-/-/X4//  
BT  
NNNN

C O N F I D E N T I A L

7-3. Mine Recovery Activity. Mine recovery activity (all ships/units involved in actual mine recovery operations or OCE for MCM exercises) will submit a mine recovery report message as depicted in Figure 7-2 or Figure 7-3.

a. The following are key factors in ensuring accurate reporting:

(1) Rapid recovery. Tides, current and rough seas can sometimes move mine shapes from their originally delivered positions. The sooner the field can be recovered after placement, the less time there will be for these factors to affect the mine position.

(2) Correct reference data. Unless otherwise directed, the data to be used is WGS-84. Ensure this data is correctly set in the GPS unit.

(3) Identification of latitudes/longitudes format used. Positions can be reported as either dd mm sss or dd mm.mmm except intended splash point message. In either case there must be the depicted number of significant digits after the decimal to provide the accuracy required. The space between degrees, minutes and seconds is required.

(4) Accurate reference error check of GPS unit at known geographical point prior to and after completion of each day's recovery operations. This is the final check to ensure a given GPS unit is providing accurate data.

(5) Accurate transcription of MCN and latitude/longitude from

COMOMAGINST 8550.2  
15 May 03

the GPS unit to recovery report message. An accurate log of the recovery process should be kept so the recovery effort can be reconstructed at a later date if questions arise.

b. Mine recovery reports will be sent only to COMINEWARCOM (N3/N8), COMOMAG (N3/N32) and the supporting MOMAU with info copy to NAVSURFWARCEN COASTSYSTA PANAMA (A01/A60/A62/A90/A93/A83). Do not send recovery report to inspected unit or air wing.

c. The format of the data in the message must strictly follow the template in Figure 7-2 or 7-3.

(1) All items in boldface in Figures 7-2 and 7-3 must be entered exactly as shown.

(2) Punctuation marks, especially colons, must be placed where shown. No other punctuation marks should appear if not shown in the template.

(3) Latitudes/Longitudes can be provided as either dd mm.mmm or dd mm ss.s, but formats cannot be mixed in the same message. Range tower reporting is discussed in paragraph 7-5. In order to electronically read recovery information it is imperative that locating information be reported per required format. There can be no hyphens, use only one space between degrees, minutes, and seconds, and provide the correct number of digits following the decimal point. If a mine is not recovered, put the case number in the MCN column and NOT RECOVERED in the latitude column.

(4) Although the order in which the recovered mines are reported does not matter, the format for the MCN must match exactly the manner in which they were reported in the corresponding intended splash point message, e.g., 0101=0101 not 601 or 01.

(5) There can be no blank lines throughout the message.

Figure 7-2

MINE EXERCISE RECOVERY REPORT

```
R (MESSAGE DTG)
FM (UNIT RECOVERING MINES)
TO COMOMAG CORPUS CHRISTI TX//N3/N5//
MOMAU (UNIT THAT PROVIDED MINES FOR EVENT)
INFO COMINEWARCOM CORPUS CHRISTI TX//N3/N8//
NAVSURFWARCEN COASTSYSTA PANAMA CITY FL//A01/A60/A62/A90/A93/A83//
BT
UNCLAS //N08550//
```

Figure 7-2 (Cont.)

```
EXER/EXERCISE NAME//
MSGID/GENADMIN/(COMMAND PROVIDING RECOVERY SERVICES)//
SUBJ/(COMMAND THAT PLANTED MINES) (EXERCISE NAME) RECOVERY REPORT//
REF/A/(RECOVERY SCORING SERVICES REQUEST)//
AMPN/REF A IS (COMMAND THAT REQUESTED RECOVERY SERVICES)
RECOVERY/LOCATION SCORING SERVICES REQUEST//
POC/(AS APPROPRIATE)//
RMKS/1. RECOVERY DATA FOR (COMMAND THAT PLANTED MINES) (EXERCISE NAME)
AT (RANGE WHERE DROPPED) MINING RANGE FOLLOWS:
A. MINES SCORED USING AN/PSN 11 PRECISION LIGHTWEIGHT GPS RECEIVER
(PLGR) (OR OTHER AS APPROPRIATE)
B. EQUIPMENT SET UP DATA:
1. TIME ZONE: (+/- FROM GMT)
2. SV TYPE: (EX: MIXED P.Y)
3. CRYPTO: LOADED
4. FOM UNIT OF MEASUREMENT: (FEET, YARDS, OR METERS)
5. REFERENCE ERROR CHECK:
XXFT AT (PRE-OPS TIME) LOCAL (DATE 1)
XXFT AT (POST-OPS TIME) LOCAL (DATE 1)
*XXFT AT (PRE-OPS TIME) LOCAL (DATE 2)
*XXFT AT (POST-OPS TIME) LOCAL (DATE 2)
(OTHER REF ERROR CHECK LINES AS APPROPRIATE WITH AN ADDITIONAL
ASTERISK FOR EACH SUBSEQUENT DAY OF RECOVERY OPERATIONS)
C. MINES RECOVERED (TYPE/QUANTITY):
(MINE TYPE/# RECOVERED)
(LINES AS APPROPRIATE FOR EACH MINE TYPE)
D. BEGIN MINEFIELD ASSESSMENT DATA:
GPS: DD MM SS.S OR DD MM.MMM
DATUM: WGS-84
MCN LAT LONG ARMED TIME FOM
(MCN) DD MM SS.SN# DDD MM SS.SW# (Y/N) (TIME) (DIST)
OR
(MCN) DD MM.MMMN# DDD MM.MMMW# (Y/N) (TIME) (DIST)*
(PLACE ASTERISKS AFTER FOM DIST TO CORRESPOND TO REF ERROR CHECK DATE
OF RECOVERY)
END MINEFIELD ASSESSMENT DATA
NOTES: LIST ANY OTHER PERTINENT INFORMATION. EXAMPLES:
E. MCN 602 RETAINED ARMING WIRE. PARAPACK DID NOT DEPLOY.
F. FIVE DAY GAP BETWEEN RECOVERY EVOLUTIONS DUE TO INCLEMENT
WEATHER/SEA STATE.//
BT
NNNN
```

COMOMAGINST 8550.2  
15 May 03

7-4. Mine Recovery Report. If positions of recovered mines were located using range towers, use the reporting format shown in Figure 7-3. Except for the actual mine location reporting format, all other information in paragraph 7-4 above applies.

Figure 7-3

MINE RECOVERY REPORT (RANGE TOWER)

```
R (MESSAGE DTG)
FM (UNIT RECOVERING MINES)
TO COMINWARCOM CORPUS CHRISTI TX//N3/N8//
COMOMAG CORPUS CHRISTI TX//N3//
MOMAU (UNIT THAT PROVIDED MINES FOR EVENT)
INFO NAVSURFWARCEN COASTSYSTA PANAMA CITY FL//A01/A60/A62/A90/
A93/A83//
BT
UNCLAS //N08550//
EXER/EXERCISE NAME//
MSGID/GENADMIN/(COMMAND PROVIDING RECOVERY SERVICES)//
SUBJ/(COMMAND THAT PLANTED MINES) (EXERCISE) RECOVERY REPORT//
REF/A/(RECOVERY SCORING SERVICES REQUEST)//
AMPN/REF A IS (COMMAND THAT REQUESTED RECOVERY SERVICES)
RECOVERY/LOCATION SCORING SERVICES REQUEST//
POC/(AS APPROPRIATE)//
RMKS/1. RECOVERY DATA FOR (COMMAND THAT PLANTED MINES) (EXERCISE) AT
(RANGE WHERE DROPPED) MINING RANGE FOLLOWS:
A. MINES SCORED USING RANGE TOWER DATA.
B. N/A
C. MINES RECOVERED (TYPE/QUANTITY):
(MINE TYPE/# RECOVERED)
(LINES AS APPROPRIATE FOR EACH MINE TYPE)
D. BEGIN MINEFIELD ASSESSMENT DATA:
RT: DISTANCE FT
TOWER          LAT          LONG          ELEVATION
1              DDMSS.SN#   DDDMMSS.SW#   (TOWER ELEV IN FT)
2              DDMSS.SN#   DDDMMSS.SW#   (TOWER ELEV IN FT)
MCN            T1           T2            ARMED
(MCN)         (RANGE FROM TOWER 1)  (RANGE FROM TOWER 2)  (Y/N)
END MINEFIELD ASSESSMENT DATA
NOTES: LIST ANY OTHER PERTINENT INFORMATION. EXAMPLES:
E. MCN 602 RETAINED ARMING WIRE. PARAPACK DID NOT DEPLOY.
F. FIVE-DAY GAP BETWEEN RECOVERY EVOLUTIONS DUE TO INCLEMENT
WEATHER/SEA STATE.//
BT
NNNN
```

CHAPTER 8

VERSATILE EXERCISE MINE SYSTEM (VEMS) AMPLIFICATION

8-1. Purpose. This chapter provides the information needed to determine the Versatile Exercise Mine System (VEMS) applications and emulation availability for use in fleet exercises or individual command crew training environments. VEMS guidelines and other pertinent information are also provided.

8-2. General Information. The MK 74 and MK 75 VEMS offer significant opportunity for evaluating MCM detection and neutralization capability, along with shipboard vulnerability evaluation. With the use of portable shipboard equipment and an installed or transportable shipboard acoustic transducer (see below), VEMS facilitates real-time (instantaneous) or near real-time feedback for immediate evaluation. VEMS is an instrumented mine system capable of providing realistic threat emulations for mine sweeping and realistic contact strength for mine hunting. VEMS data collecting capabilities allow recording of sweep and platform characteristics and the emulation's operation to these characteristics. The data can be accessed for analysis by downloading after mine recovery. Limited amounts of the data, normally just mine fires (actuations and detonations) for a specific time period, can be read through an underwater acoustic link. The VEMS consists of the following four major functional sub-systems:

a. Versatile Exercise Mine (VEM) MK 74-1. Primarily white with a two-inch orange band to identify the center of gravity and lifting point and an orange cap on the buoy end for diver visibility and to identify as a hazard to navigation when separated. The fully assembled VEM is 108 inches in length and 21 inches in diameter and constructed in two sections (buoy and ballast) that when married resemble a bottom mine. It weighs 1234 lbs. (in the air), 595 lbs. flooded in water, and 2300 lbs. flooded out of water. The VEM MK 74-1 is equipped with a 200-foot recovery line for operating depths less than 120 feet (OA-02) or a 600-foot recovery line for operating depths from 120 to 300 feet (OA-01). It is designed as a training vehicle for minesweeping, mine hunting operations and tactics, and provides a representative sonar echo of a typical cylindrical bottom mine shape. The VEM itself initially assumes the highest classification of the mine emulation's entered into it and has a mission profile of up to 30 operational days at eight hours per day. Operational life varies with emulation, target traffic and data collection rate. For this reason, it is typical practice for MOMAG personnel to program the VEM MK 74-1 just prior to planting. The VEM MK 74-1 is assigned to the COMINELWARCOM NCEA.

COMOMAGINST 8550.2

15 May 03

b. Versatile Exercise Mine (VEM) MK 75-0. Orange for diver visibility and to identify as a hazard to navigation when the buoy assembly is separated from the sinker assembly. It is a specially constructed interactive mine simulator training device that represents a stealth type of shallow water mine. Shaped like a truncated cone, it is 18 inches tall, 38 inches in diameter, and weighs 813 lbs. (in air), 611 lbs. flooded in water, and 1138 lbs. flooded out of the water. The VEM MK 75-0 is equipped with a 200-foot recovery line. This VEM functions similar to the MK 74-1 and is fitted with many of the same internal components. Like the VEM MK 74, it is used to assess the effectiveness of mine countermeasures operations as well as providing realistic training for MCM forces. The shape, in combination with an anechoic coating, results in a low target strength and a realistically small sonar shadow. The VEM MK 75 is designed to be representative of foreign threat mines and does not possess a U.S. Navy service mine counterpart. The VEM MK 75-0 is assigned to the COMINWARCOM NCEA.

c. Portable Shipboard Equipment. A portable computer system that is designed for use in all VEM operations including emulation program creation and loading, real-time mine event display acoustic data interrogation, buoy releases, and data unloading and decoding. The portable system includes the Mine Programmer Analyzer (MPA), a specially configured notebook PC configured with all the VEMS exercise support software. The system also includes the Surface Transponder Unit (STU), an acoustic modem communications with VEMs. The system also includes umbilical data link cables, for loading programs into VEMs before planting and unloading data after recovery. They system requires a 110-240V, 50-60 Hz AC power source.

d. Transducers. Three special transducers are used for underwater acoustic link communications with VEMs:

(1) Overside Body Handling System (OSBHS) MK 9 and Overside Body (OSB) MK 5. A single transportable system which is used to deploy the shipboard communication transducer (OSB MK 5). Weighing 660 lbs., it is installed and secured onboard the exercise vessel and removed upon completion of the exercise. MCMs with in-hull mounted transducers do not require the use of the OHBHSs. A 120V power supply is required to be available.

(2) Hull Mounted Transducer (HMT). The HMT is permanently installed on MCM 1 class ships. It is physically located in and deployed through a sea chest in the Auxiliary Machinery Room (AMR). Like the OSBHS and BTA, the HMT provides a means of underwater communication with VEMs. A junction box is located in the ship's Combat Information Center (CIC) for connection to the VEMS portable shipboard equipment (MPA and STU) via a special transponder link cable.

(3) Ball Transducer Assembly (BTA). The BTA is a hand-deployed transducer that is lowered over the side for communication with the VEMS. It is easily transportable and deployable. The BTA may be used as an alternative to the larger OSBHS and or as a back-up to the Hull Mounted Transducer (HMT), but the BTA is not strong or stable enough to be towed and therefore cannot be used while a vessel is making way, such as during mine sweeping operations.

8-3. Operational Sequence. The VEMS operational sequence follows the same basic steps for most exercises.

a. Transit State. COMOMAG assigns one of its Mobile Mine Assembly Units to assemble and test the required VEMs. After battery installation, each VEM enters a transit state where it will remain during transport to the planting vessel.

b. Loaded State. Concurrently with VEM assembly, NAVSURFWARCEN COASTSYSTA Panama City, FL, Commander, Surface Warfare Development Group (COMSURFWARDEVGRU), COMOMAG or another member of the VEMS Exercise Working Group prepares the Minefield Database (MFD) containing the VEM programs with armed periods and emulation settings for all the VEMs. The MFD is delivered on a computer diskette pierside separately from the VEMs. This is a security measure to avoid transporting VEMs loaded with programs created from classified emulations. At the planting vessel, each VEM is loaded with its program, where upon it enters a Loaded State.

c. Dormant State. When the planting vessel reaches the exercise minefield, the VEMs are planted. Upon entry into the water, each VEM enters a dormant state where it will remain until the first armed period. An initial interrogation is usually performed 10 minutes or more after planting, using an acoustic link to verify that the VEMs is operating properly.

d. Quiescent State. At the start of an armed period, the VEM awakens from the dormant state and measures background influence levels. These measurements can take as much as twenty minutes, depending upon the emulation being activated, therefore, it is standard practice to program each armed period to start at least thirty minutes before the VEMs minefield will be exercised. When background measurements are completed, the VEM will be in a quiescent state where it will remain until the appropriate stimulus level increases over the long-term background level by the pre-programmed threshold. When this threshold is reached, or if a wake-up function is not used, the VEM enters the active state.

15 May 03

e. Active State. When this programmed stimulus threshold is reached, or if a wake-up function is not used, the VEM enters the active state. In the active state, the VEM records sensor data according to the order of any looks specified by its emulation. For example, a VEM running an emulation with an acoustic look and a magnetic actuation would record acoustic levels until its look parameters are satisfied. Then this VEM would record magnetic levels until its actuation parameters are satisfied or until the expiration of a time-out period that may have been set for the acoustic look, whichever occurs first.

f. Actuators or Detonations. Upon an actuation or detonation, the VEM may record one or more influence signatures, depending upon the emulation. After an actuation or detonation, the VEM will enter a pre-programmed dead period. When the dead period expires, the VEM will return to the active or quiescent state, where it will remain until its actuation or look parameters are again satisfied. At the end of the armed period, the VEM returns to the dormant state. This shutdown process may take as much as ten minutes.

g. VEM Interrogation. Daily acoustic interrogation may be performed on each VEM to read part of the data (normally just actuators and detonations) recorded since the previous interrogation. This interrogation is usually performed between armed periods when a VEM is in the dormant state.

h. Recovery State. At the end of the exercise, the VEMs are recovered using the acoustic link to activate the buoy-release function, unless it has been decided to use divers to recover the VEMs intact. Upon its buoy rising or being brought to the water's surface (regardless whether its separated from or still married to the ballast section or sinker assembly), each VEM enters the recovery state, where its program is automatically erased, but its recorded data is retained. This security feature prevents access to classified emulations in the event of unauthorized recovery. After the VEMs are recovered aboard ship, their recorded data is downloaded, whereafter each VEM returns to the transit state. The downloaded data is decoded and the operator prepares a post-exercise quick look message containing armed periods, mine fires and basic VEM operating data. A backup copy of the post-exercise VEMS Minefield Database (MFD) containing the recorded data, along with a back-up copy of the acoustic link log files is submitted to the activity assigned to analyze the data.

8-4. Analysis Levels. The VEMS is capable of providing four levels of analysis are:

a. Level 1: Data Collection. Collection of real-time (instantaneous) or pseudo real-time mine event data on a daily basis. Data collected via acoustic link. Data collected this way is normally limited to actuations, detonations, and sometimes looks. It is not recommended to collect influence (signature) data via acoustic link, due to the excessive amount of time and difficulty in recovering large amounts of data through underwater acoustic transmissions. The exercise coordinator will determine when and by whom the data will be collected. This level of analysis can be provided by NAVSURFWARCEN COASTSYSTA or onboard by the VEMS technicians provided by COMOMAG.

b. Level 2: Data Analysis. Analysis of mine event data forwarded to the exercise coordinator. The exercise coordinator can use mine fire data (actuations and detonations) and daily navigational data to make a limited determination on platform performance during daily operations. This level of analysis can be provided by the exercise coordinator using Level 1 data.

c. Level 3: Detailed Analysis. A compilation of VEM mine event data, navigational data and acoustic log files via the exercise analysis software to create meaningful plots (actuation, interaction, and track plots) that can be provided in a report format. It provides analysis of VEM mine events. NAVSURFWARCEN COASTSYSTA, Panama City, FL provides this level of analysis. Currently this is the only organization capable of this service. Future capability may be provided by COMINEWARCOM or COMOMAG.

d. Level 4: Tactical Analysis. Tactical analysis of VEMS data as it relates to exercise and platform operations against the deployed threats leading to validation, verification, and/or modification of existing tactics for operations against the applicable threats or to creation of new tactics where none have previously existed. This level of analysis is required only for MIREMs. Data collected by Commander, Surface Warfare Development Group (COMSURFWARDEVGRU) or COMOMAG personnel is sent to NAVSURFWARCEN COASTSYSTA for analysis. Currently this is the only organization capable of this service. Future capability may be provided by COMINEWARCOM or COMOMAG.

8-5. Emulations. The unique, core value of VEMS is the ability to program the VEM with multiple foreign threat mine emulations, allowing realistic training against real-world threats in a safe training environment. Since VEMS emulation data is based on foreign mine exploitation, the Office of Naval Intelligence (ONI) is the appropriate disclosure authority for the approval of release of VEMS emulation data. COMOMAG (N32) maintains an approved listing. If release of emulations to countries other than those already authorized is required, ONI must be queried. The ONI point of contact is Mrs. Jana Raymond (ONI-233). She is a member of the Foreign Mine Planning

COMOMAGINST 8550.2  
15 May 03

Group (FMPG) chaired by COMINEWARCOM (N2). ONI may elect to get recommendations from other commands, such as COMINEWARCOM, COMOMAG, NAVSURFWARCEN COASTSYSTA, Program Executive Office for Littoral Mine Warfare (PEO LMW), or COMSURFWARDEVGRU. As of the publication date of this instruction, several emulations are currently available with several more in development. Emulations currently available include:

a. SME-1 (Cluster COVE). Available from NAVSURFWARCEN COASTSYSTA or COMOMAG, it is a confidential emulation used with the MK 74 VEMS. This classified emulation represents a real-world foreign influence mine. For more detailed information contact COMOMAG (N32) or refer to the SME-1 SOP published by NAVSURFWARCEN COASTSYSTA Panama City, FL.

b. SME-2 (Cluster PLAGUE). Available from NAVSURFWARCEN COASTSYSTA or COMOMAG, it is a Confidential emulation normally used with the VEM MK 75 but which can also be used in the MK 74. This classified emulation represents a real-world foreign influence mine. For more detailed information contact COMOMAG (N32) or refer to the SME-2 SOP published by NAVSURFWARCEN COASTSYSTA Panama City, FL.

c. SME-3 (Cluster BOCK). Available from NAVSURFWARCEN COASTSYSTA or COMOMAG, it is a Confidential emulation used only with the VEM MK 74. This classified emulation represents a real-world foreign influence mine. For more detailed information contact COMOMAG (N32) or refer to the SME-3 SOP published by NAVSURFWARCEN COASTSYSTA Panama City, FL.

d. SME-4 (Cluster BABOON). Available from NAVSURFWARCEN COASTSYSTA or COMOMAG, it is a confidential emulation used only with the VEM MK 75. This classified emulation represents a real-world foreign influence mine. For more detailed information contact COMOMAG (N32) or refer to the SME-4 SOP published by NAVSURFWARCEN COASTSYSTA Panama City, FL.

e. BASIC. Available from NAVSURFWARCEN COASTSYSTA or COMOMAG, BASIC is an unclassified emulation-like program that can be used in both the VEM MK 74 and VEM MK 75 to collect influence signature data from the sensors installed in the VEM, specifically acoustic, magnetic, and pressure (MK 74 only). It does not generate any mine fires (actuators or detonations). For more detailed information contact COMOMAG (N32) or refer to the BASIC SOP published by NAVSURFWARCEN COASTSYSTA Panama City, FL.

8-6. Security. VEMS MK 74 and MK 75 and their associated components are unclassified, however, the hard drive of the Mine Program Analyzer (MPA), the VEM, and the exercise data diskette become classified once a classified foreign mine emulation is loaded. Currently all

classified foreign mine emulations are Confidential. However, the data collected from VEM is considered unclassified since this data is binary data that needs to be decoded.

a. The hardware (physical components) of the VEM MK 74 and MK 75 and all support equipment are unclassified. However, upon loading a program into a VEM (normally after transport to the delivery location) from the Mine Programmer Analyzer (MPA) computer, that VEMs memory then becomes classified to the highest level of any mine emulation contained in that program. The VEM becomes unclassified again when the program is automatically erased from its memory by a depth-activated switch when the VEM buoy rises back to the surface of the water upon recovery from the bottom (with or without the ballast section or sinker assembly).

b. If a VEM was loaded with a classified program but not planted, the program can be erased from the VEMs memory by using the MPA computer's VEM Programmer Decoder (VPD) software to unload data from the VEM and then interrogating the VEM (using VPD) to verify it has returned to the Transit State.

c. VEMS Mine Emulation Disks (MED), Minefield Database (MFD) disks, Mine Programmer Analyzer (MPGA) computer hard drives and any other media that have contained classified emulations are classified to the highest current classification level of any emulation ever contained, until destroyed or wiped clean by a DoD-approved method. As of the publication date of this instruction, all classified foreign mine emulations are classified Confidential.

d. Storage. Once a classified emulation is loaded into a VEM and prior to VEMs being planted in the minefield, precautions should be taken to ensure that VEMs are not tampered with or stolen. Secure (U.S. only) storage is also required prior to loading VEMs onto the planting vessel. If the planting vessel is not a U.S. vessel, Mineman support personnel are required to be embarked in order to provide a security watch and minimize security risks.

e. Minefield Security. Minefield security precautions must be taken to ensure VEMs are not removed from the minefield by unauthorized personnel. This concern is based on a long history of "missing" USN actuation mines that subsequently reappeared in non-U.S. mine inventories. VEMS is vulnerable to reverse engineering should one be removed from the minefield for later recovery. Normal minefield protection with USN surface MCM or having U.S. observers placed on foreign vessels participating in the exercise will meet the requirement.

COMOMAGINST 8550.2  
15 May 03

f. Post-Exercise Recovery. Security precautions are also required to minimize the risk of tampering and theft once VEMS recovery operations are conducted.

g. Although there is no guarantee that a VEM is secure once in-theater, every effort must be made to provide as much security as possible and will be a topic of discussion during the planning phases of any exercise.

8-7. Exercise Limitations. To achieve the best results during an exercise, it is important to understand certain limiting characteristics of VEMS. The most general limitations that require consideration during the planning and programming phase of the operation are:

a. Although a VEM can be programmed with a single armed period for the entire exercise, the exercise duration should be divided into armed periods that last no longer than one day. For maximum reliability, there should normally be at least a one-hour break between armed periods to allow the VEM to reset any internal software errors that might have occurred during the previous armed period so they are not extended throughout the exercise. If acoustic data interrogations will be desired during the course of the exercise, there should be at least a two-hour break between armed period to allow sufficient time for this. For more guidance contact COMOMAG (N32) or NAVSURFWARCEN COASTSYSTA Panama City, FL.

b. The minimum planting depth for a VEM is 15 feet. This depth is necessary to ensure sufficient water pressure to activate the depth switches that awaken the VEM upon water entry as well as allowing the safety and security features to function properly.

c. The maximum planting depth for a VEM varies with configuration. For the VEM MK 74 Mod 1 in the Operational Assembly (OA) 01 configuration (NALC RE05), the maximum depth is 300 feet, however, it is not recommended to plant a VEM deeper than 120 feet in order to facilitate diver recovery in the event of an acoustic link or release mechanism failure. For the VEM MK 74 Mod 1 in the OA-02 configuration (NALC RE06) and for the VEM MK 75 Mod 0, the maximum depth is 120 feet.

d. VEM spacing may affect one of the acoustic link functions. VEMs respond to an Acoustic Link Control Software (ALCS) survey request using a pre-programmed reply frequency. There are only seven reply frequencies to choose from and the choice is indirectly made by selection of the VEM acoustic link ID as described in Chapter 2. VEM acoustic link IDs should be programmed so as to maximize the planted distance between VEMs using the same frequency (normally at least 1,000 yards).

e. A delay sonar transmitter or "pinger" is installed in each VEM during assembly to aid in relocation if the VEM becomes lost or fails to separate, however, these sonar transmitters could interfere with the VEMS acoustic link. The sonar transmitters equipped with a delay timer, MK 87 Mod 4 or DK-187/3, are used and set to begin transmitting only after the end of exercises and expected VEM recovery date.

f. A VEM should be planted no closer than 500 yards to any other mine shape equipped with a sonar transmitter expected to activate before the end of the exercise.

g. A VEM should not be planted so close to another VEM or mine shape as to risk collision.

h. The VEMs internal clock is accurate to within one minute in 90 days. If time accuracy greater than two seconds for two weeks is required, acoustic interrogations of the VEMs state must be performed during the exercise, just prior to recovery. These interrogations produce time correction factors by capturing the Mine Programmer Analyzer's GPS-synchronized clock time for each event and recording it in an ALCS log file. These times can later be compared to those recorded by the VEM for the same events after the VEMs data has been downloaded.

i. Sending acoustic commands to a VEM during an armed period will cause the VEM to produce self-generated acoustic, seismic and magnetic signals that can interfere with emulation processing and produce erroneous data for up to fifteen minutes. A VEM should be interrogated only between armed periods when the VEM is in the dormant state. If necessary to recover data or transmit other acoustic commands during an armed period, it should be done at least fifteen minutes before a targeted vessel enters the minefield. If no more targeted vessels will enter the minefield during the armed period, the armed period should first be switched off for each VEM in that minefield (using the acoustic link) at least ten minutes before interrogating the VEMs.

j. A ship's Fathometer could interfere with the VEMS acoustic link possibly causing erroneous mine event indications. At the discretion of the ship's Commanding Officer, the Fathometer and other active sonars should be secured when operating the acoustic link. Navigation safety concerns in shallow waters may override this requirement.

k. The time required to recover data by acoustic interrogation can vary widely depending on the emulation and settings, the type(s) of data requested, and the frequency of looks stimulated. Once the VEM has been commanded to transmit data, the VEM requires several

COMOMAGINST 8550.2  
15 May 03

minutes to prepare and transmit the data. During this time, the interrogating vessel must go as slow as possible in order to remain on-station near the VEM for continuous communication. If the hand-deployed Ball Transducer Assembly (BTA) is being used, the interrogating vessel should come to almost dead in the water, since the BTA is not designed to be towed and will be unstable if deployed under any significant headway.

8-8. VEMS Quick-Look Reporting. To ensure the exercise chain of command, to include COMINELCOM and COMOMAG, are kept informed regarding the status of VEMS in the minefield, a series of message quick look reports are required to be transmitted at appropriate times. These reports are provided to establish VEMS minefield guidance, provide VEMS programming and minefield status, and summarize VEMS post-exercise use for follow-on analysis, data collection and corrective action as required.

a. VEMS Minefield Guidance Quick-Look Report. This is a MOMAU generated message transmitted to the OCE establishing the MOMAU's role for VEMS use, monitoring and data collection. This report is transmitted prior to the exercise and provides mine delivery information, VEM programming parameters, armed periods, emulations, intended targets, and data extraction and reporting intentions. Refer to Figure 8-1.

b. VEMS Programming Status Quick-Look Report. This is a MOMAU generated message transmitted to the OCE providing status of the VEMS upon completion of program loading. VEM Programs are installed at the exercise site prior to planting. Refer to Figure 8-2.

c. VEMS Minefield Status Quick-Look Report. This is a MOMAU generated message transmitted to the OCE providing status of the VEMS following minefield planting. Refer to Figure 8-3.

d. VEMS Post-Exercise Quick-Look Report. It is imperative that immediately upon final interrogation and recovery of VEMS that a quick look report be transmitted, preferably by the recovery or monitoring vessel. Should it be desired to collect and provide VEMS armed periods and detonation time data, as done for MIREM, daily transmissions may be done if time permits while underway. Every effort should be made to have this data transmitted before returning to port. If the recover or monitoring vessel does not have naval message capability, then quick-look reports should be transmitted immediately upon returning to shore. In addition to providing VEMS armed periods and detonations, the following should also be provided:

(1) VEMS positions. This aids in the quick reconstruction of exercise events.

(2) VEMS armed periods and associated or detonations (including actuations).

(3) VEMS operation summary. Summarizes the operational effectiveness of the VEMS used in the exercise.

(4) Exercise data request.

(5) Battery management data. Used for COMOMAG and NAVSURFWARCEN COASTSYSTA for tracking purposes. It provides EPR (Emulation Processor Recorder) Battery MK 150 Mod 2 V1 circuit consumption in amp-hours. It also provides MTU (acoustic link mine transponder unit) transmission (Tx) counts. The Tx count is used to track the usage on the MTU Battery MK 151 Mod 2.

(6) Post-Exercise VEMS Assistance Request. This is used to request assistance from NAVSURFWARCEN COASTSYSTA if required. Refer to Figure 8-4.

Figure 8-1

VEMS MINEFIELD GUIDANCE QUICK-LOOK REPORT

```
FM MOMAU FIFTEEN INGLESIDE TX//00//  
TO OFFICER CONDUCTING THE EXERCISE (OCE)  
INFO COMINWARCOM CORPUS CHRISTI TX//N3/N8//  
COMOMAG CORPUS CHRISTI TX//00/N3//  
COMCMRON (ONE/TWO/THREE AS APPROPRIATE)  
COMSURFWARDEVGRU LITTLE CREEK VA//N3//  
NAVSURFWARCEN COASTSYSTA PANAMA CITY FL//A01/A60/A62/A90/A93/A83//  
BT  
UNCLASS//N08550//  
EXER/GOMEX 03-10//  
MSGID/GENADMIN/MOMAU FIFTEEN//  
SUBJ/VEMS QUICK-LOOK MINEFIELD GUIDANCE FOR GOMEX 03-10//  
REF/A/MSG/(ET REQUEST SUBMITTER)/DTG//  
REF/B/DOC/COMOMAG/XXMON00//  
NARR/REF A IS ET REQUEST. REF B IS COMOMAGINST 8550.2, PROCEDURES FOR  
REQUESTING MINE WARFARE ET/MCMTT/MP MATERIAL AND SERVICES//  
POC/(PROVIDE AS APPROPRIATE)//  
RMKS/1. PER REFS A AND B, TEN MK 74 VEMS WILL BE DELIVERED TO USS  
SCOUT IN PREPARATION FOR MINE PLANTING ON 30 DEC 2002. TO ASSIST
```

COMOMAGINST 8550.2  
15 May 03

Figure 8-1 (Cont.)

EXERCISE CONTROLLERS AND EVALUATORS, THE FOLLOWING INFORMATION IS PROVIDED:

2. VEMS PROGRAMMED PARAMETERS:

A. ARMED PERIODS (ZULU)

LRN	ARMED PERIODS
001-008	010000JAN01-0120000JAN01

B. VEMS EMULATED MINE TYPE:

LRN	MK	FOREIGN MINE TYPE	INFLUENCE TYPE	SENSITIVITY
001-008	74	AMD 500	MAGNETIC/ACOUSTIC	FINE

C. INTENDED TARGET: COASTAL PATROL CRAFT/FFG.

D. DATA EXTRACTION AND REPORTING: MOMAU FIFTEEN PERSONNEL WILL MONITOR VEMS REAL-TIME EVENTS ON USS SCOUT USING MK 7 ESS VIA THE HULL MOUNTED TRANSDUCER. REAL-TIME EVENTS WILL BE REPORTED AS THEY OCCUR TO USS SCOUT. BEARING AND RANGE TO VEM WILL BE REPORTED FOR EACH RECORDED MINE FIRE. VEMS IS CAPABLE OF REPORTING REAL-TIME DATA FOR THE SHIP IN WHICH MK 7 ESS IS INSTALLED (USS SCOUT), HOWEVER, A REPORT OF ALL DETONATIONS FOR ALL EXERCISING UNITS MAY BE ACCOMPLISHED BY CONDUCTING A NIGHTLY INTERROGATION OF EACH VEM OR SELECTED VEMS. IF NIGHTLY INTERROGATION IS DESIRED, ASSIGN AN INTERROGATION VESSEL (NORMALLY THE SHIP WHICH HAS HMT AND MK 7 ESS INSTALLED) AND SCHEDULE 20 MINUTES PER VEM INTERROGATION INTO THE SUMMARY OF EXERCISE (COE). DAILY DETONATION REPORTS WILL BE MADE DIRECTLY TO THE INTERROGATING VESSEL OR TO OTHER EXERCISE PARTICIPANTS AS DIRECTED. MINE DETONATION SUMMARIES WILL BE PROVIDED IN POST-EXERCISE QUICK-LOOK REPORTS UPON REQUEST (MANDATORY FOR MIREM). IF FULL EXERCISE ANALYSIS IS DESIRED, COPIES OF THE CIC, NAVIGATION AND ENGINEERING LOGS MUST BE PROVIDED AT THE CONCLUSION OF THE EXERCISE TO COMOMAG (N3/N32). THIS INFORMATION WILL BE FORWARDED TO NAVSURFWARCEN COASTSYSTA PANAMA CITY, FL FOR FINAL ANALYSIS.//

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COMOMAGINST 8550.2  
15 May 03

Figure 8-2

VEMS PROGRAMMING STATUS QUICK-LOOK REPORT

FM (MOMAU OR APPROPRIATE STAGING FACILITY)  
TO OFFICER CONDUCTING THE EXERCISE  
INFO COMINWARCOM CORPUS CHRISTI TX//N3/N8//  
COMOMAG CORPUS CHRISTI TX//00/N3//  
COMCMRON (ONE/TWO/THREE AS APPROPRIATE)  
COMSURFWARDEVGRU LITTLE CREEK VA//N3//  
NAVSURFWARCEN COASTSYSTA PANAMA CITY FL//A01/A60/A62/A93/A93/A83//  
BT  
UNCLASS//N08550//  
EXER/GOMEX 03-10//  
MSGID/GENADMIN/MOMAU FIFTEEN//  
SUBJ/VEMS QUICK-LOOK MINEFIELD GUIDANCE FOR GOMEX 03-10//  
REF/A/DOC/COMOMAG/XXMON00//  
AMPN/REF A IS COMOMAGINST 8550.2, PROCEDURES FOR REQUESTING MINE  
WARFARE ET/MCMTT/MP MATERIALS AND SERVICES//  
POC/(PROVIDE AS APPROPRIATE)//  
RMKS/1. PER REF A, EIGHT MK 74 VEMS LOADED ON USS SCOUT, 29 DEC 02.  
MOMAU TECHNICIANS PROGRAMMED EACH VEM SUCCESSFULLY WITH THE EXCEPTION  
OF VEM LRN 001, WHICH IS OOC DUE TO MTU FAILURE AND WILL NOT BE  
PLANTED.//  
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COMOMAGINST 8550.2  
15 May 03

Figure 8-3

VEMS MINEFIELD STATUS QUICK-LOOK REPORT

FM (MOMAU OR PLANTING SHIP)  
TO OFFICER CONDUCTING THE EXERCISE (OCE)  
INFO COMINWARCOM CORPUS CHRISTI TX//N3/N8//  
COMOMAG CORPUS CHRISTI TX//00/N3//  
COMCMRON (ONE/TWO/THREE AS APPROPRIATE)  
COMSURFWARDEVGRU LITTLE CREEK VA//N3//  
NAVSURFWARCEN COASTSYSTA PANAMA CITY FL//A01/A60/A62/A90/A93/A83//  
BT  
UNCLASS//N08550//  
EXER/GOMEX 03-10//  
MSGID/GENADMIN/MOMAU FIFTEEN//  
SUBJ/VEMS QUICK-LOOK MINEFIELD GUIDANCE FOR GOMEX 03-10//  
REF/A/DOC/COMOMAG/XXMON00//  
AMPN/REF A IS COMOMAGINST 8550.2, PROCEDURES FOR REQUESTING MINE  
WARFARE ET/MCMTT/MP MATERIALS AND SERVICES//  
POC/(PROVIDE AS APPROPRIATE)//  
RMKS/1. PER REF A, MK 74 VEMS LRNS 002-008 PLANTED FROM USS SCOUT ON  
30 DEC 02. VEM LRN 001 NOT PLANTED AS DIRECTED DUE TO MTU FAILURE. VEM  
LRN 002 FAILED TO RESPOND TO ACOUSTIC SURVEY. VEMS LRNS 003-008  
CONFIRMED OPERABLE.//  
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Figure 8-4

VEMS POST-EXERCISE QUICK-LOOK REPORT

FM USS SCOUT  
TO COMOMAG CORPUS CHRISTI TX//N3//  
COMINWARCOM CORPUS CHRISTI TX//N3/N8//  
NAVSURFWARCEN COASTYSYTA PANAMA CITY FL//A01/A60/A62/A90/A93/A83//  
COMSURFWARDEVGRU LITTLE CREEK VA//N3//  
INFO COMCMRON TWO  
BT  
UNCLAS//N08550//  
EXER/GOMEX 03-10//  
MSGID/GENADMIN/MOMAU ELEVEN//  
SUBJ/VEMS POST-EXERCISE QUICK-LOOK REPORT//  
REF/A/MSG/MOMAU/ (DTG)//  
REF/B/MSG/USS SCOUT/ (DTG)//  
REF/C/DOC/COMOMAG/XXMON00//  
NARR/REF A IS VEMS PROGRAMMING STATUS QUICK-LOOK REPORT DISCUSSING LRN  
001 OOC. REF B IS USS SCOUT VEMS PROGRAMMING STATUS QUICK LOOK REPORT  
DISCUSSING LOADING (PROGRAMMING) FAILURE. REF C IS COMOMAGINST 8550.2,  
PROCEDURES FOR REQUESTING MINE WARFARE ET/MCMTT/MP MATERIALS AND  
SERVICES//  
POC/(AS APPROPRIATE)//  
RMKS/1. PER REF A, THE FOLLOWING POSTEX INFORMATION IS PROVIDED.  
INCLUDED ARE VEMS ARMED PERIODS AND DETONATIONS DURING GOMEX 01-  
10/MIREM, VEMS OPERATION SUMMARY, EXERCISE DATA REQUEST, VEM BATTERY  
MANAGEMENT DATA, AND POST-EX VEM ASSISTANCE REQUEST.  
2. VEM ARMED PERIODS AND DETONATION TIMES:  
LRN 003: LAT XX XXX.XX LONG XXX XX.XX  
ARMED PERIODS DETONATION TIMES  
032000ZDEC02-040700ZDEC02 032129:05ZDEC02  
040900ZDEC02-050700ZDEC02 041307:39ZDEC02  
050900ZDEC02-060120ZDEC02 051755:57ZDEC02  
060900ZDEC02-071232ZDEC02 061834:44ZDEC02  
LRN 004: LAT XX XXX.XX LONG XXX XX.XX  
ARMED PERIODS DETONATION TIMES  
032000ZDEC02-040700ZDEC02 031734:24ZDEC02  
040900ZDEC02-050700ZDEC02 041745:43ZDEC02  
050900ZDEC02-060120ZDEC02 051805:32ZDEC02  
060900ZDEC02-071324ZDEC02 070047:15ZDEC02  
LRN 005: LAT XX XXX.XX LONG XXX XX.XX

COMOMAGINST 8550.2  
15 May 03

Figure 8-4 (Cont.)

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ARMED PERIODS          DETONATION TIMES
032000ZDEC02-040700ZDEC02 031722:42ZDEC02
040900ZDEC02-050700ZDEC02 041745:44ZDEC02
050900ZDEC02-060120ZDEC02 060047:34ZDEC02
060900ZDEC02-071319ZDEC02 070102:29ZDEC02
LRN 006: LAT XX XXX.XX  LONG XXX XX.XX
ARMED PERIODS          DETONATION TIMES
032000ZDEC02-040500ZDEC02 032034:07ZDEC02
040700ZDEC02-050500ZDEC02 042052:42ZDEC02
050700ZDEC02-060835ZDEC02 052135:36ZDEC02
                                052249:12ZDEC02
LRN 007: LAT XX XXX.XX  LONG XXX XX.XX
ARMED PERIODS          DETONATION TIMES
032000ZDEC02-040500ZDEC02  NO DETONATIONS
040700ZDEC02-050500ZDEC02
050700ZDEC02-061058ZDEC02
061158ZDEC02-071754ZDEC02
LRN 008: LAT XX XXX.XX  LONG XXX XX.XX
ARMED PERIODS          DETONATION TIMES
032000ZDEC02-040700ZDEC02 031726:42ZDEC02
040900ZDEC02-050700ZDEC02 041732:44ZDEC02
060900ZDEC02-070120ZDEC02 070013:34ZDEC02
VEMS OPERATION SUMMARY:
A. LRN 001 NOT PLANTED DUE TO MTU FAILURE, REPORTED REF A.
B. LRN 002 FAILED ACOUSTIC SURVEY RESPONSE, REPORTED REF B.
C. LRN 003 FAILED TO RELEASE WHEN COMMANDED BY ACOUSTIC SIGNAL.
ALTHOUGH CONFIRMATION OF RELEASE WAS SENT BY VEM, AFTER SEVERAL
ATTEMPTS TO RELEASE BUOY SECTION, BUOY FAILED TO SURFACE. IT WAS
RECOVERED BY EOD PERSONNEL.
D. LRNS 004-008 OPERATED SATISFACTORILY.
3. EXERCISE DATA REQUEST: (AS DESIRED)
4. VEM BATTERY MANAGEMENT DATA:
VEM LRN      V1 AMP HOURS      MTU TX COUNT
003           10                107
004           09                098
005           22                230
006           17                172
007           22                220
008           06                UNABLE TO OBTAIN
6. POST-EXERCISE VEM ASSISTANCE REQUEST: (AS DESIRED).//
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