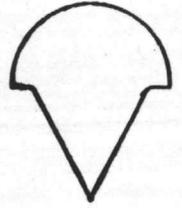
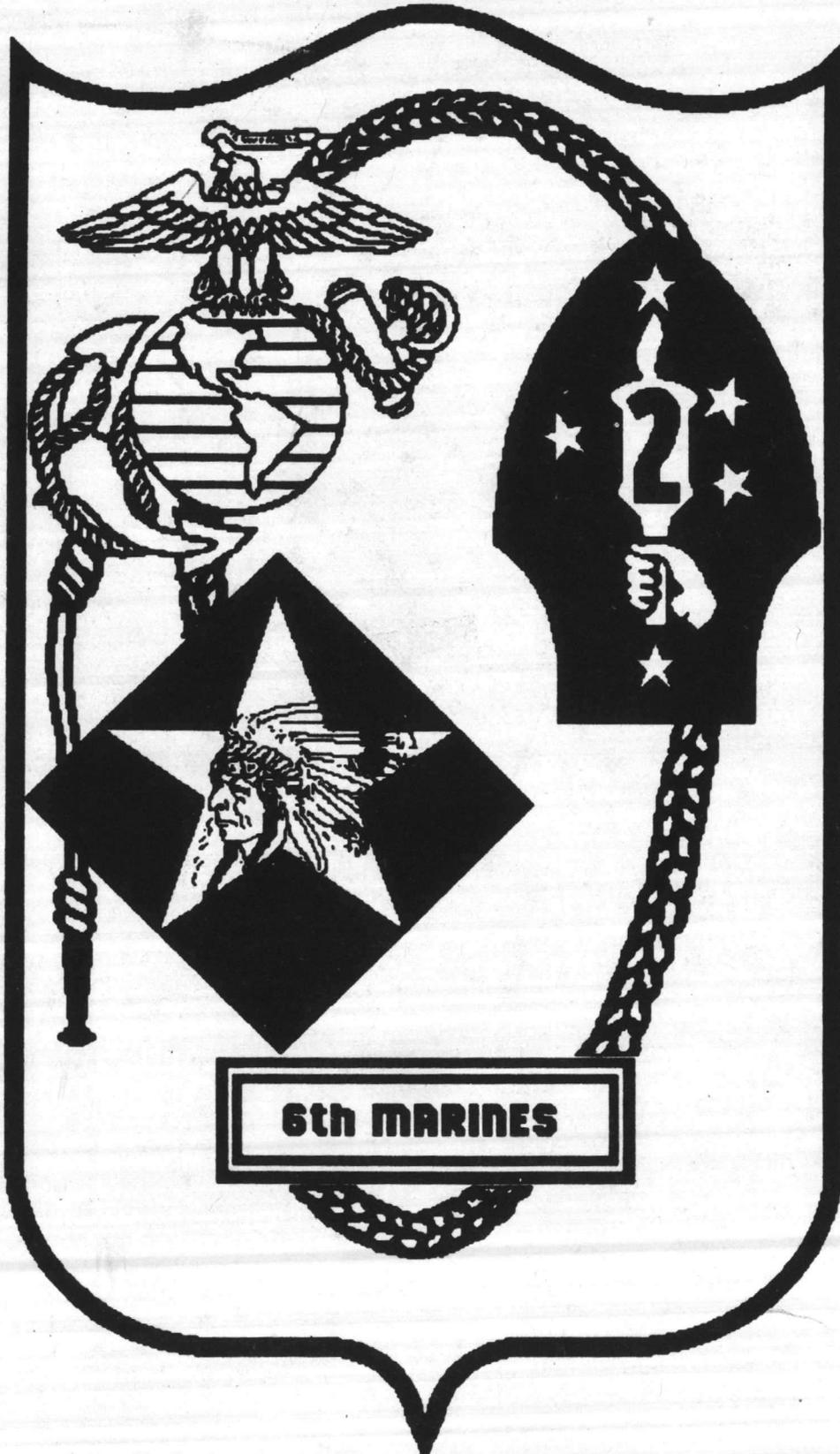
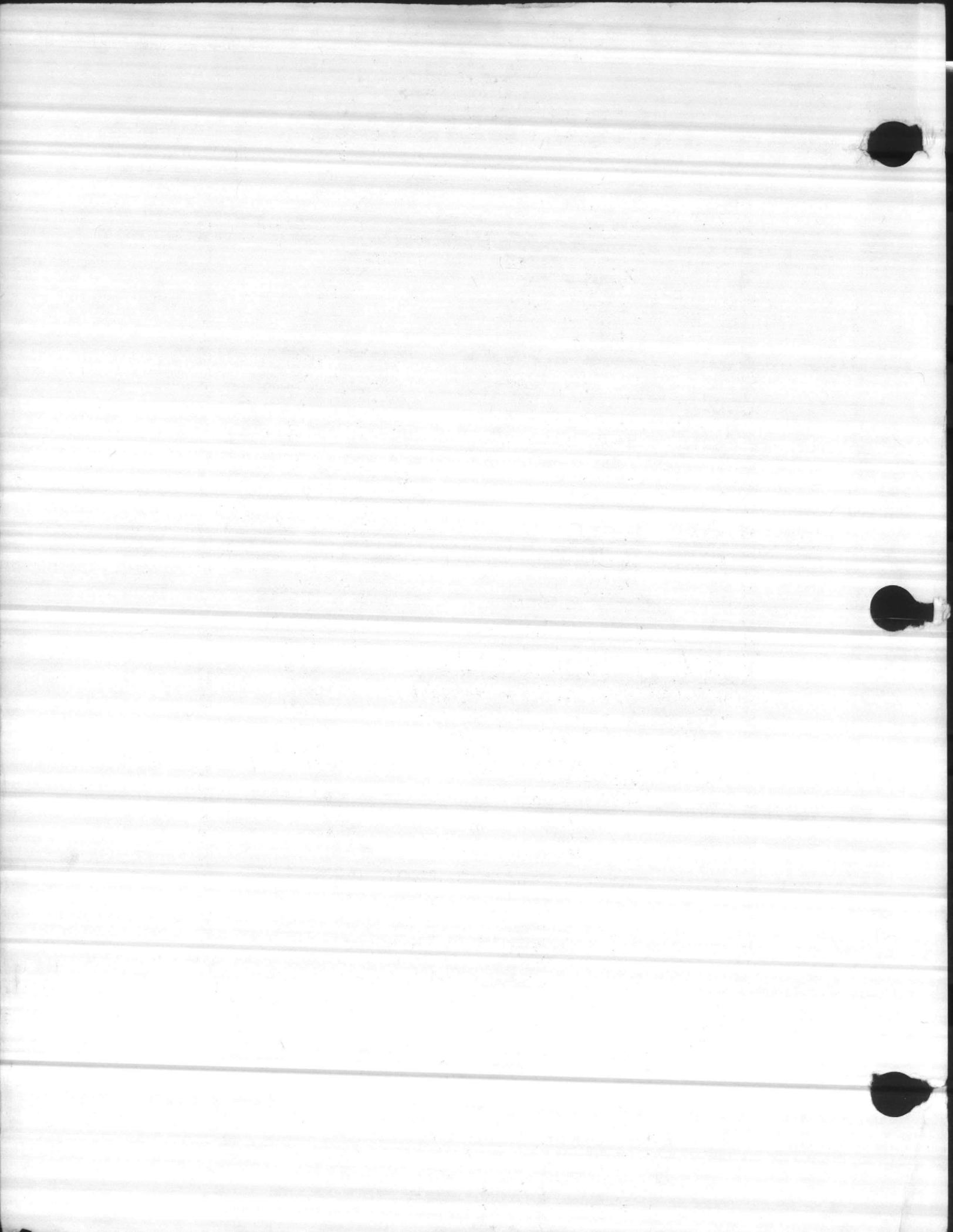


# STANDARD OPERATING PROCEDURE FOR NBC DEFENSE



2D MARINE DIVISION, FME  
Camp Lejeune, N.C. 28542





**UNITED STATES MARINE CORPS**  
6th Marine Regiment  
2d Marine Division, FMF  
Camp Lejeune, North Carolina 28542-5507

RegtO P3400.1J  
3/RLM/rlm  
14 Nov 1986

REGIMENTAL ORDER P3400.1J

From: Commanding Officer  
To: Distribution List

Subj: Standard Operating Procedure for Nuclear, Biological,  
and Chemical Defense (Short Title: SOP for NBCD)

Ref: (a) DivO P3400.3G

Encl: (1) LOCATOR SHEET

Report Required: I. Qtrly NBC Report (Report Symbol RegtO 3400-01)

1. Purpose. To publish the Standing Operating Procedure (SOP) for Nuclear, Biological, and Chemical (NBC) Defense within the 6th Marine Regiment in accordance with reference (a).

2. Cancellation. RegtO P3400.1I.

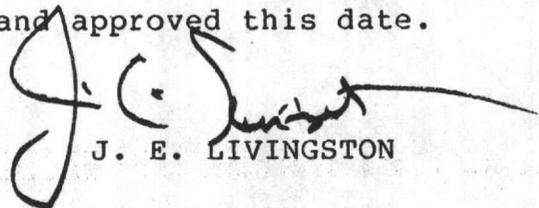
3. Action

a. This SOP is applicable to 6th Marine Regiment and is effective upon receipt.

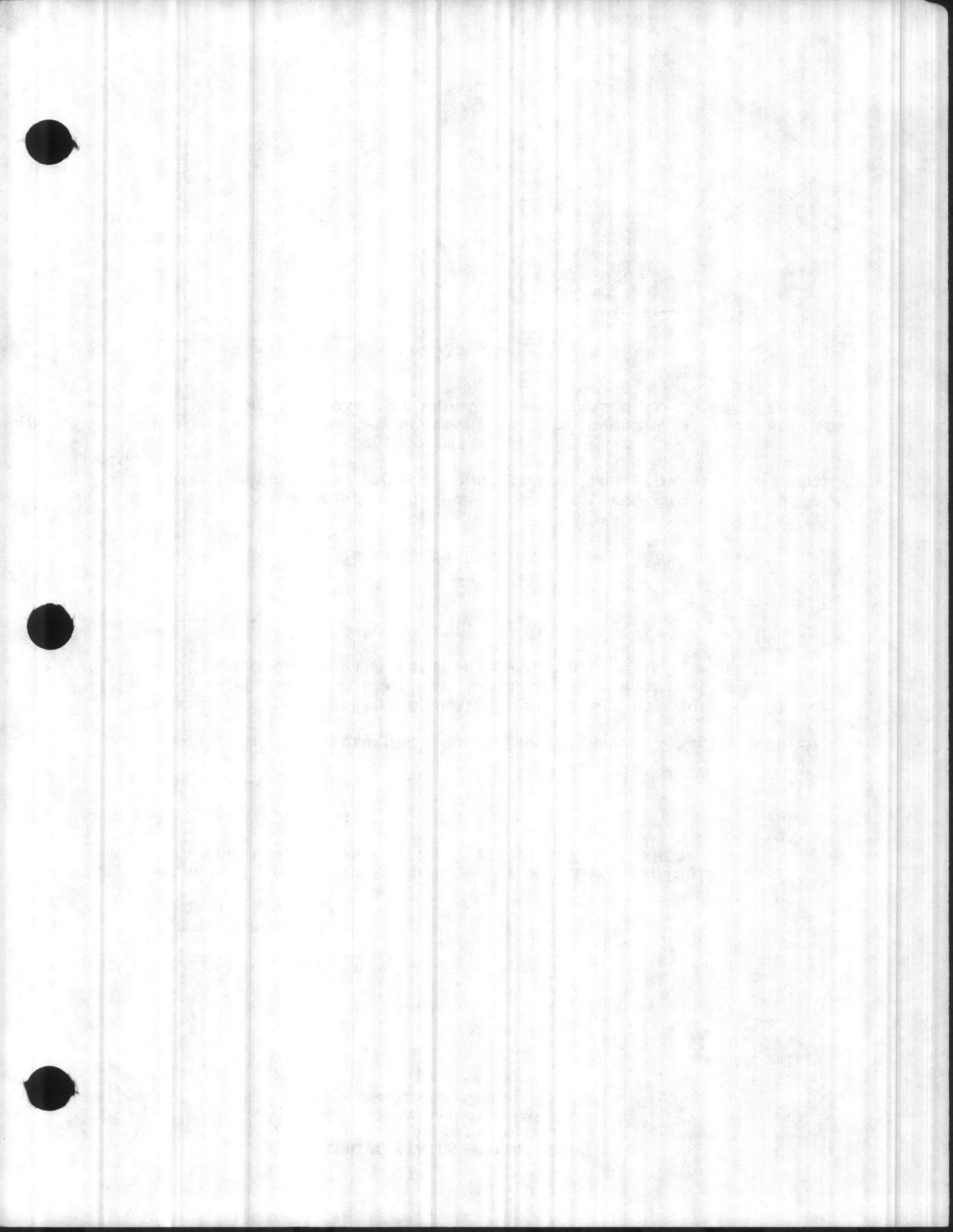
b. Battalion Commanders and the Headquarters Company Commander shall publish an NBCD SOP which conforms to the provisions of this order.

4. Recommendation. Recommendations for improvement of this SOP are invited. Recommended changes should be addressed to the Regimental S-3 (NBC Officer).

5. Certification. Reviewed and approved this date.

  
J. E. LIVINGSTON

DISTRIBUTION: A

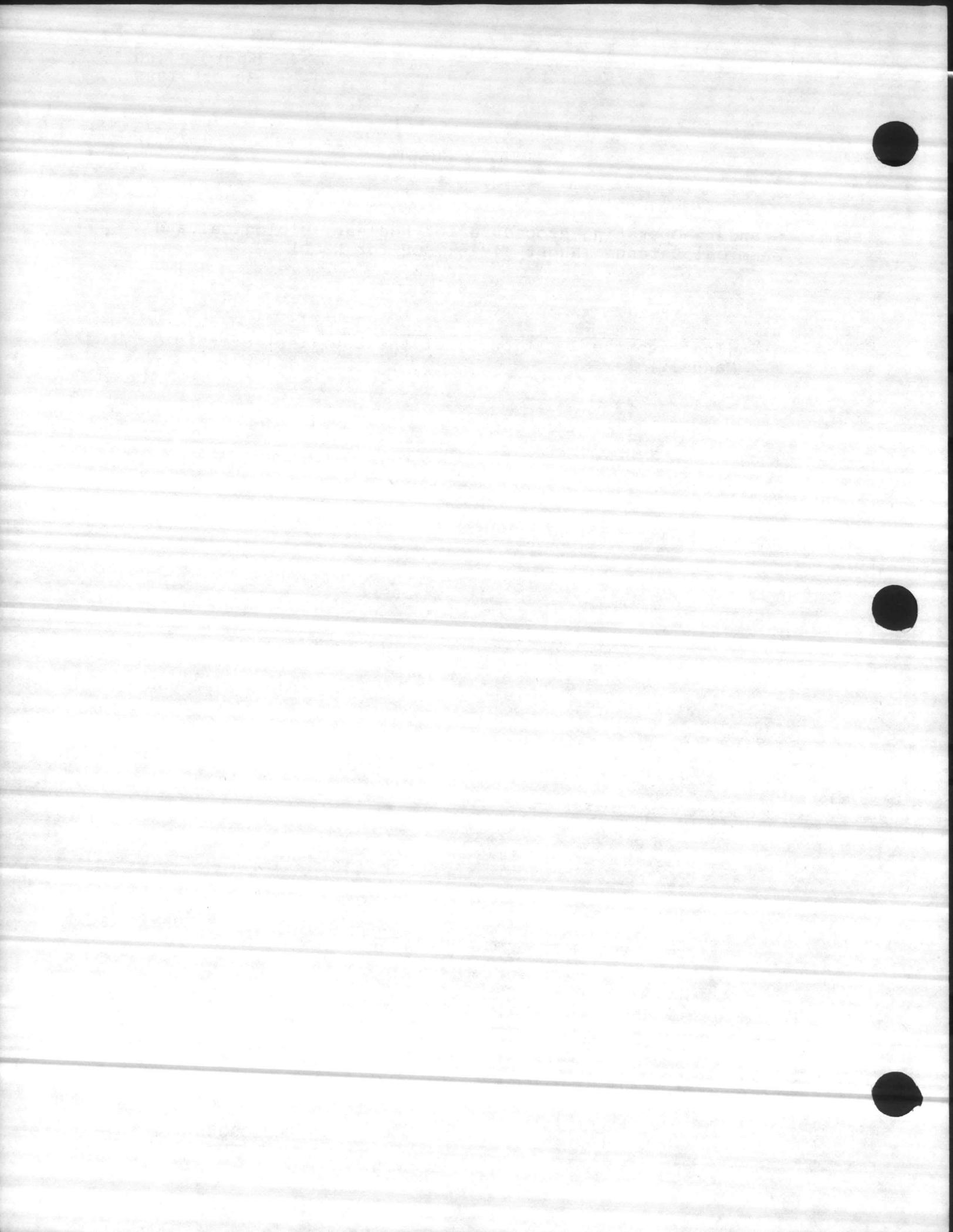


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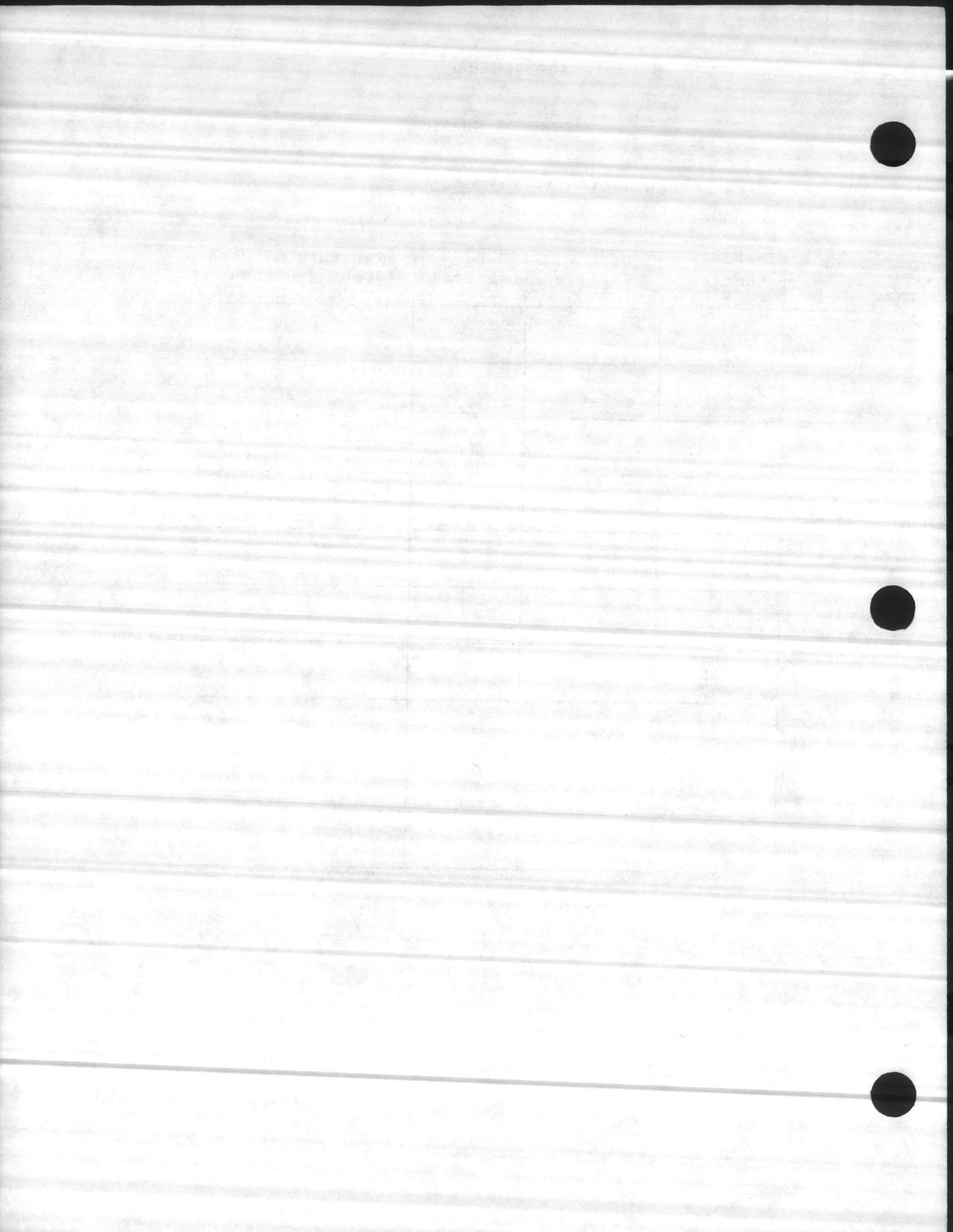
Subj: Standard Operating Procedure for Nuclear, Biological and  
Chemical Defense (Short Title: SOP for NBCD)

Location:

(Indicate the location(s) of the copy(ies) of this  
Manual.)







SOP FOR NBCD

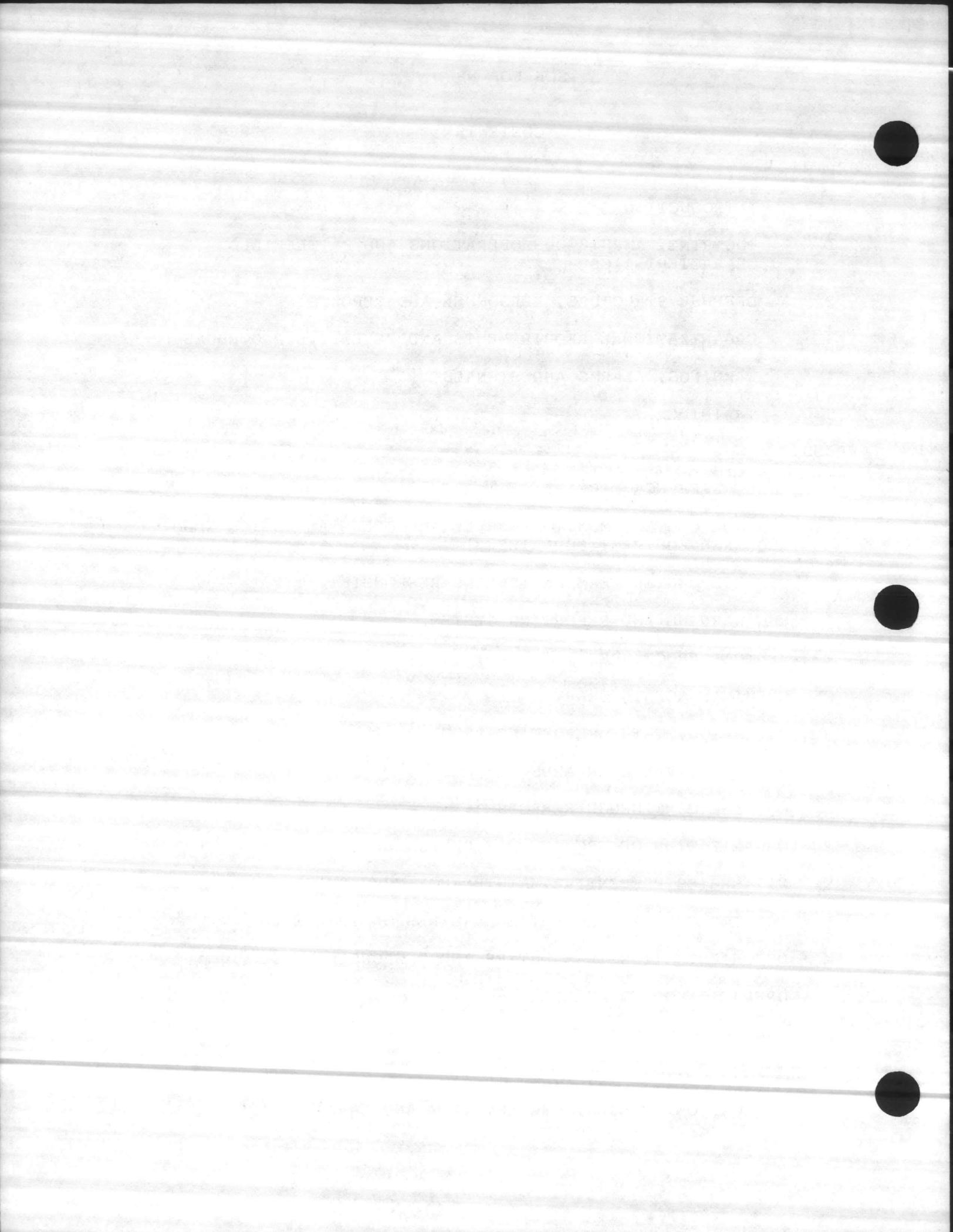
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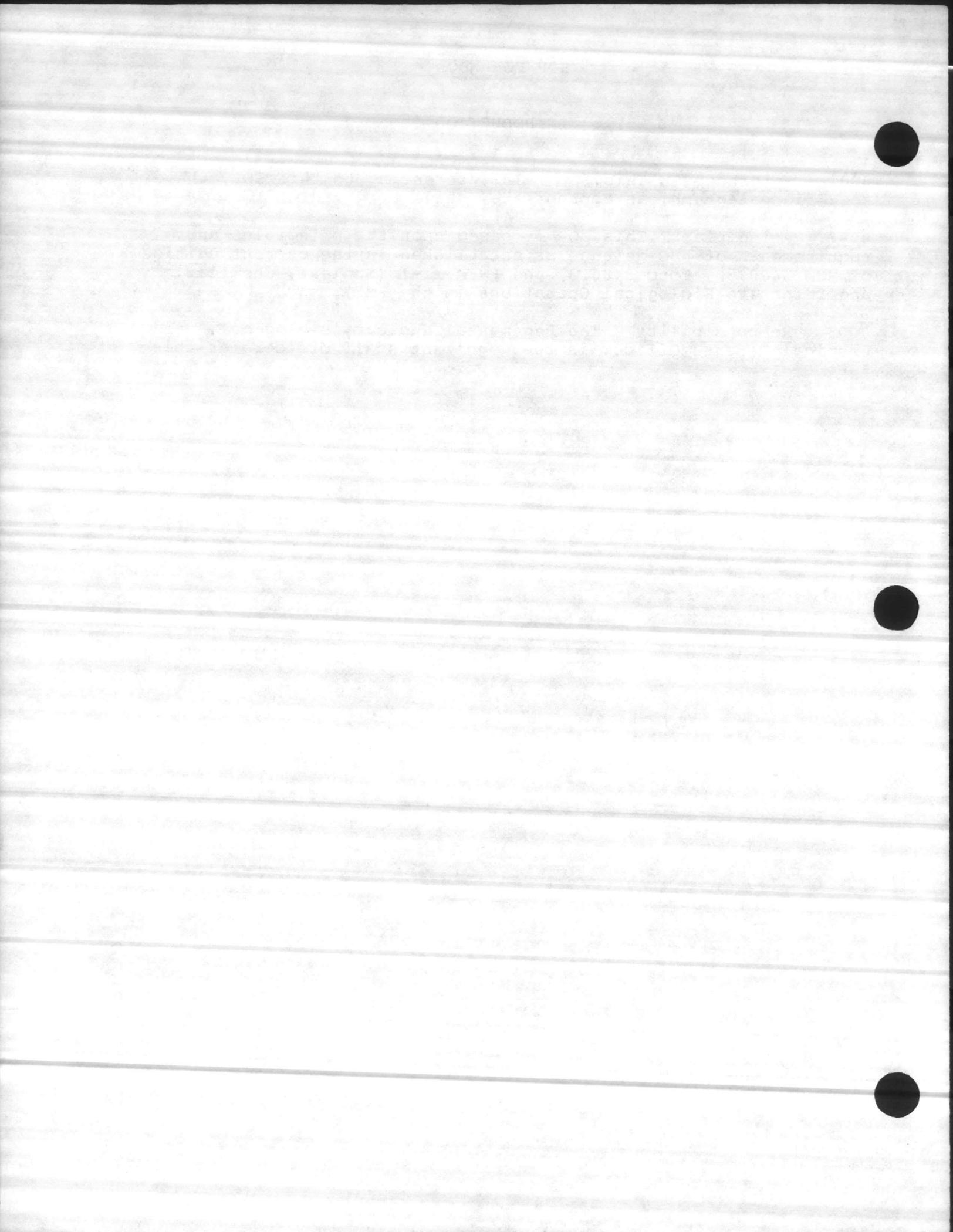
## SOP FOR NBCD

### INTRODUCTION

0001. Reference To This SOP In referencing to this SOP, the specific paragraph, as appropriate, shall be cited.

0002. Principles This SOP is based upon the principles and requirements of NBC defense as established in the current edition of MCO 3400.3D, ForO 3400.3, and FMFM 11-1 (Nuclear, Chemical, and Defensive Biological Operations in the FMF).

0003. Responsibility The Regimental Nuclear, Biological, and Chemical Defense Officer is the cognizant staff officer for this SOP.



SOP FOR NBCD

CHAPTER 1

DOCTRINE, AMPHIBIOUS OPERATIONS AND  
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## CHAPTER 1

DOCTRINE, AMPHIBIOUS OPERATIONS AND  
BATTLEFIELD CHARACTERISTICS

1001. Doctrine. The basic Marine Corps doctrine on NBC defense is that all FMF units be prepared for operations in an NBC environment.

1. Nuclear. If there is an imminent threat of enemy employment of nuclear weapons, commanders will consider the possibility of fallout of radioactive material in addition to the initial nuclear effects and will direct subordinate units to take appropriate defensive action.

2. Biological and Chemical. If there is an imminent threat of enemy employment of biological or chemical weapons, commanders will direct subordinate units to assume a mission oriented protective posture (MOPP) if they have not already done so. All enemy artillery and air attacks will be considered probable chemical attacks until proven otherwise. This doctrine is based upon the necessity for adopting a defensive posture which provides protection against the chemical threat.

1002. Impact on Amphibious Operations

1. General. The increased combat power gained from the employment of NBC weapons exerts a profound influence on the combat of amphibious operations. The result of an engagement may be determined in less time than would otherwise be required. Special measures are required to reduce the vulnerability of friendly forces, installations, and civilian populations in an active NBC environment.

2. Mobility, Flexibility, and Control. Current amphibious concepts reflect efforts to overcome the effects of NBC weapons on the amphibious operation. Improvement in ship design and craft have increased the capabilities of the landing force. The need for dispersion of amphibious shipping has resulted in the sea echelon concept. Shipboard NBC centers initially respond to nuclear attacks by plotting ground zero to provide a basis for further assault movement considerations.

1003. Battlefield Characteristics. Efforts to survive enemy NBC attacks will greatly influence battlefield tactics. To offset the vulnerability of personnel and installations in an NBC environment, forces must be widely dispersed and highly mobile. The requirement to avoid contaminated areas through rapid traverse of evacuation operations adds additional mobility requirement to conventional tactical movement. Tactical reserves require increased mobility because of their position well to the rear or afloat.

1. Nuclear Battlefield The impact of nuclear warfare on the battlefield rests primarily with the increased combat power provided by nuclear weapons, nuclear battlefield characteristics include:

a. The potential for significant casualties due to radiation exposure.

b. The requirement for special protective measures to survive nuclear attack, e. g., dispersion, movement, concealment, and shielding.

c. The limited duration of tactical nuclear conflict. The initial phase of a tactical nuclear battle will be the most destructive while subsequent phases will be characterized by the antagonists continuing to seek nuclear dominance.

d. Domination of the battlefield by nuclear fires.

e. The requirement for alternate facilities to preserve the means for command and control.

f. A significantly accelerated tempo of operations. The engagement of forces will be of shorter duration and will be characterized by extreme violence. Deep, decisive objectives will be sought, causing the battle to wage in great depth.

2. Chemical Battlefield The characteristics of the chemical battlefield include:

a. Requirements for individual and unit protective equipment and the limitations to communications, control, and movement imposed by the equipment.

b. The need for extensive equipment to detect chemical agents and to decontaminate personnel, equipment, and terrain.

c. The denial of terrain in the objective area due to contamination.

d. Psychological effects due to the insidiousness of chemical attacks.

e. The need to provide collective shelters to enable personnel to eat, change clothing, filter elements, etc.

CHAPTER 2

DEFENSE STRUCTURE, PERSONNEL AND REPORTS

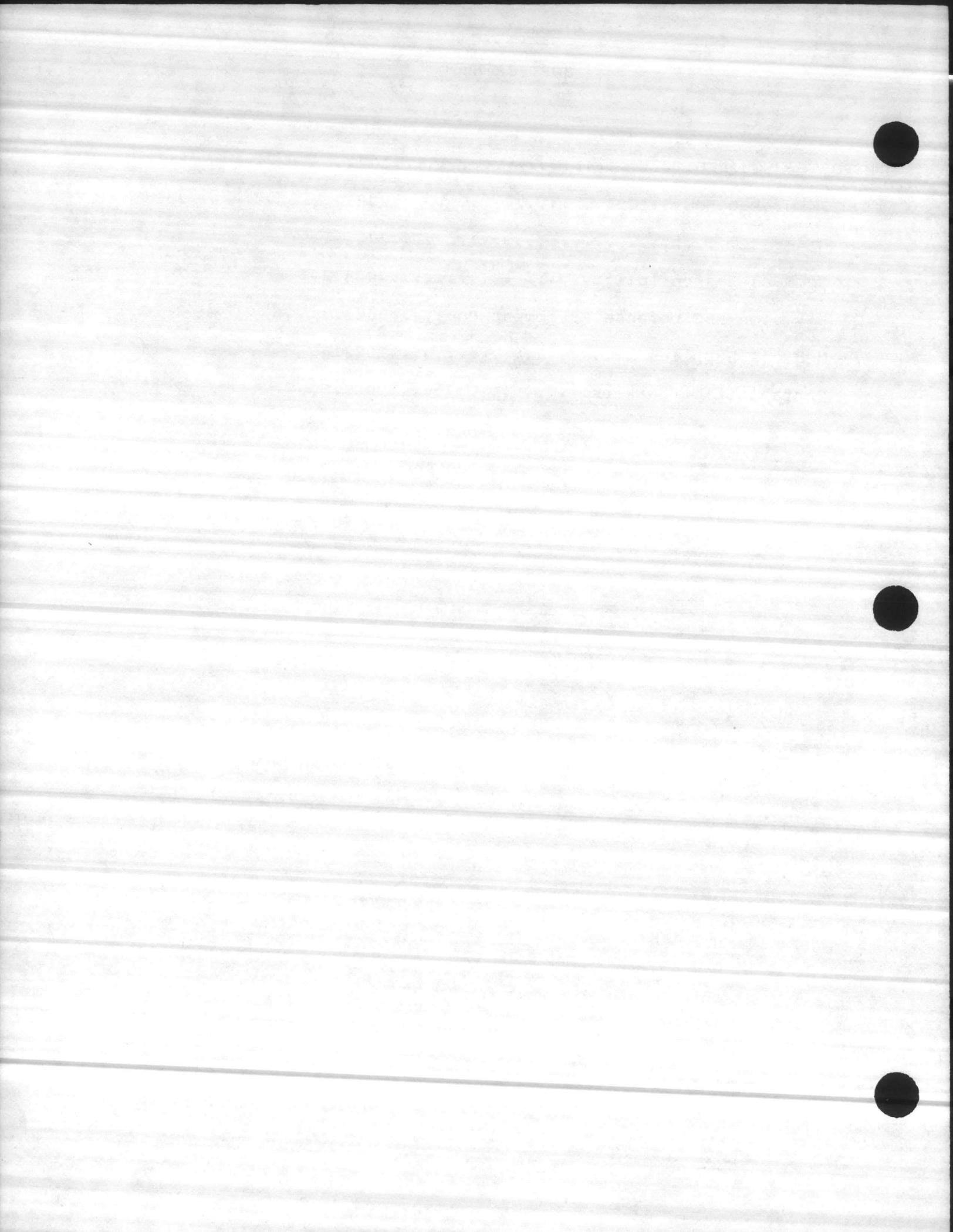
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## CHAPTER 2

## DEFENSE STRUCTURE, PERSONNEL AND REPORTS

2001. NBC Defense Structure Most passive defense actions will be carried out via the chain of command. However, for specific purposes (such as monitoring/surveying and decontamination) the necessity for specialized training and rapid availability of these trained personnel demands that individual and specialized teams be organized, trained and maintained within the command. This chapter describes command structure for NBC Defense.

2002. Defense Personnel

1. Regiment. One officer from Regimental Operations and Training (S-3) (with secondary MOS 5702) will be assigned in writing as NBC Defense Officer. Additionally, one SNCO (primary MOS 5711) will be assigned primary duties of Regimental NBC Chief.

2. Battalion. Battalion Commanders will assign in writing one officer (secondary MOS 5702) and one NCO (primary MOS 5711) as Battalion NBC Defense Officer and NCO.

3. Headquarters Company. Headquarters Company will assign in writing one officer 5702 and one NCO (secondary 5711) as the Headquarters Company NBC Defense Officer and NCO.

4. Assignment Prerequisites. Regimental and Battalion NBC Defense Officers and NCO's will be graduates of FMFLANT NBCD Officer Course/NBC Defense School or their equivalent, or attended a special course for monitor/survey and decontamination conducted by an authorized NBC Defense School.

3003. Command Functions. NBC Defense is the commander's responsibility under executive staff supervision by the Operations and Training (S-3). Practical training and application of passive defense measures to minimize losses and maintain operational capability is the responsibility of all staff sections. Normal command and staff structure will be utilized in the conduct of NBC defense.

2004. Regimental S-1

1. Provide for the effective placement of required NBC trained personnel throughout the Regiment.

2. Coordinate with the Regimental S-3 and Regimental Surgeon in planning and supervising emergency personnel replacement action which may be required by excessive nuclear radiation exposure and/or biological or chemical contamination.

3. Coordinate with the Regimental S-4 in preparing plans for personnel collection and straggler point operations.

2005. Regimental S-2

1. Maintain current estimates of the enemy NBC offensive and defensive capabilities and ensure timely dissemination of this information to all subordinates units and adjacent staff sections.
2. Assist the NBC Defense Officer in preparing continuous NBC vulnerability estimates based on current meteorological and topographical data.
3. When directed, obtain and publish meteorological data daily and short range weather predictions.

2006. Regimental S-3

1. Prescribe standards of individual, unit and specialized NBC defense indoctrination and training for use throughout the regiment.
2. Recommend operations plans/orders in consideration of enemy NBC capabilities.
3. Prepare contingency plans for mission in the event of mass evacuation of a subordinate unit or units.
4. Establish decontamination priorities of essential facilities from an operational viewpoint.
5. Establish, maintain, and update all NBC directives generating from this Headquarters.
6. Supervise the activities of the Regimental NBC Defense Officer and NCO.

2007. Regimental S-4

1. Prepare plans for and supervise area damage control and mass casualty evacuation.
2. Coordinate with the NBCD Officer in preparing plans for large-scale decontamination and disposal operations.
3. Ensure adequate equipment and supplies are available for all necessary NBCD operations
4. In conjunction with the NBC Defense Officer, make requirement estimates and recommendations for procurement and distribution of essential NBC supplies and equipment.

2008. Regimental Surgeon

1. When required coordinate with the Regimental S-4 and the NBC Defense Officer to plan for and organize both primary and alternate aid stations for triage, treatment, and decontamination of casualties throughout the regiment.
2. Inspect food and water supplies for edibility and potability following NBC attack. Assist in prevention of contamination of food and water and take measures to decontaminate, should contamination occur.
3. Supervise training of medical personnel in handling and treatment of NBC casualties and training of all personnel in first/self/buddy aid for NBC defense.
4. Assist the Regimental NBC Defense Officer in maintaining radiation dosage records for all personnel and when appropriate, recommend safe levels of radiation dosage accumulation time frames.

2009. Regimental Communications Officer

1. Provide communications equipment to monitor survey teams dispatched on reconnaissance mission directly controlled by this Headquarters.
2. Prepare special communications plans in the event mass casualty evacuation becomes necessary.
3. Appoint one decontamination specialist who must receive quarterly training in the decontamination of communications equipment and who will supervise and assist in the maintenance of radiac equipment, to include first echelon maintenance.
4. Utilize normal communications facilities until such time as the Regimental Commander orders activation of disaster and mass evacuation nets.

2010. Regimental Motor Transport Officer

1. Provide vehicle required to assist monitor/survey teams working the regimental area.
2. As requested by the Regimental S-4, provide vehicles for casualty evacuation in the event of NBC attack.
3. Ensure all water trailers are filled with potable water prior to anticipated NBCD operations.
4. Coordinate traffic to ensure minimum exposure of convoys to nuclear/chemical infested areas.

2011. Regimental Air Officer

1. As required by the NBC Defense Officer, request helicopters for the monitoring/surveying and reconnaissance.
2. When required, and as requested by the Regimental Surgeon, furnish helicopters for medical evacuation.

2012. Regimental NBC Defense Officer

1. Advise the Regimental Commander on NBC defense matters to include enemy NBC organization, weapons, equipment and techniques, indicative for medical evacuation.
2. Assist in preparation of the NBC Defense Annex to operational plans and orders.
3. Coordinate with the Regimental S-1 to formulate personnel retention requirement estimates based on total NBC exposures experienced by subordinate units.
4. Coordinate with the Regimental S-4 for estimated need for and distribution of supplies throughout the regiment.
5. Plan for and oversee the establishment of monitor/survey and decontamination teams throughout the regiment.
6. Coordinate with the Regimental S-2 and the NBC Employment Officer in maintaining current NBC situation maps for the regiment.
7. Establish liaison with adjacent units and maintain current radiological survey data reports from subordinate units.
8. Supervise all NBC defense training throughout the regiment to ensure it is current, effective, and integrated with the tactical training of subordinate units.
9. Supervise the operation of the control center team.

2013. Regimental NBC NCO

1. As required, conduct regular inspections of subordinate units to maintain proficiency in NBC defense operations.
2. Assist Battalions/Headquarters Company NBC Defense NCO's in preparation and conduct of NBC defense training and instructions, assuring it is current, effective and informative.
3. Assist the Regimental Defense Officer in the performance of his duties.

4. Recommend innovations in training which ensure NBC defense training is integrated with tactical field training whenever possible.
5. Record and process reports from Battalions and Headquarters Company.
6. Maintain the Regimental "Ready Box" and ensure its contents comply with those requirements set forth in paragraph 2001.4, section II of DivO P3400.3 (Standing Operating Procedures for Nuclear, Biological and Chemical Defense (NBCD) Readiness). Further, ensure compliance by all subordinate units.

2014. Battalion Commanders

1. Designated in writing where the NBC defense teams will muster and the equipment that teams will have in their possession once an NBC alarm is sounded.
2. When the situation dictates, maintain accurate records on radiation status of all platoon size units in the command, compile radiological survey data from subordinate units and report this to Headquarters (S-3) every eight hours on battalion and company levels of radiation exposure.
3. Plan and request aerial surveys from higher Headquarters.
4. Ensure current effective and informative NBC defense training is conducted throughout the battalion. Further, that NBC defense training is regularly integrated with tactical training of all battalion units.
5. When issued by higher Headquarters, ensure all NBC defense clothing and equipment is kept in serviceable condition and the Supply Officer has established priorities of equipment and issue points.
6. Ensure that Field Protective Masks, M17A2 are issued, stored, and maintained in accordance with instructions contained in TM 3-4240-279-10/-20&P accessories, and the following:
  - a. M1 Eyelens Outserts will be attached to the mask.
  - b. M1 Waterproofing Bag will be in the inside pocket of the carrier.
  - c. M1 Water Canteen Cap will be in the inside pocket of the carrier.
  - d. M6A2 Hood will be attached to the mask.

e. Optical inserts will be issued by the RAS if the Marine's vision is 20/70 or below. Marines who operate vehicles will be issued optical inserts if their vision is 20/40 or below.

7. Submit reports required by paragraph 3021 of this SOP.
8. Publish and post an NBC Defense SOP for the Battalion, up dating it as required.
9. Masks are identified for and issued to the individual.

2015. Regimental Headquarters Commandant

1. Plan and supervise NBC defense training for members of Headquarters company in accordance with the provisions of Chapter VI of this SOP.
2. Publish and post an NBC Defense SOP for Regimental Headquarters Company, updating it as required.
3. When the situation dictates, maintain accurate records on the radiation exposure status of his company, reporting to this Headquarters (S-3) every eight hours on company level of radiation exposure.
4. Establish collective protective shelter.

2016. Regimental Headquarters Company NBC Defense NCO

1. Conduct/supervise NBC defense training and team training as appropriate/required.
2. Assist the Company NBC Defense Officer in the performance of his duties.

2017. NBC Defense Control Centers

1. Concept. NBC Defense Control Centers are organized at Regimental and Battalion level and trained on an additional duty basis. The NBC officer coordinates and directs the operations of the control center which functions under the staff cognizance of the S-3.
2. Location. The NBC defense control center will normally operate within the combat operations center.
3. Organization. The NBC defense control center will consist of the NBC Officer, NBC specialist, computer, plotter, and recorder. Additional personnel must be provided by the commander to enable the control center to function for sustained periods.

4. Duties and Functions. The duties of NBC control center personnel and functions of the control centers are listed in paragraphs 7405 and 7407 through 7410, respectively, of FMFM 11-1.

5. Equipment. Each Battalion and Regimental Headquarters will maintain a ready box equipped with work items to activate the control center. The ready box will be equipped in accordance with the inventory list contained in Appendix B of this SOP.

6. Training. Control center team training will be conducted pursuant to Section VI of this SOP.

#### 2018. Control and Assessment Team

1. Concept. The destructive and casualty producing potential of nuclear and chemical weapons dictates the creation of a special contingency team, the Control and Assessment Team (CAT), to ensure rapid recovery from attack and the ability of units to continue the mission. The CAT is established when intelligence indicates enemy attack imminent. The mission of the CAT is to re-establish military control over elements attacked by enemy nuclear and chemical weapons.

2. Organization and Duties. The Commanding Officers of Headquarters Company and each Battalion will be prepared to form at least one CAT when directed by higher headquarters. The organization and duties of the CAT are enumerated in paragraphs 6504b and 6504c, respectively, of FMFM 11-1.

#### 2019. Monitor and Survey Team

1. Concept. Radiological monitoring is the act of detecting radiation and measuring the dose rate with radiac instruments. Radiological, Biological and Chemical survey is the directed effort to determine the degree and extent of nuclear Radiation, Chemical and Biological agents. While all personnel should be familiar with the basic characteristics and capabilities of authorized radiac instruments, chemical detection kit and Biological sample kit, selected individuals will be given specialized training in monitoring and survey techniques. Monitor and survey teams are organized on an additional basis in each company.

#### 2. Organization

a. Monitor Teams. Each company will organize and maintain a minimum of two monitor teams capable of utilizing the AN/PDR 27 radiac meter. Each team will consist of one instrument and a recorder. The recorder must also be trained in operations of the radiac meter.

b. Survey Teams. Each company will organize and maintain a minimum of two survey teams consisting of two IM-174/PD instrument operators and two recorders.

3. Capabilities. All members of monitor/survey teams should be capable of:

a. Conducting field biological sampling and chemical agent detection.

b. Operation of both monitor and survey radiac instruments as well as T/E communications equipment.

c. Working in a contaminated environment in appropriate protective clothing.

4. Duties. The duties of monitor/survey team operations are contained in chapters 3 and 4 of FMFM 11-5, Operational Aspects of Radiological Defense, and FMFM 11-1.

5. Equipment. A minimum list of equipment and supplies for monitor/survey teams is contained in Appendix B of this SOP.

6. Training. Monitor/Survey team training will be conducted pursuant to section VI of this SOP.

#### 2020. Decontamination Teams

1. Concept. Decontamination teams are organized on an additional duty basis in each company, teams are capable of performing facility, equipment area decontamination, using T/E radiac equipment and chemical agent detector kits, and of establishing a personnel decontamination station (PDS). In the event large scale decontamination operations are necessary augmentation personnel must be made available. Decontamination training is conducted as a part of unit NBC training.

2. Organization. Each company will organize and train a minimum of one decontamination team consisting of one school trained NCO and a minimum of six team members.

3. Equipment. A minimum list of equipment and supplies for decontamination teams is contained in Appendix B of this SOP.

4. Training. Decontamination team training will be conducted pursuant the section VI of this SOP.

2021. NBC Reports. Standard NBC reports are used to report nuclear, biological and chemical attacks and contamination hazardous areas. These reports will be submitted in accordance with instructions set forth in Appendix D, FM 21-40, Chemical, Biological, Radiological, and Nuclear Defense.

1. NBC 1 Report. Initial observer/observing unit report giving initial and subsequent data on nuclear, biological and chemical attacks.
2. NBC 2 Report. Passes evaluated data on nuclear, biological and chemical attacks, normally based on two or more NBC 1 reports.
3. NBC 3 Report. Immediate warning of expected nuclear, biological and chemical contamination hazardous areas.
4. NBC 4 Report. Transmit radiation dose rate contamination.
5. NBC 5 Report. Transmit locations of nuclear, biological and chemical contamination or hazards.
6. NBC 6 Report. Transmit detailed information on Chemical or Biological attacks

2022. Reports Required. Quarterly NBC Defense Report.

1. Each Battalion and Headquarters Company will submit a quarterly NBC Defense Report to this Headquarters (S-3/NBC Defense Officer) no later than the fifth working day of the first month of the new quarter. It will contain the information as per Appendix O. (Report Symbol RegtO 3400-01).

2023. Equipment and Logistics

1. General. Determination of protective equipment to be included in any operation is the responsibility of the commander. The type of equipment issued and the time of issue will be by the intelligence regarding enemy capabilities and probable course of action in the initiation and use of nuclear, biological or chemical weapons, the type of operation, terrain and climate. Division equipment procedures, and maintenance falls into two basic categories; Equipment procured, stored, and maintained by 6th Marines, and equipment procured and stored by the Division NBC Defense, Equipment Pool (NBCDEP) and maintained jointly by the NBCDEP and subordinate units.

2. Command Responsibility. Battalion and Headquarters Company Commanders are responsible for the procurement, storage, and maintenance of: Individual protective masks, components, repair parts and accessories (Less M13A2 filter elements and winterization kits) and M12 series decontamination apparatus. Commanders will:

- a. Ensure all personnel are fitted with and issued a individual protective mask, hood and eyelens inserts (if required). The mask with hood attached, may be retained by the individual as an item of field equipment issue, or may be

centrally stored by the command. In the event the latter procedure is followed, masks will be stored with hood attached and an identification system will be used to ensure each Marine receives his own mask. Masks centrally stored upright and stacked no more than three high, and maintained in accordance with TM 3-4240-279-10.

3. Division NBC Defense Equipment Pool. Division NBC defense equipment, with the exception of the items listed in paragraph 3022.2, is centrally stored in the NBC Defense Equipment Pool (NBCDEP) Bldg 1501, Marine Corps Base, Camp Lejeune. Consolidation of designated equipment has been accomplished to relieve subordinate commanders of the responsibility for providing adequate storage facilities and to permit maximum efficiency in maintenance and calibration of sensitive equipment.

a. Concept of Operations. While the equipment is held in custody of a single responsible officer, the assets represent the T/E issue for 6th Marine Regiment. NBCDEP equipment is issued on a temporary loan basis for training in quantities as desired (within T/E allocation) are as a complete T/E block for contingency/deployment blocks is provided in the NBCDEP warehouse until needed by the unit.

b. Procedures

(1) Issue. Request for temporary loan of NBCDEP equipment for training will be submitted in writing at least five days prior to the desired date of receipt. Requests for preparation of contingency commitment/deployment blocks will be submitted no later than 30 days prior to the desired date of receipt, commanders requesting preparation of contingency commitment/deployment blocks will provide total task organization. Requesting commanders will be required to designate a responsible officer to receipt for the block.

(2) Custody. Equipment Custody Records (ECR's) will be maintained as required by MCO P4400.124B. In addition, designated responsible officers will inventory blocks and sign all cards at least 15 days prior to mission assumption/deployment.

(3) Turn in. Scheduled return of equipment issued or on temporary loan for training will be coordinated at the time of issue. Turn in of contingency/deployment blocks will be accomplished not later than ten days following mission relief or termination of deployment.

(4) Damaged/Unserviceable/Lost Items

(a) The responsible officer is responsible for repair of all damaged equipment. Equipment repair orders (ERO's) for equipment turned into 3rd echelon maintenance facilities will cite M12002 (NBCDEP) as the owning unit. The responsible officer will cite his unit's assigned job order number (JON) on the ERO's.

(b) The NBCDEP will accept code H letter for items determined to be unserviceable. Such letter must cite M12001 (HQBN) as the unit receiving credit for the coded item.

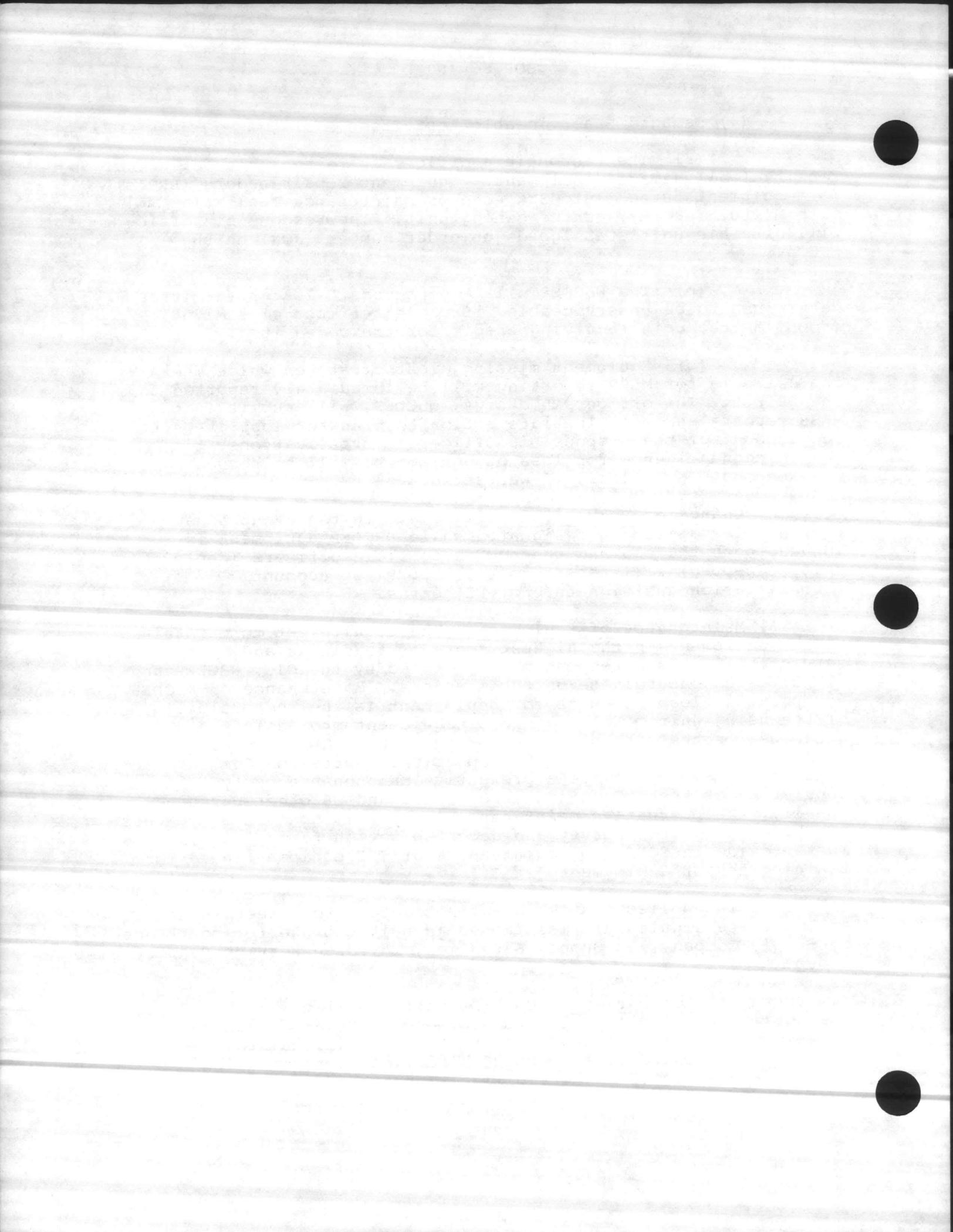
(c) Equipment missing, lost or stolen which meets the criteria for MLSR reporting will be immediately reported to the NBCDEP. The officer in charge, NBCDEP, will submit initial MLSR reports and will initiate action to transfer lost items to the account of the Responsible Officer. Investigations, to determine negligence for loss of equipment, will be requested by the Responsible Officer, if warranted.

(5) Change of Responsible Officers. In the event a new responsible officer is designated while NBCDEP equipment is issued, both the old and the new responsible officers (deployed units excepted) will report to the NBCDEP for account reconciliation and signature of ECR cards.

(6) Maintenance of Equipment. The requirement to maintain NBCDEP equipment in the highest state of readiness and serviceability is a responsibility shared by the OIC, NBCDEP and all division subordinate unit commanders. Maintenance of NBCDEP equipment on loan to units for deployment is the responsibility of the using unit. Maintenance of equipment stored in the NBCDEP warehouse is the responsibility of the OIC, NBCDEP, as augmented from 6th Marine Regiment working parties. Battalion Commanders will be tasked to provide a preventive maintenance party consisting of the NBC Defense specialist and 16 other personnel. Ideally, the preventive maintenance party will consist of members of the unit monitor/survey and decontamination teams. Commanders must provide in SOP's for maintenance of T/E equipment held for training and/or deployment.

4. Medical Supplies. Nerve agent antidote auto-injectors and amyl nitrate ampules are maintained in bulk storage for mount out by Supply Company, 2d Supply Battalion, 2d Force Service Support Group.

5. Contamination Markers. Each Battalion will maintain 100 chemical, 100 radiological, 100 biological contamination marking signs. The Regimental Headquarters Company will maintain 25 chemical, 25 radiological, and 25 biological contamination marking signs. These markers will be constructed of rigid material in accordance with instructions contained in FM 21-40



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CHAPTER 3

ORGANIZATIONAL REQUIREMENTS AND DEFENSIVE PROCEDURES

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## CHAPTER 3

## ORGANIZATIONAL EQUIPMENT AND DEFENSIVE PROCEDURES

3001. Organizational Requirements. NBC team at all levels will operate in accordance with this SOP, FMFM 11-1, FMFM 11-5, FM 21-40, FM 21-48, FM 3-22, FM 3-5 and FM 3-4..

3002. Mission Oriented Protective Posture (MOPP). Military situations, unit mission, duty requirements, and basic human needs will not permit personnel to remain totally protected against chemical agents at all times. Adoption of a mission oriented protective posture (MOPP) allows the commander options and compromise to ensure the accomplishment of the mission with a minimum risk of casualties.

1. Definition. The MOPP is a flexible system of protection for operations in a toxic chemical environment. This posture requires personnel to wear individual chemical protective clothing and equipment consistent with the chemical threat, work rate imposed by the mission, temperature, and humidity without an unacceptable degradation of efficiency from the effects of heat stress, psychological stress, and other factors affecting the senses.

2. Commanders Guidance. The commander must have flexibility to every individual and units chemical protection to provide the best protection to personel while minimizing interference with the unit's mission. In making a decision, the commander considers the following:

a. The amount of time needed to perform most tasks will be increased when troops are required to wear full chemical protective clothing and equipment.

b. Personnel who are required to remove parts of their chemical protective clothing will be more vulnerable to chemical agents than those who wear full chemical protective clothing. The number and severity of casualties will depend on the immediacy of the warning system, the alertness of personnel, the method and accuracy of the attack, the elapsed time between the attack and decontamination of personnel, and treatment of casualties.

c. Removal of protective clothing should not be permitted unnecessarily due to the risk of heat casualties. Most heat casualties will recover within a relatively short period, whereas many chemical casualties will not recover, or will be incapacitated for much longer periods.

d. During treatment of any heat casualty within the contaminated area, personnel will ensure the individual is not contaminated with any toxic agents.

3. Variations. FM 21-40, FM 3-4 contains examples of many possible variations of MOPP, including adequate underground positions.

3003. Nuclear Defensive Procedures

1. Condition WHITE. When nuclear attack is REMOTE. All personnel continue primary nuclear mission, and conduct periodic drills and exercises to test and improve unit nuclear defense posture.

2. Condition YELLOW. When nuclear attack is PROBABLE:

a. Battalion & Headquarters Company Commanders

(1) Activate control centers. Report activation to Regimental Control Center.

(2) Activate NBC defense teams.

(3) Effect maximum practical dispersion of material.

(4) Ensure pre-operational checks are conducted on all radiac instruments.

(5) Ensure sufficient batteries are available to provide two complete battery changes per radiac instrument authorized.

3. Condition RED. When nuclear attack is IMMINENT.

a. Battalion & Headquarters Company Commanders

(1) Ensure all personnel perform a final check of individual protective equipment.

(2) Ensure all personnel seek maximum protection from the effects of the detonation.

b. Monitor/Survey Teams. Commence periodic monitoring of designated areas. The purpose of periodic monitoring is to ensure the commander that the unit area is not contaminated and to warn if contamination occurs. All companies will routinely monitor a designated point in the unit area a minimum of once during each one-hour period. See Chapter 3 of FMFM 11-5, Operational Aspects of Radiological Defense. Down wind messages are to be transmitted approximately every two hours. Those in effect for 12 hours must be used with extreme caution.

4. Attack in PROGRESS

a. All Personnel

(1) Immediately seek maximum protection from the effects of the detonation.

(2) After passage of the detonation shock wave, mask to prevent ingestion of radiological contamination.

b. Battalion & Headquarters Company Commanders

(1) Notify higher, lower, and adjacent commands of the attack.

(2) Continue the assigned mission.

5. Attack Over

a. Battalion & Headquarters Company Commanders. Prevent enemy exploitation of the attack and continue the assigned mission. All personnel remain masked.

b. Battalion Control Center Teams

(1) Receive NBC-1 Reports from observers and forward them to Regimental Control Center Team, and establish a fallout prediction chart in accordance with FM 3-22.

(2) Forward NBC-2 Reports to Regimental Control Center Team.

(3) Forward NBC-2 Reports to higher, lower, and adjacent commands.

(4) Receive and distribute NBC-3 Reports from higher commands.

(5) Prepare and disseminate NBC-3 Reports.

(6) Ensure contaminated areas are expeditiously marked and reported to the Regimental Control Center.

c. NBC Monitor/Survey Teams

(1) Commence continuous monitoring. (See Chapter 3 of FMFM 11-5). Forward NBC-4 Report when:

(a) Contact dose rate (1 rad per hour) is received.

(b) An increase of 5 rad per hour over the last reading reported is received.

(c) Peak dose rate is received.

(d) A decrease of 5 rad per hour under the last reading reported is received.

(e) Contact dose rate lost.

(f) Unit is moving.

(g) Directed by higher authority.

d. Regimental Control Center

- (1) Receives NBC-4 Reports from subordinate commands.
- (2) Transmit appropriate NBC-2,3,4, and 5 Reports to subordinate, adjacent, and higher commands.
- (3) Directs reconnaissance and survey effects.
- (4) Receives and combines radiation status reports for forwarding to higher echelons.

3004. Chemical/Biological Defense Procedures

1. Condition WHITE. When chemical or biological attack is REMOTE. All personnel continue primary mission. Conduct periodic drills and exercises to evaluate and improve chemical/biological defense posture.

2. Condition YELLOW. When chemical or biological attack is PROBABLE.

- a. Regimental S-3. Activate the Regimental Control Center.
- b. Regimental Surgeon. Prepare to receive chemical/biological casualties.
- c. Regimental NBC Defense Officer. Establish the Regimental Control Center and commence operations.
- d. Battalion & Headquarters Company Commanders

(1) Ensure all individual protective equipment is issued to include installation of M13A2 combat filters in each M17A1 and M17A2 mask.

(2) Ensure sufficient amounts of consumable material are on hand to support defense equipment, i. e., nitrogen cylinders and decontaminating solution (DS-2) for the ABC-M11 decontaminating agent (STB) and M-2 Anti-Set Compound for the M12A1 decontamination apparatus.

(3) Commence control center team operations and report establishment to Higher Headquarters.

(4) Alert decontamination teams.

(5) Alert NBC teams for agent detection, identification, or sampling.

(6) Ensure all vehicles/equipment authorized for the Decontaminating Apparatus, ABC-M-11, have the apparatus mounted in such a manner as to be easily accessible to the operator.

3. Condition RED. When chemical or biological attack is IMMINENT.

a. Battalion & Headquarters Company Commanders

(1) Ensure all personnel make final operational checks of individual defense equipment.

(2) Ensure two nerve agent antidote auto-injectors are issued to each individual.

(3) Ensure NBC Teams are prepared to detect, identify, and sample agents used in attack.

(4) Ensure decontamination teams assemble with required equipment.

(5) Ensure automatic masking procedures will prevail under the following circumstances:

(a) Incoming artillery, mortar, or rocket fire.

(b) Enemy aircraft bombing attack.

(c) Enemy aircraft spray attack.

(d) Dead animals noted in the area with no apparent cause of death.

(e) Enemy smoke screens approaching area.

(f) Chemical agent symptoms appear in individuals.

(g) Any chemical alarm.

4. Attack in PROGRESS

a. All Personnel

(1) Stop breathing, mask and give the alarm.

(2) Seek maximum cover contingent on the tactical situation.

(3) Perform self and "buddy" first aid as necessary.

(4) Continue assigned mission.

b. Battalion & Headquarters Company Commander:

- (1) Advise higher, lower, and adjacent commands of the attack.
- (2) Prevent enemy exploitation of the attack and continue assigned mission.

5. Attack Over

a. All Personnel

- (1) Perform thorough decontamination on self and assigned equipment/weapons.
- (2) Continue the mission.

b. Battalion & Headquarters Company Commander

- (1) Ensure all contaminated land areas are marked in accordance with Appendix F of FM 21-40
- (2) Ensure all contaminated land areas are reported to the Regimental Control Center.
- (3) Ensure that command authorized unmasking procedures are adhered to.

c. REGIMENTAL/Battalion Control Center Teams. Perform those applicable duties listed in paragraph 4003.5b of this SOP.

d. Decontamination Teams. When directed, commence decontamination operations.

e. Survey/Monitor Teams. When directed, identify or collect samples of the agent used in the attack and report findings to the control center. Be prepared to conduct ground survey to determine the extent of contamination.

3005. Reporting. All radiological, chemical, and biological contacts will be reported by the most rapid means available. Tactical, command, and functional radio nets will be utilized to give the widest initial dissemination. Initial attacks will be reported using FLASH precedence and the NBC message format of STANAG 2103 as shown in Appendix B of FMFM 11-1. Subsequent reports will be sent with immediate precedence using the same format. Observing units advise adjacent and subordinate as soon as possible.

3006. Chemical Troop Safety. Chemical hazards are generally those created downwind of the target area and those through which troops must pass. Commanders may be required to employ troops in a hazard area even though unable to warn all personnel of the hazard. The command decision to accept a calculated risk is dependent on the mission and the urgency of the tactical situation. The commander is advised of the probable effects of exposure to the hazard by the NBC Officer and medical officer. Detailed explanation of persistency hazards, protective measures, safety data for operating in a chemical environment are contained in paragraph 7207 of FMFM 11-1.

3007. Communications. NBC defense warning and reporting procedures/requirements, although extensive, do not require the establishment of special, dedicated communications systems, Regimental communications system provides the requisite circuits and facilities. The urgency of NBC defense information relative to the tactical situation determines the priority of transmission. The number and type of units to receive the information dictates the circuit(s) within the communications system to be utilized. Alternate communications systems due to nuclear attack is a messenger going from command to command.

1. Division Tactical Nets One and Two. These nets are two way radio nets to all regiments and separate battalions and will be utilized by subordinate units to transmit NBC defense information of a priority or higher precedence to the Division Command Post, i. e., report of NBC attack or contamination, information vital to the accomplishment of the unit/division mission, and effective wind and fallout prediction messages. (Effective wind and fallout prediction messages should normally be transmitted over Division Command Net 2 if the time factor permits).

2. Division Multichannel Circuits. Those circuits are normally teletype circuits to each regiment and separate battalion and should be utilized to transmit NBC defense information of a routine nature.

3. Division Damage Control Net. This net is a two way radio net to all regiments and separate battalions and are will be activated when an NBC attack is considered probable, or upon surprise NBC attack. This net will be utilized to transmit damage assessment reports and damage control information.

4. Division Telephone System. The intergated wire multichannel system provides unclassified communications down to the company level and should be considered as an initial means of transmitting NBC defense information. Information which should be passed via this system includes:

- a. Monitor/survey reports.
- b. Contaminated area reports.

c. Initial damage assessment reports and damage control information, when the Division Damage Control/Administrative-Logistics Net has not been activated.

3008. Known Contamination Area Procedures

1. This situation occurs when an evaluation is sufficient to determine actual boundaries of the hazard area.

2. The following actions become necessary:

a. Mark the perimeters of hazardous areas as shown in Appendix F, FM 21-40, Chemical, Biological, Radiological, and Nuclear Defense.

b. Ensure personnel maintain a protective posture and that decontamination is accomplished as required using procedures shown in FM 3-5 NBC Decontamination.

c. In nuclear fallout situations, NBC Defense Officers must determine, as soon as possible, detailed information on radiation decay rate within their areas. Radiation decay rate and other important characteristics must be plotted, both accurately and rapidly.

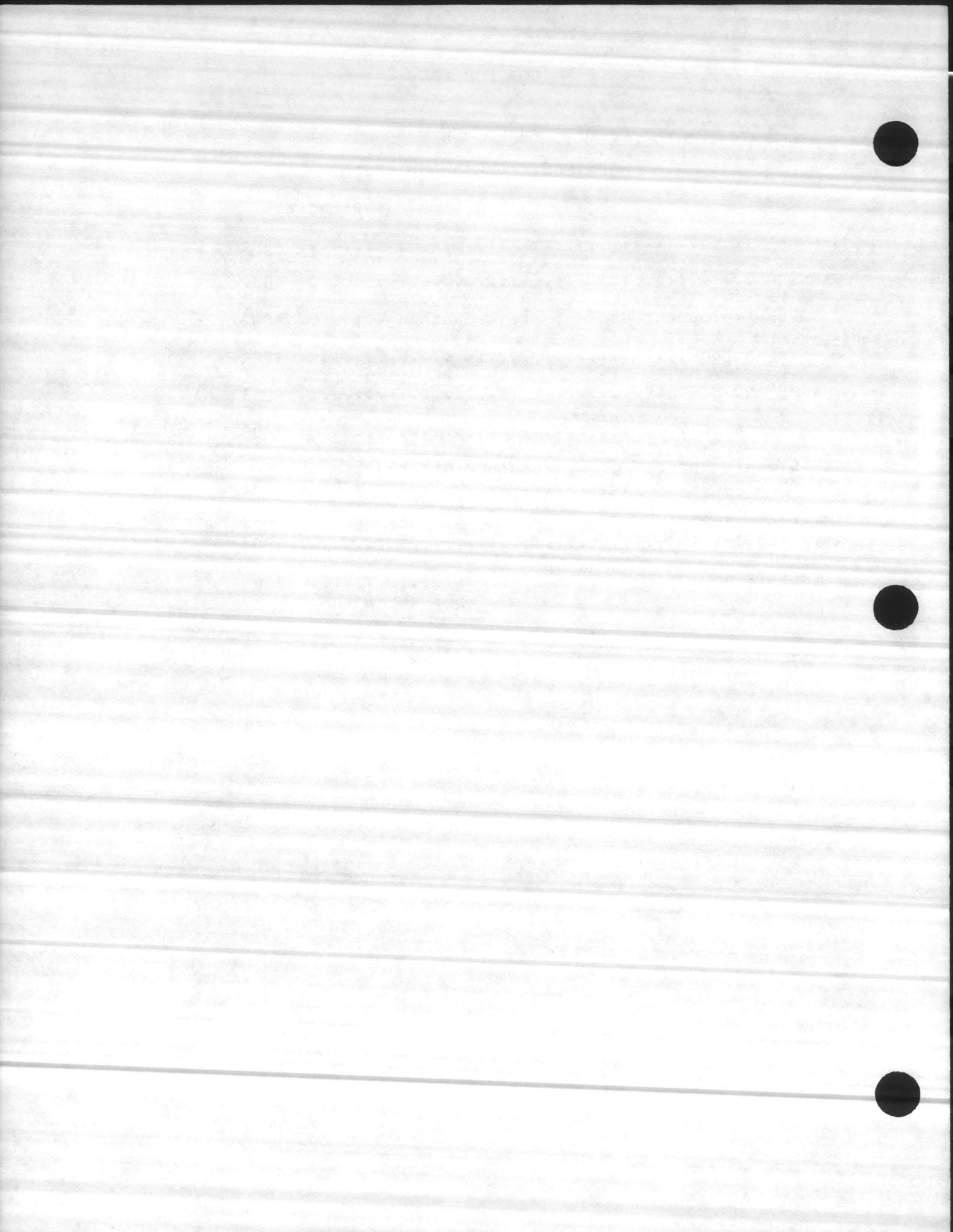
3. Movement. Any and all movement to areas of fallout/contamination density will be controlled by Division Headquarters only. If contact to Division Headquarters has been severed, movement may be authorized by the next senior command after careful consideration of Radiation Exposure Status Records. Procedures for maintaining these records is set forth in Chapter 6, FMFM 11-5, Operational Aspects of Radiation Exposure.

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CHAPTER 4

WARNINGS, ALARMS AND SIGNALS

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## CHAPTER 4

## WARNINGS, ALARMS AND SIGNALS

4001. General. This section describes advance warning procedures on the planned friendly employment of nuclear weapons, warning of probable enemy use of nuclear weapons and biological or chemical agents, and standard alarms and signals to be employed upon the detection of chemical, biological, and radiological hazards.

4002. Warning1. Pre-Employment-Nuclear Strike Warning (STRIKWARN)

a. An advance warning of a nuclear strike by friendly forces will be disseminated to affected subordinate, adjacent, and higher commands in sufficient time to allow personnel to take protective measures commensurate with the extent of projected weapon effects and location of affected units within the weapons effective radius.

b. The amount of information to be encoded is held to a minimum to expedite dissemination.

c. STRIKWARN messages will be broadcast in the clear when insufficient time remains for the enemy to react prior to the strike.

d. STRIKWARN messages are normally assigned an IMMEDIATE precedence, dependent upon the time available to complete notification of affected units prior to detonation of the weapon. If the situation dictates, a FLASH precedence will be assigned.

2. Pre-Attack

a. General warnings of probable enemy NBC attacks, as indicated by the evaluation of NBC intelligence information, will be prepared by the Division NBC Control Center. There is no prescribed format for general warning messages. The following procedures will be utilized in the dissemination of general warnings.

(1) General warnings will be transmitted by the fastest means available (normally over the Division Alert/Boardcast Net).

(2) General warnings will be identified by the phrase "EMERGENCY (NUCLEAR) (BIOLOGICAL) (CHEMICAL) ATTACK PROBABLE". Depending upon the available time prior to the predicated commencement of the attack and upon available intelligence information, the general warning message will contain:

3. Pre-Attack (con't).

- (a) Estimated time of attack.
- (b) Probable weapons (agents) type.
- (c) Probable delivery means.
- (d) Probable area of attack/ground zero.
- (e) Special instructions for specific protection measures to be taken and defensive posture to be attained when applicable.

b. Upon receipt of general warnings, commanders will ensure that subordinate units are promptly alerted and implementation of protective measures are directed.

c. Actions pursuant to receipt of general warnings include the following, depending upon the type of anticipated attack and upon available time:

- (1) Activate NBC Defense Control Centers.
- (2) Distribute NBC Defense supplies and equipment.
- (3) Disperse units/personnel, equipment, and supplies.
- (4) Assemble and/or alert decontamination and monitor/survey teams.
- (5) Prepare and/or reinforce defensive positions and protective shelters.

4003. Alarms and Signals

1. General. STANAG 2047 and paragraph 744, FM 21-40 prescribe the alarms and signals to be used by ground operating military units. These alarms and signals are:

- a. Designed for use in both forward and rear areas.
- b. Given in all cases as soon as an attack or a hazard is detected. The alarm is given by means that can not be confused with other signals or sounds encountered in combat.

2. Signals for Emergency Warning of Attack or Hazard. The following signals are used to give the emergency warning of chemical, biological, or radiological hazards as well as the "all clear".

a. Visual Signals. Visual signals are included in STANAG 2047 to replace the sound alarms under conditions when sound alarms may be lost because of battlefield noises, or when situation does not permit the use of sound signals. The visual signal for chemical or biological hazard consists of putting on the protective mask, extending both arms horizontally sideways with fists doubled facing up and rapidly moving fists to the head and back to the horizontal position, repeating as necessary.

b. Voice Signals. The voice signal for chemical and biological attack is "SPRAY" and chemical attack by any other means is "GAS". The signal is given after donning the protective mask (if not already masked).

c. Sound Signals. The following sound signals may also be used as an emergency warning for a chemical, biological, and radiological hazard if automatic type alarms are not in use.

(1) By percussion with rapid and continuous beating on any object that produces a loud noise, such as bells, metal triangles, or empty shell casings.

(2) A horn signal of three short blasts, followed by two seconds of silence, with the signal to be repeated for one minute or a siren of three long wrabling sounds, each separated by a silence, will be used.

d. All Clear. The "All Clear" signal is used to indicate the danger for which an alarm has previously been given no longer exists. It will be given orally.

#### 4004. Immediate Action for Chemical and Biological Attack

1. When the NBC Defense alarms is sounded and if not already masked, individuals take the following immediate actions:

a. Stop breathing and mask. Resume breathing after clearing mask.

b. If eyeglasses are worn, remove and replace them in a convenient place, such as in the removed headgear, in a pocket of the outer garment or between web equipment. After masking, transfer the eyeglasses to a safe place, such as in the mask carrier.

4005. Immediate Action for Nuclear Attack. The first indication of a nuclear attack will be a brilliant flash of light. There will be only a small amount of time available, dependent upon yield of the weapon and the distance to ground zero; therefore defense actions must be automatic and instinctive. Thermal radiation from the detonation travels outwards from ground zero at the speed of light while the shock wave from the detonation travels more slowly, at the speed of sound, and may take several seconds to arrive.

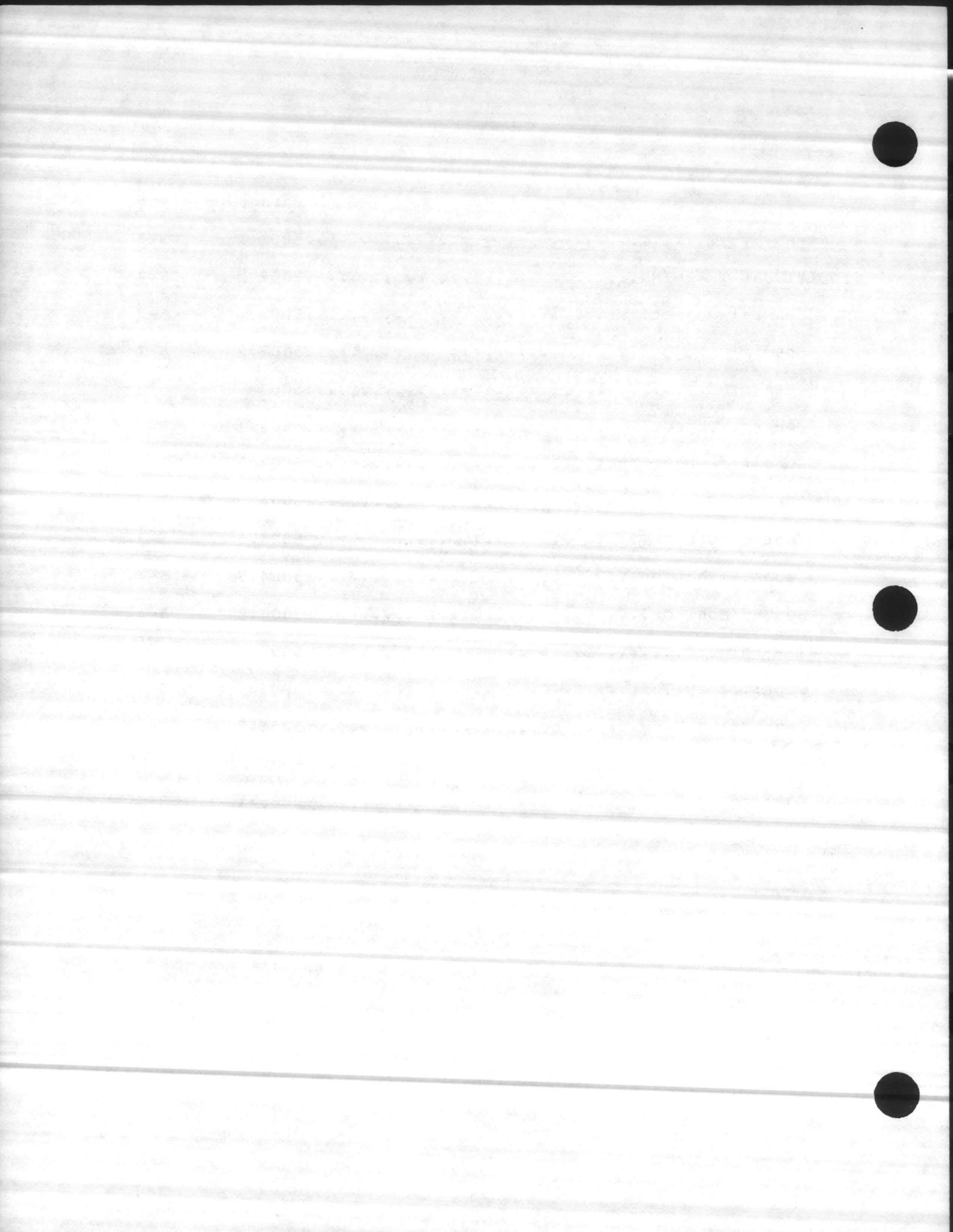
- a. Move no more than a few steps to seek cover.
- b. Drop flat on the ground or the the bottom of a foxhole or position in defilade.
- c. Close eyes and face away from the fireball.
- d. Protect exposed skin from thermal radiation as much as possible (put hands and arms near or under body and keep helmet on if possible),
- e. Remain down until the blast wave has passed and debris has stopped falling.
- f. Remain calm, check for injury, check weapon and equipment for damage, and prepare to continue the mission.

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CHAPTER 5

TRAINING

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## CHAPTER 5

## TRAINING

5001. General. The ability of a unit to survive a nuclear, biological or chemical attack depends initially upon the actions taken by each individual. NBC defense training is directed towards the ultimate objectives of individual and unit survival. Training must be well planned, thoroughly coordinated, and conducted as realistically as possible commensurate with safety of personnel. This section prescribes training objectives and requirements applicable to individuals, units, and NBCD teams.

5002. Individual Training

1. General Objectives. The general objective of individual NBC defense training is to achieve proficiency in individual protection measures employed to:

a. Survive an enemy NBC attack with minimum reduction in combat effectiveness.

b. Participate effectively in operations where nuclear, biological, and chemical weapons are employed in support of friendly forces.

2. Specific Objectives. The specific objectives of individual proficiency are specified in FMFM 11-1 and FM 21-41.

5003. Unit Training

1. General Objectives. The general objectives of unit NBCD training is to develop and maintain a capability to perform tasks required to accomplish the unit's mission under enemy NBC attack or in support of nuclear/chemical attacks by friendly forces.

2. Specific Objectives. The specific objective of unit defense training is to achieve and maintain the standards of unit proficiency specified in FMFM 11-1.

5004. NBC Defense Team Training

1. Control Center. The objective of NBC Defense Control Center Team training is to provide the commander with a nucleus of trained personnel required to ensure coordinates, centralized control of all NBC defense operations within the organization. Training will be directed toward the successful accomplishment of the control center's specific functions outlined in Chapter 7, section IV of FMFM 11-1.

2. Decontamination. The objective of decontamination team training is to provide the commander with a nucleus of trained personnel required to conduct decontamination operations which are beyond the capability of individuals. Decontamination team personnel will be trained in all phases of chemical, biological, and radiological decontamination. Procedures are specified in FM 3-220, (Chemical, Biological and Radiological (CBR) Decontamination).

3. Survey/Monitor. The objective of survey/monitor team training is to provide the commander with resources (trained personnel) required to conduct radiological monitoring and/or survey, biological sampling, and chemical detection operations. Training will be directed toward the successful accomplishment of the team's specific functions outlined in paragraph 7507 of FMFM 11-1 and Chapters 3 and 4 of FMFM 11-5.

#### 5005. Requirements

1. Proficiency Tests. Commanders will develop and administer individual and unit NBC defense proficiency tests. These tests will be developed utilizing the standards contained in paragraphs 602 and 603 of this SOP, and the sample proficiency test contained in FM 21-48. The tests will be utilized to evaluate the effectiveness of the unit's NBC defense training program and will be administered semiannually.

#### 2. Protective Mask Training

a. Confidence Exercise. All personnel will participate in a protective mask confidence exercise semiannually. This exercise will ascertain the proper fit and serviceability of the individual's mask. Additionally, the exercise will serve to reinforce the individual's confidence in the protection afforded by his/her protective mask. This requirement may be met by participation in a formal gas chamber exercise or during NBC defense intergrated field exercise training in which CS/CN (riot control agent) is utilized. If employed, chamber exercises will be conducted in accordance with BO 1102.1H.

(1) Battalions and Headquarters Company will submit a request for chamber facilities to this Headquarters (S-3) two weeks prior to the desired week of usage. Every such request will contain primary and alternate dates for training. Units will be notified in sufficient time to allow proper inclusion of this in training schedules.

(2) Units attending field protective mask chamber exercises will:

(a) Ensure each man has their field protective mask, M17A1 and a canteen filled with drinking water and the M1 Water Canteen Cap attached.

(b) Furnish one Safety Officer (preferably the NBC Defense Officer) to witness the exercise.

(c) Furnish one government vehicle designated as the safety vehicle.

(d) Ensure that a medical corpsman with respirator is in attendance for the entire exercise.

3. Exercises are conducted from 0800-1100 and 1300-1600, Monday through Friday.

4. Exercises are conducted for minimum of 40 and maximum of 300 personnel.

5. The Base Gas Chamber is located in Building 934 and 935. All 6th Marine units will utilize government transportation or be marched to the chamber area. Due to the limited parking facilities available, no private vehicles will be authorized.

6. All units are authorized direct liaison with the Base Gas Chamber Facility (Ext. 3518).

7. Division NBC Section (G-3 Ops) provides 2 courses of instruction:

a. One day, company training.

b. One week, Battalion block training, a semiannual requirement.

c. Scheduling and liaison through Division NBC 3693.

d. Weapons Firing. All personnel will fire a minimum of 10 rounds with the T/O weapon while wearing their field protective mask annually. This action satisfies the requirement set forth in enclosure (3) of MCO 1510.2H.

#### 5006. Command Responsibilities

1. Develop and maintain an NBC defense training program to encompass individual, unit, and team training requirements as specified herein.

2. Ensure intergration of NBC defense training into field training exercises.

3. Designate in writing at least one officer and one noncommissioned officer to serve as unit NBC officer and NBC defense specialist/NCO, respectively. Appointees will attend a division level NBC school or its equivalent.

4. Organize, equip, and train NBC defense teams established in Section III of this SOP. Ensure all members of NBC defense teams are designate in writing.
5. Maintain records of individual, unit and team training established herein.
6. Submit reports required by paragraph 321 of this SOP.

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APPENDIX A

NBC DEFENSE REFERENCE LIBRARY

1. The following publications will be maintained:

a. Fleet Marine Force Manuals

- (1) FMFM 11-1
- (2) FMFM 11-3
- (3) FMFM 11-5
- (4) FMFM 11-6

b. Army Field Manuals

- (1) FM 3-3
- (2) FM 3-4
- (3) FM 3-5
- (4) FM 3-8
- (5) FM 3-9
- (6) FM 3-15
- (7) FM 3-20
- (8) FM 3-21
- (9) FM 3-22
- (10) FM 3-50
- (11) FM 3-87
- (12) FM 3-100
- (13) FM 8-9
- (14) FM 21-40
- (15) FM 21-41
- (16) FM 21-48

c. Technical Manuals

- (1) TM 3-216
- (2) TM 3-220
- (3) TM 3-221
- (4) TM 3-240
- (5) TM 3-4230-204-12&P
- (6) TM 3-4230-209-12
- (7) TM 3-4231-209-20P
- (8) TM 3-4240-204-12&P
- (9) TM 3-4240-204-14
- (10) TM 3-4240-220-12
- (11) TM 3-4240-236-12
- (12) TM 3-4240-241-12
- (13) TM 3-4240-241-20P
- (14) TM 3-4240-279-10
- (15) TM 3-4240-279-20&P
- (16) TM 3-4240-280-10
- (17) TM 3-4240-280-23&P
- (18) TM 3-4410-201-12
- (19) TM 3-4410-201-20P

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- (20) TM 3-6665-225-12
- (21) TM 3-6665-303-10
- (22) TM 3-6665-304-10
- (23) TM 3-6665-307-10
- (24) TM 5-225
- (25) TM 5-311
- (26) TM 8-285
- (27) TM 10-277
- (28) TM 11-6665-209-15
- (29) TM 11-6665-213-12
- (30) TM 11-6665-232-12
- (31) TM 11-6665-232-20P
- (32) TM 43-0002-31
- (33) TM 750-5-15
- (34) TM 1300-30/3
- (35) TM 4700-15/1D
- (36) TM 03521A-14A
- (37) TM 03524B-14

d. Supply Instructions

- (1) SI 00080-15/1
- (2) SI 01174-15/1

e. Marine Corps Stock Lists

- (1) SL 3-00080
- (2) SL 3-01174
- (3) SL 3-01341B
- (4) SL 3-02394A
- (5) SL 3-02441B
- (6) SL 3-02662
- (7) SL 3-04195A
- (8) SL 3-04198A
- (9) SL 4-00080A
- (10) SL 4-01340B
- (11) SL 4-03251A
- (12) SL 4-03524B
- (13) SL 4-04195A
- (14) SL 4-04648A
- (15) SL 4-04648C
- (16) SL 4-05935A
- (17) SL 4-05935B
- (18) SL 8-09996A

f. Supply Bulletins

- (1) SB 3-30
- (2) SB 3-30-2
- (3) SB 3-30-23
- (4) SB 3-30-28
- (5) SB 3-4240-8
- (6) SB 740-94-1

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- (7) SB 740-94-2
- (8) SB 740-94-6

g. Technical Bulletins

- (1) TB 3-8030-200-12
- (2) TB 34-9-157
- (3) TB 34-9-158
- (4) TB 34-9-161
- (5) TB 34-9-261
- (6) TB 34-9-311
- (7) TB 34-9-312

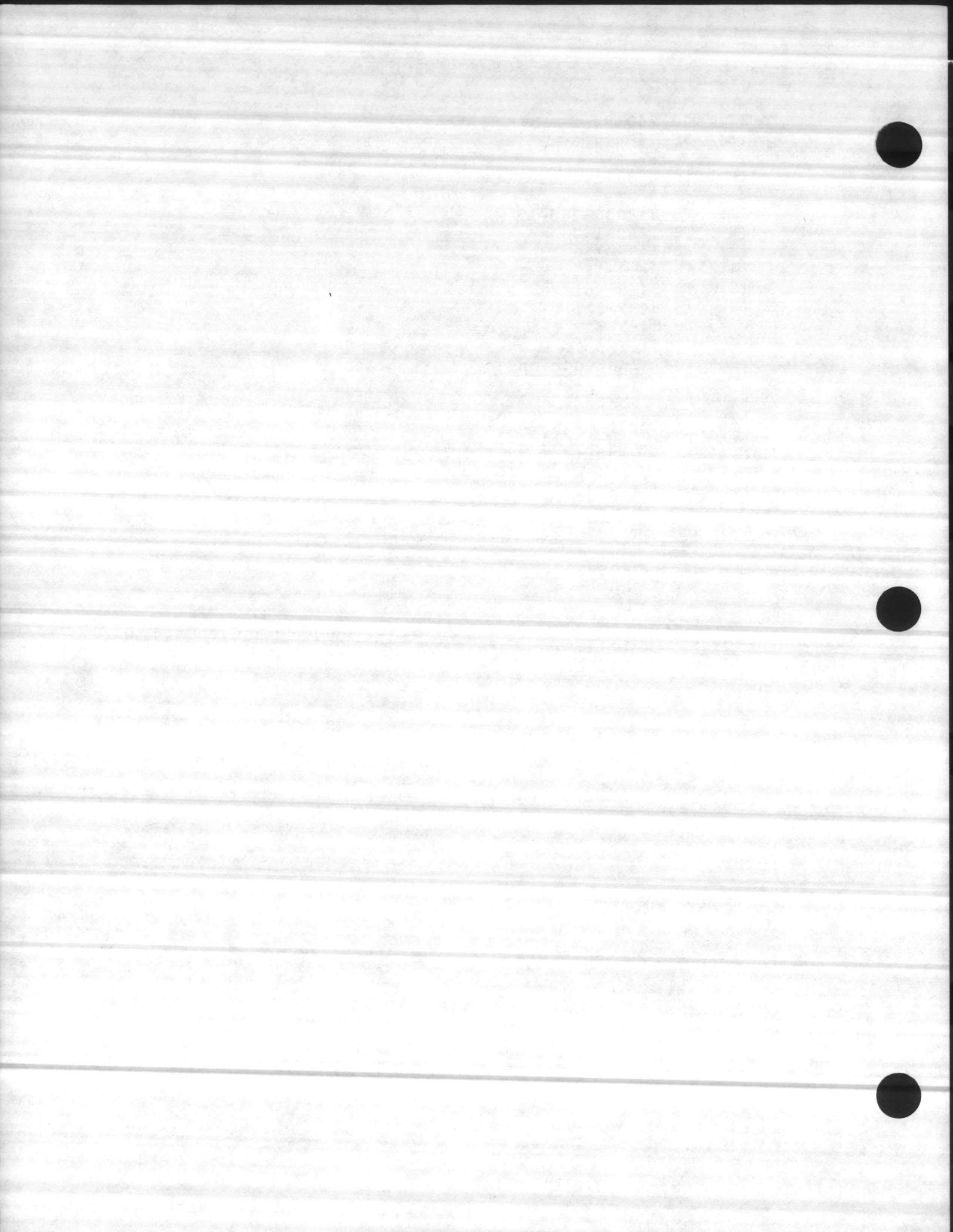
h. Technical Instructions

- (1) TI 6665-25/1
- (2) TI 02662-15/2
- (3) TI 10010-15/1A
- (4) TI 10010-15/2A
- (5) TI 10010-15/4
- (6) TI 10010-25/3

i. Lubrication Orders

- (1) LO 5-2805-287-12
- (2) LO 5-2805-259-12

j. The NBCD Officer also maintains lesson plans, GTA Card and handouts to assist leaders in training.



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APPENDIX B

CONTROL CENTER, MONITOR/SURVEY, AND  
DECONTAMINATION TEAMS REQUIRED EQUIPMENT/SUPPLIES

1. Control Center

a. Maps. Area of operation concern (1:50,000)

b. Orders/Manuals/Publications

(1) Orders:

MCO 3400.3  
Divo 3400.3  
Regt/Bn/Co NBCD SOP's

(2) Manuals and Publications:

FMFM 11-1	TM 3-221
FMFM 11-5	TM 3-240
FM 3-8	TM 3-4230-209-12
FM 21-40	TM 3-6665-254-12
FM 21-41	TM 5-311
FM 3-22	TM 8-285
FM 3-216	TM 10-227
FM 3-3	TM 11-6665-213-12
ATP-45	TM 3-220

c. Equipment and Supplies

M5A2 Radiological Fallout Predictor  
M28A2 Yield Calculator  
ABC M2 Toxic Vapor Hazard Calculator  
Overlay Paper  
Radiological Data Sheet DA 1971 R  
Radiological Data Sheet DA 1971-1-R  
Grease Pencils (Red, Yellow, Blue, Black, Green)  
Pencil, Graphite  
Ruler, 12 and 18 inch  
Scissors  
Tablet, Writing  
Compass, Drafting  
Thumbtacks  
Tape, Cellulose  
Paper clips  
File Folder, Manila, plain  
Carbon Paper, sheet  
Pen, ball point, blue or black  
Refills, ball point pen  
Notebook, steno  
Envelope, 8.5 x 11.5  
Binder, loose leaf, 1"

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d. Nomograms, Scales and Graphs. In accordance with FMFM 11-5.

- Yield Estimation Fig. 2-3
- Yield Estimation Fig. 2-4
- Location of Survey Meters/Correlation Factors for Residual Radiation Fig. 4-4
- Residual Radiation decay (fallout) Fig 5-1
- Total Dose Fig 5-2
- Transmission factors Fig 5-3
- Correction factors for Non-Standard Decay, Low Neutron
- Correction Factors for Non-Standard Decay, High Neutron
- Residual Radiation decay neutron Included Fig 5-8
- Total Dose Fig 5-9
- Multiplication Factor Graph Fig F-1
- Protractor (GTA 5-2 Feb 75), degrees or mils scale

2. Monitor/Survey

- Biological Sampling Kit
- T/E Survey Type Instrument (Radiac)
- M-256 Chemical Agent Detector Kit
- IM-143/PD RADIAC Meter; one per team
- Designated communications equipment
- M17 Series Field Protective Mask (Per individual)
- Compass (magnetic) and appropriate maps
- DA Forms 1971-R and 1971-1-R
- Watch with second hand
- Designate communication equipment (ie. PRC-77)

3. Decontamination Teams

a. T/E Equipment

- RADIAC Instruments
- Protective Clothing
- Chemical Detector Kit M-256
- Protective Equipment
- M11/M12A1 Decontamination Apparatus
- Decontamination Agents (STB/DS-2)

b. Type II (General Supply)

- |               |                       |
|---------------|-----------------------|
| Shovels       | Rags                  |
| Scrub Brushes | Plastic Bags          |
| Rakes         | Detergents            |
| Brooms        | Masking Tape          |
| Buckets       | Chalk                 |
| Engineer Tape | Contamination Markers |

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### APPENDIX C

#### CONTROL CENTER TEAM DUTIES AND RESPONSIBILITIES

1. GENERAL. When required by the tactical situation, the Regt S-3 will establish an NBCD Control Center within the Command Operations Center in an area where close coordination with operations, FSCC, and intelligence is facilitated.

2. MISSION. The mission of the unit Control Center is to evaluate and disseminate information concerning NBC hazard resulting from friendly and enemy chemical and nuclear attacks and from enemy biological attacks.

a. Tactically, the NBC Control Center is the means available to the commander to ensure that the latest information on enemy NBC operations is collated, evaluated and furnished to the commander and his staff.

b. The Control Center is responsible for overall unit NBC guidance and for a determination of possible courses of action to be submitted to the commander as a result of enemy NBC attack or friendly nuclear/chemical employment. The Control Center Will:

(1) Coordinate troop safety consideration when friendly chemical operations are planned.

(2) Predict fallout resulting from friendly and enemy nuclear weapons employment and coordinate the resulting radiological reporting and reading procedures.

c. In order to execute its mission of supervision and coordination of the NBCD information/operations effort, the NBCD control center must maintain a continuous capability to:

(1) Receive and transmit information.

(2) Perform computations necessary to convert basic NBC information to the forms required for various calculations.

(3) Plot and display assembled NBCD information.

(4) Evaluate assembled NBC information.

(5) Disseminate NBC information.

### 3. DUTIES

a. NBCD Officer. He directs all control center functions under the staff supervision of the S-3 as follows:

(1) Advises other elements of the COC on the capabilities, employment, and effects of chemical agents.

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(2) Integrates NBC defense operations with other tactical support operations.

(3) Assists the FSCC in predicting the effects from friendly use of Nuclear/Chemical weapons and enemy use of NBC weapons.

(4) Analyzes incoming radiological monitoring data to determine whether they adequately describe the radiological situation.

(5) Analyzes incoming radiological survey data, revises survey plans, are initiated requests for additional surveys as required.

(6) Directs and controls the activities and movements of the survey parties who report directly to the control center.

(7) Supervises fallout predictions.

(8) Disseminates NBC information.

(9) Performs other radiological duties as set forth in FMFM 11-5.

b. NBC Operations Chief. The NBC Operations Chief:

(1) Assists the NBC Officer in the overall supervision of the control center.

(2) Trains and cross-trains the enlisted members of the control center, making sure that all NBC Specialists are proficient in the duties of both computer and plotter.

(3) Coordinates the functions of the enlisted members of the control center and monitors their output.

(4) Periodically checks and ensures accuracy of the work of the NBC computers and plotters.

(5) Monitors all information disseminated by the control center.

(6) Calculates the predicted effects resulting from the employment of chemical agents.

(7) Predict future contamination based on decay, weather, and stability of NBC contaminants.

(8) Prepares predicted NBC contamination charts.

(9) Posts and maintains NBC situation maps and NBC contamination charts.

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(10) Compiles NBC contamination plots for transmission in NBC 4 and NBC 5 reports.

(11) Maintains a control center ready box.

c. Computer. The NBC Control Center Computer:

(1) Prepares downwind travel predictions of chemical and biological toxic clouds.

(2) Calculates transmission factors or correlation factors, as applicable, from data reported by survey parties or monitors.

(3) Selects appropriate correction factors for decay from tables, graphs, or nomograms.

(4) Converts all useful data to ground rates at a reference time by using the appropriate correlation factors.

(5) Performs duties of the plotter as required.

d. Plotter. The NBC Control Center Plotter:

(1) Receives, processes, and plots chemical detection reports.

(2) Prepares NBC situation maps and overlays.

(3) Prepares NBC contamination charts.

(4) Decrypt and encrypt messages, as required.

(5) Plots data that has been corrected by the computer, as necessary, to obtain desired dose rate contours.

(6) Draws dose rate contours from plotted data.

(7) Prepares fallout predictions.

(8) Receives and records incoming survey and monitor data, as required.

(9) Transmits instructions to survey parties and monitors, as assigned.

(10) Performs duties of the computer, as required.

e. Clerk/Clerk Typist. The NBC Control Center Clerk:

(1) Acts as radio-telephone watch.

(2) Maintains a control center journal and messages file.

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- (3) Prepares and dispatches messages.
- (4) Assists in preparation of NBC contamination overlays for transmission.
- (5) Receives and records data on appropriate forms.

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APPENDIX D

NBC WARNING AND REPORTING SYSTEM

1. GENERAL. The following reports will be utilized by applicable units for dissemination of NBC attack information:

- NBC 1 Report - Observers Initial Report
- NBC 2 Report - Evaluation Data Report
- NBC 3 Report - Immediate Warning of Expected Contamination
- NBC 4 Report - Monitoring and Survey Report
- NBC 5 Report - Area of Actual Contamination
- NBC 6 Report - Detailed Information on Chemical or Biological Attacks

2. Description of Letter Items. Meaning of letter items in NBC reporting formats.

<u>LETTER</u>	<u>NUCLEAR FORMS</u>	<u>CHEMICAL OR BIOLOGICAL FORMS</u>
Alfa	Strike serial number	Strike serial number.
Bravo	Position of observer (coordinates/place)	Position of observer (coordinates/place).
Charlie	Direction measured clockwise from grid north, true north, or magnetic north (state which), of the attack, from the observer (degrees or mils-state which).	Same as for Nuclear.
Delta	Date/time of detonation.	Date/time attack started.
Echo	N/A	Date/time attack ended.
Foxtrot	Location of attack (coordinates/place) (actual or estimated)	Location of area attacked (coordinates/place) (actual or estimated)
Golf	Means of delivery.	Kind of attack (guns/mortars multiple rockets/missiles/bombs or spray-state which.
Hotel	Type of burst	Type of agent/burst.

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<u>LETTER</u>	<u>NUCLEAR FORMS</u>	<u>CHEMICAL OR BIOLOGICAL FORMS</u>
India	N/A	Number of munitions or aircraft (state which).
Juliet	Flash or bang time (in seconds).	N/A
Kilo	Crater present/absent and diameter (in meters).	Description of terrain/vegetation.
Lima	Nuclear burst angular cloud width measured at H+5 minutes (degrees or mils-state which).	N/A
Mike	Stabilized cloud top or bottom angle or cloud top or bottom height measured at H+10 minutes (degrees or mils/meters or feet).	Enemy action before and after attack. Effect on troops.
November	Estimated yield (Kt/Mt).	N/A
Oscar	Reference data/time for estimated contours when not H+1 hour.	N/A
Papa	For radar purpose only: P.A.-GC's of points to outline external contours of radioactive cloud. P.B.-Downwind direction of radioactive cloud (in degrees or mils).	P.A.-Predicted hazard area. If representative downwind speed is 10Km/hr or less, the letter item P.A. of the NBC 3 chemical report will consist 3 digits giving the radius of a circle around the center of the attacked area (in Kms) P.B.-Duration of hazard(Days)
Quebec	Location of reading.	Location where sample(s) were taken and details of sample.
Romeo	Dose rate cGy/hr (rad/hr). The words; "initial", "increasing", "peak", or "decreasing", may be added. When decay rate is reported, the words "decay normal", "decay fast", or "decay slow" or the actual decay constant may be inserted.	N/A
Sierra	Date/Time of reading.	Date/Time contamination was initially detected.

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<u>LETTER</u>	<u>NUCLEAR FORM</u>	<u>CHEMICAL OR BIOLOGICAL FORM</u>
Tango	H+1 Date and Time.	Date/Time or latest survey of contamination of the area.
Uniform	1000 cGy/Hr (rad/Hr). Contour Line Coord. (red)	N/A
Victor	300 cGy/Hr (rad/Hr) Contour Line Coord. (grn)	N/A
Whiskey	100 cGy/Hr (rad/Hr). Contour Line Coord. (blu)	N/A
X-ray	30 cGy/Hr (rad/Hr). Contour Line Coord. (blk)	N/A
Yankee	Direction measured clockwise from grid north to the left and then to the right radial lines (degrees or mils-state which), 4 digits each.	Representative downwind direction, 4 digits (degrees or mils-state which). Representative downwind speed, 3 digits (Km/Hr or Knots - state which).
Zulu	Effective wind speed (KPH or Knots) 3 digits; downwind distance of zone 1 Km or Nautical Miles, 3 digits; cloud radius (Km or Nautical Miles), 2 digits (if the effective wind speed is less than 8 Km/Hr, line Z of the NBC 3 Nuclear report will contain only 3 significant digits giving the radius of Zone 1).	N/A
Z.A.-	Temperature(C) 2 digits; cloud cover, 1 digit; significant weather phenomena, 1 digit; air stability, 1 digit (use information on the front of the card). NOTE: For NBC 1 Chemical-use plain language, the code may be used. For NBC 2 or 3 Chemical - use code, plain language may be used. Z.B. - Remarks.	N/A
Z.B.-	N/A	Include any additional information

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<u>LETTER</u>	<u>NUCLEAR FORM</u>	<u>CHEMICAL OR BIOLOGICAL FORM</u>
Zulu India	For friendly Nuclear burst only; Effective wind speed (Km/Hr or Knots), 3 digits; downwind distance of Zone 1 in hundreds of meters, 4 digits; downwind distance of Zone 2 (in hundreds of meters), 4 digits; cloud radius (in hundreds of meters), 3 digits. NOTE: use of line ZI precludes use of line Zulu.	N/A

NOTE: The use of Knots or Nautical Miles in NBC reporting is for Naval Units.

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NBC 1 REPORT. Observers Report.

TYPE OF REPORT

	<u>NUCLEAR</u>	<u>CHEMICAL</u>	<u>BIOLOGICAL</u>
B.	B. TU440880	B. Smallville	B. Smallville
C.	C. Grid 242 degrees	C. Magnetic 2650 mils	C. Grid 330 mils
D.	D. 270400 local	D. 270400 Zulu	D. 270400 Zulu
E.		E. 270410 Zulu	E. 270430 Zulu
F.		F. TU450870 est	F. Smallville act.
G.		G. Rocket	G. Aerial spray
H.	H. Unk	H. Nerve	H. Biological
I.		I. 36	I. Mig 23
J.	J. 65		
K.	K. Unk		
L.	L. 100 mils		
M.	M.		
S.		S. 270445 Zulu	S. 270500 Zulu

- NOTES:
1. Report type items D and H, either B, C or F, all must be reported; other items are optional.
  2. Nuclear reports only.
    - a. Items B, C, D, H, J and K are normal for initial reports.
    - b. Items B, C, D, and H and either L or M are normal for the follow-up reports

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NBC 2 REPORT. Evaluated Data.

<u>TYPE OF REPORT</u>	<u>NUCLEAR</u>	<u>CHEMICAL</u>	<u>BIOLOGICAL</u>
A.	A. 54-1	A. 23	A. 23
D.	D. 270400	D. 270400 ZULU	D. 270400 ZULU
F.	F. LB 187486 actual	F. LB 206300 actual	F. LB 206300 actual
P.		P. LB 208320 LB 210320 LB 206310 LB 204310	P. LB 208320 LB 210320 LB 206310 LB 204310
Y.	Y. 02700310 degrees		
Z.	Z. 01902505		

- NOTES: 1. Items D, F, and P shown for chemical and biological reports must always be reported; other items are optional.
2. This report is normally based on two or more NBC 1 Reports. It includes an attack location and in the case of Nuclear Detonation and Eval.

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NBC 3 REPORT. Immediate Warning of Expected Contamination.

<u>LINE</u>	<u>NUCLEAR</u>	<u>CHEMICAL</u>
A.	A024	B002
D.	201405Z	201415Z
F.	LB187486	LB560750 Actual
H.		Nerve V Air Burst
N.	50	
PA		LB556751
		LB559754
		LB632774
		LB610794
		LB558747
PB		In attack area 2-4 days in hazard area 1-2 days
Y	02720312	0270 Deg. 015 Kmph
Z	01902505	
ZA		15 254
Z1	010. 0017. 0028. 007	

- NOTES:
1. If the effective wind speed is less than 8 kmph, line Z of the NBC 3 (nuclear) consists of three digits for the radius of Zone 1.
  2. If the wind speed is less than 10 kmph, line PA of the NBC 3 (chemical) is 010 which is the radius of the hazard area.
  3. Line Z1 is used only for NUCWARN reports. When line Z1 is used, line Z is not used.

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NBC 4 REPORT. Reconnaissance, Monitoring and Survey Results.

<u>LINE</u>	<u>NUCLEAR</u>	<u>CHEMICAL OR BIOLOGICAL</u>
H.		Nerve
Q.	LB 123987	LB 200300, Liquid
R.	35	
S.	201535Z	170610Z

- NOTES:
1. Line items H, Q, R and S may be repeated as often as necessary.
  2. Radiation dose rates are measured in the open with the instrument 1 meter above the ground.
  3. In line R descriptive words such as "initial", "peak", "increasing", "decreasing", "special", "series", "verification", or "summary" may be added.
  4. If readings are taken inside a vehicle or shelter, also give the transmission factor.

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NBC 5 REPORT. Areas of Actual Contamination.

<u>LINE</u>	<u>NUCLEAR</u>	<u>CHEMICAL OR BIOLOGICAL</u>
A.	A0012	B005
D.		200700Z
H.		Nerve V Air Burst
T.	201505Z	
U.		
V.	ND651455 ND810510 ND821459 ND651455	
W.	ND604718 ND991686 ND114420 ND595007	
X.		ND206991 ND201576 ND200787 ND206991

NOTE: This report is best sent as an overlay if time and the tactical situation permits.

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NBC 6 REPORT. Detailed Information on Chemical/Biological Attacks.

<u>LINE</u>	<u>CHEMICAL OR BIOLOGICAL</u>
A	B001
B	200945Z (MAY)
E	200950Z, Actual
F	LB200300, Actual
G	Artillery
H	Nerve V air burst
I	20 rounds
K	Mostly small houses and barns, elevation 600 meters
M	Attack received as counterfire, enemy bypassed on right flank of attack area
Q	Liquid ground sample taken by detection team in attack area
S	201005Z (May)
T	201110Z (May)
X	As per overlay
Y	Downwind direction 0900 degrees, wind speed 010 kmph
ZB	This is the only chemical attack in our area to date

- NOTES: 1. This report is submitted only when requested
2. This report is completed by battalion and higher NBC personnel. It is in narrative form, giving as much detailed information as possible for each line item.

## SOP FOR NBCD

## STRIKEWARN MESSAGES

CHEMWARN Format. Line Meanings.

<u>LINE</u>	<u>MEANING</u>	<u>REMARKS</u>
A	Strike Serial Number or code word	Indicate this is a chemical attack.
D	Date-Time group of attack	Only the date and time of the attack given. This should be encoded.
F	Location of attack	Grid coordinates of center of attack. If attack is spread over a large area, a series of coordinates may be given to indicate the center of mass of the attack. This should be encoded.
G	Delivery means	Tell how delivered and how disseminated.
H	Type of agent	Classify agent by physiological effects and duration of effectiveness.
PA	Attack area and predicted hazard area	When wind speeds are 10 kmph or less, this line will be 010, which is the radius of hazard area in KM. When wind speeds are greater than 10 kmph, 6-digit coordinates will be given
PB	Duration of hazard	In days.
Y	Downwind direction wind speed	4 digits in degrees or mils (state which). 2 digits in kmph.

Sample CHEMWARN (Friendly Chemical Strike)

A	AF002CHEM
D	028030Z
F	PG560750
G	Artillery Ground Burst
H	Nonpersistent Nerve

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Sample CHEMWARN. (Cont'd)

PA PG 556751  
 PG 559754  
 PG 632774  
 PG 610694  
 PG 558747  
 Y 0015 Deg 15 kmph

NUCWARN Format. Line Meanings.

<u>LINE</u>	<u>MEANING</u>	<u>REMARKS</u>
A	Target number on code	Use target number, such as AF-001 for single attack. Use code such as Hot Candle for multiple attacks.
D	Date-time groups	Single: Date and time attack will begin and end. Multiple: Date and time attack will begin and end when all bursts will be completed. This should be encoded.
F1	Minimum safe distance 1 (MSD-1) and location of single attack.	If all troops are outside MSD-3 only F3 is transmitted. This line should be encoded.  Multiple: Appears as a series of coordinates that define on MSD box plotted around the MSD for each burst in the group  Single: Distance in meters from ground zero to the edge of Zone 1, followed by GC's for attack location.
F2	MSD-2	Same as F1 except information pertains to MSD-2
F3	MSD-3	Same as F1 except information pertains to MSD-3

NUCWARN Format. (Cont'd)

<u>LINE</u>	<u>MEANING</u>	<u>REMARKS</u>
H	Type and number of bursts (Surface or Subsurface only)	If there is any chance the strike will be a surface or subsurface burst, this is sent.
I	Number of bursts	For multiple bursts only.

Sample NUCWARN.

<u>LINE</u>	<u>MULTIPLE</u>	<u>SINGLE</u>
A	Lamp Post	AC002
D	162025Z-162155	270915Z-270930Z
F2	PA 613423	
	PA 616515	
	PA 655523	
	PA 631450	
	PA 625413	
F3	PA 620403	011 PA215154
	PA 672552	
	PA 642472	
	PA 673442	
H	3 Surface	Surface
I	32	

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PROTECTION REQUIREMENTS

<u>AREA</u>	<u>NEGLIGIBLE RISK TO</u>	<u>ZONE OF WARNING</u>	<u>PROTECTION REQUIREMENT</u>
DGZ to MSD-1	N/A	1	Evacuate all personnel
MSD-1 to MSD-2	Warned, protected personnel	2	Personnel in buttoned-up tanks or fighting positions with overhead cover.
MSD-2 to MSD-3	Warned, exposed personnel	3	Personnel prone on ground with all skin covered
MSD-3 and beyond	Unwarned, exposed personnel	N/A	No protective measures except dazzle.

ZONE 3

ZONE 2

ZONE 1

+ DGZ

MSD 1

MSD 2

MSD 3

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APPENDIX E

MEDICAL PROCEDURES

1. General. Mission completion will take priority over medical aid and evacuation in the event of employment of any mass casualty weapons.

a. The Medical Officer will establish those special procedures deemed necessary to decontaminated casualties, treat chemical agent poisoning and handle cases of radiation sickness.

b. Timing of the initial issue of nerve agent antidotes to the individual Marine for first-aid purposes will be a medical decision based on the tactical needs of the unit.

c. Every effort will be made to decontaminate casualties prior to evacuation efforts. If this procedure is impossible, evacuation requests must state contaminated condition of patient.

d. During Cold Weather operations, with temperatures below 40 degrees F., atrophine injectors will be carried by the individual Marine inside the protective overgarment.

2. Tactical Radiation Exposure Records

a. Each BLT/Battalion Organization will establish an operational system of recording and reporting tactical radiation exposure. This system will use the platoon as the basic reporting unit. Battalions will consolidate company records and submit their status as of 0800Z daily or when drastic changes occur. Reports will come to the Regimental control center using the report format described in detail in FMFM 11-5. When utilizing the IM-143 Dosimeter, exposure readings will not be considered for use in indicating cumulative dosage (for health record entry). Unit commanders will utilize information contained within the Radiation Guide to determine the ability of their units to operate in subsequent areas.

b. Utilizing the reporting system described above, an Operational Exposure Guidance System can be created to provide additional radiation exposure information for units previously subjected to radiation. Degrees of risk can be determined for any planned operation and positive control is possible at all times. Understanding this system is essential for the unit commanders and NBCD Officer. A more complete description is available in FMFM 11-5 and FM 21-40.

c. Initiation of the required reports and the operational exposure guidance system will be on command of this Headquarters. Advance preparation by NBC Defense personnel is necessary to ensure smooth operation and awareness. A detailed system and record format will be outlined in this SOP.



## SOP FOR NBCD

## APPENDIX F

## CHEMICAL AGENTS CHART

<u>AGENT</u>	<u>ODOR</u>	<u>PERSISTENCE</u>	<u>RATE OF ACTION</u>	<u>EXPOSURE SYMPTOMS</u>
Blister CX	Rancid	persistent	immediate	redness/blisters
HD	Garlic	persistent	delayed	redness/blisters
L	Geranium	persistent	immediate	redness/blisters
-----				
Blood AC	Peach Kernal	non persistent	very rapid	immediate irritation, nose/throat burn, cough, dizziness
CK	Irrit- ating	non persistent	rapid	-do-
-----				
Choking CG	Mown Hay	non persistent	delayed (up to 3 hrs)	throat/nose burn lungs fill with fluid, vomit, headaches, tears
-----				
Nerve GA	No odor	non	very rapid	runny nose, tight chest, dimness of vision, pinpointed pupils, sweats, nausea, twitching, urination, cramps death
GB	faintly	persistent		
GD	fruity			
VX	No Odor	normally persistent	rapid	-do-
-----				
Incapacitating BZ	No Odor	normally non persistent	delayed (1 to 4 hrs)	alters mental state stupor, dizziness blurred vision vomiting

NOTE: Additional Reference GTA-3-5-13

## SOP FOR NBCD

1. GENERAL. Chemical agents used in chemical operations are similar to poisonous compounds that are used in everyday life. Your protective mask is your most important piece of equipment in defending against a chemical attack. Once chemical agents have been used or are suspected you should mask (within 9 seconds) and complete attachment of the hood (within 6 seconds) (Total 15 seconds) without order of alarm when:

- a. Your position is hit by artillery, mortars, rockets, smoke or mist, aerial spray or bombs.
- b. Smoke from unknown source is present.
- c. A suspicious odor, liquid, or solid is present.
- d. Entering an area suspected of being contaminated.
- e. You have any symptoms of a chemical agent.

## 2. CHEMICAL

a. Nerve Agent. How to recognize a nerve agent attack:

(1) Nerve agents are disseminated by artillery, rockets, aircraft bombs, spray, missiles, and land mines. Nerve agents are odorless and remain in a liquid form or gel at normal temperatures.

(2) Nerve agents are very rapid in their effects and all effect the body in the same manner. Small amounts of nerve agents will cause paralysis, prostration, and death. They are the most dangerous of toxic chemicals.

### (a) Initial Symptoms

- 1 Runny nose.
- 2 Tightness of chest.
- 3 Dimness of vision.

### (b) Advanced Symptoms

- 1 Difficulty in breathing.
- 2 Drooling.
- 3 Excessive Sweating.
- 4 Nausea, vomiting, involuntary urination/defecation.
- 5 Twitching, jerking, headache, confusion.

SOP FOR NBCD

6 Cessation of breathing and death.

(3) Self-aid for initial nerve agent symptoms:

(a) Stop breathing and mask.

(b) Administer one shot of Nerve Agent Anti-dote, MK 1 kit.

(c) Repeat, MK 1 injections at 10-15 minute intervals until symptoms disappear, but not more than three.

(d) If symptoms disappear, continue mission. If symptoms do not disappear, seek medical assistance.

(4) First Aid for advanced symptoms:

(a) Mask the casualty.

(b) Decontaminate the skin and remove contaminated clothing and equipment.

(c) Begin artificial respiration immediately for casualties who stopped breathing, using back pressure arm lift method.

(d) Immediately inject 3 Nerve agent antidote MK 1 kit.

(e) Evacuate casualty to unit aid station.

b. Blood Agent. A blood agent interferes with the normal oxygen by the body cell tissues.

(1) The first sign of a suspected blood agent attack will be a marked increase or decrease in the breathing rate.

(a) (AC) HYDROGEN CYANIDE - Increase

(b) (CK) CYNODEN CHLORINE - Decrease

(2) The above symptoms will be followed by.

(a) Giddiness.

(b) Dizziness.

(c) Headache.

(d) Increased pulse rate.

(e) Lips and skin turn red.

SOP FOR NBCD

(f) Convulsions.

(g) Unconsciousness.

(h) Final result: DEATH within 15 minutes. Unconsciousness within two minutes.

(3) The first thing you do when you suspect a blood agent attack is stop breathing, mask and give the alarm.

(4) First aid for blood agent casualties is.

(a) Mask the casualty.

(b) If casualty stops breathing, give artificial respiration using the back pressure arm-lift method. Keep casualty masked and evacuate as soon as possible.

c. Choking Agent. Choking agents cause the lungs to fill with fluid causing "DRY LAND DROWNING".

(1) The first symptoms of a choking agent attack will appear fairly rapid in extreme exposure cases. The initial symptoms are:

(a) Coughing.

(b) Choking.

(c) Headache.

(d) Nausea.

(2) The following advanced symptoms will appear 3-12 hours after exposure:

(a) Tightness in the chest.

(b) Rapid shallow breathing.

(c) Painful cough.

(d) Frothy pink sputum.

(e) Frequently death, once the lungs have filled with liquid.

(3) When you suspect a choking agent attack, first mask, give the alarm, and then continue your mission.

(4) First aid for a choking agent is as follows:

(a) Mask the casualty.

SOP FOR NBCD

(b) Treat for shock:

- 1 Elevate feet.
- 2 Keep quiet.
- 3 Keep comfortable.
- 4 Keep warm.

(c) If the casualty stops breathing, give artificial respiration using the back pressure arm-lift method because this will aid in draining the fluid from the body.

(d) MEDEVAC.

(5) There is no known antidote for choking agent casualties. The victims should be medically evacuated as soon as possible to a hospital where qualified doctors can make the determination on the treatment.

d. Blister Agents. Blister agents are disseminated by artillery, mortars, aircraft, spray, rockets and chemical mines. If you notice any unknown liquid or pain on your skin, start decontamination immediately. All blister agents are liquid at normal temperatures but also are effective in vapor forms. The agents first act as cell irritants, then poison the cells of all the tissue surface contacted. Some blister agents cause immediate pain upon contact with skin.

(1) Decontamination of blister agents:

- (a) Must be started immediately.
- (b) Agent in eyes, flush with water.
- (c) Mustards or arsenicals on skin, remove agent with M258 kit.
- (d) Urticant agent on skin, flush with water, then remove with M258 kit.
- (e) Agent on clothing remove with M13 kit.
- (f) Keep from decontaminating medical facilities.

(2) First aid for blister agents.

- (a) Avoid breaking blisters.
- (b) If blisters break, treat as open wound.
- (c) Prevent infection.



APPENDIX G

RADIATION/STATUS REPORTING PROCEDURES

1. In the event of a nuclear attack, the radiation status of personnel within this Regiment will be maintained at Battalion level. To provide a rapid means of evaluating the exposures, the Radiation Dose Rate Chart will be used. All companies will maintain records which will be sent daily to the Battalion S-3 (Attn: NBC Officer).

2. The company is the basic reporting unit and the Battalion S-3 is the basic recording unit, for reporting and recording tactical radiation exposure. Normal issue will be one per squad and one per team. Average reading will be rounded to the nearest ten (10) rads of the company daily exposure, and forwarded to the Battalion S-3. The Battalion will forward the exposure report to the Regiment S-3. RADIAC detectors (IM 143) will be issued to each Decon section. Daily readings on the IM-143 will be conducted and the reading reported in the individual's radiation received chart located in the NBC Control Center at the COC.

3. Dose criteria has been established which may indicate that other criterias are more appropriate.

a. Radiation Status-0 (RS-0): RS-0 applies to a unit that has never been exposed to nuclear radiation; a unit which has received no dose.

b. Radiation Status-1 (RS-1): RS-1 applies to a unit that has been exposed to nuclear radiation or has a military negligible radiation exposure history; total dose greater than 0 but less than 70.

c. Radiation Status-2 (RS-2): RS-2 applies to a unit that has received significant, but not a dangerous dose of radiation; total dose greater than 75 but less than 150 rads.

d. Radiation Status-3 (RS-3): RS-3 applies to a unit that has already received a dose of radiation which makes further exposure dangerous; total dose greater than 150 rads. This unit should be exposed only if unavoidable, because additional exposure in the immediate future would result in casualties.

4. The degree-of-risk concept furnishes guidance to assist the commander in establishing an operation exposure guide for a single operation and in minimizing the number of casualties from nuclear radiation. By using the radiation status categories of subordinate units and the degree-of-risk, the commander can establish an operation exposure guide based on the degree-of-risk criteria.



# SOP FOR NBCD

## APPENDIX H

### UNIT SURVIVAL STANDARDS

1. The objective of these unit NBC defense standards is to develop and maintain a capability for performing the tasks required to accomplish the mission while under nuclear, biological or chemical attack; when in support of a nuclear/chemical attack by friendly forces or when operating in a contaminated environment. Planning and training for this capability will include preparation of a unit NBC Defense SOP and frequent realistic exercises to insure familiarity with the application of the SOP. Unit standards of proficiency are separated into two categories: Survival and Operational.

2. Survival Standards. In order to survive an NBC attack, a unit must be able to:

a. Take immediate action when warned of an imminent NBC attack.

b. Determine the presence and nature of NBC hazards in the units area, using chemical and radiological detection equipment, and take effective measures for protection and decontamination.

c. Properly use unit NBC Protective equipment and supplies, and maintain them in a high state of servicability and readiness.

d. Enforce a high order of health, hygiene, sanitation and physical fitness to minimize the spread of disease following a biological attack.

3. Basic Operation Standards. In order to maintain a mission capable force the unit must be able to:

a. Practice a high degree of protection while continuing to conduct the primary mission of the unit.

b. Perform necessary decontamination of supplies, equipment and areas.

c. Perform decontamination of personnel in an improvised decontamination station.

d. Determine the extent of areas of NBC hazard.

e. Cross, by-pass or function in, contaminated areas with minimum loss of efficiency, decontaminating when necessary.

f. Mark contaminated areas using the standard marking signs.

SOP FOR NBCD

g. Operate efficiently over extended periods (for at least eight hours and preferably 24 hours) with personnel maintaining a given Mission-Oriented Protective Posture (determined by the commander).

h. Report nuclear detonations, radioactive fallout and biological/chemical attacks in accordance with the NBC warning and reporting system.

i. Be prepared to exploit friendly nuclear and chemical fires.

SOP FOR NBCD

APPENDIX I

CS MASK/NBC ENSEMBLE CONFIDENCE EXERCISE

1. General. A CS Mask/Ensemble Confidence Exercise will be conducted annually by all organizations. Additionally, Marines will be required to wear the NBC protective overgarments during the entire pre-chamber lecture and exercise.

2. Purpose

a. The purpose of this exercise is to acquaint individuals with the characteristics, capabilities and physiological effects of CS under controlled conditions prior to exposure to CS under field operational conditions. Instructor personnel will be familiar with the contents of FM 21-48, Appendix C, and will keep in mind that this exercise is not a practice in misery and will hold the concentration of CS to a level that produces only threshold respiration effects and not nausea or burning of the skin.

b. This exercise is designed to accomplish the following:

(1) Test the fit and operation of the individual Marine's protective mask, and crew or special masks as required by unit T/E or assignment.

(2) Establish confidence in the individual in regards to exposure and use of a chemical agent.

(3) Establish confidence in the protection afforded by proper use of the proper mask.

(4) Test and fit the chemical protective overgarment.

(5) Establish confidence in the individual regarding the protection provided by wearing the overgarment.

(6) Allow the opportunity for all individuals to PM (clean their mask) after the exercise.

3. Procedure Following the Exercise. Personnel should change clothing upon completion of the exercise. The precautions contained in FM-21-48, (CBR Defense Training Exercise) will be observed. NBC ensembles used during the exercise should be hung outside for a few hours to air out to avoid establishing a CS concentration in living or working spaces. NBC ensembles will be dry and folded properly before turn in.



APPENDIX J

ORGANIZATION OF NBC DEFENSE PERSONNEL

REGIMENTAL S-3, CONTROL CENTER

1-NBCD Officer (secondary 5702)  
1-NBCD NCO (5711)  
1 Computer  
1-Plotter  
1-Recorder

HEADQUARTERS COMPANY

1-NBCD Officer (1)  
1-NBCD NCO (1)  
1-Decontamination Team (7 men)  
2-Survey Teams (2 men per team)  
2-Monitor Teams (2 men per team)

BATTALION S-3, CONTROL CENTER

1-NBCD Officer (5702)  
1-NBCD NCO (5711)  
1-NBCD Specialist (5711)  
1-Computer  
1-Plotter  
1-Recorder

HEADQUARTERS AND SERVICE COMPANY

1-NBCD Officer (1)  
1-NBCD NCO (1)  
1-Decontamination Team (10 men)  
2-Survey Teams (2 men each per team)  
2-Monitor Teams (2 men each per team)

LINE COMPANIES

1-NBCD Officer (1)  
1-NBCD NCO (1)  
1-Decontamination Team (7 men)  
2-Survey Teams (2 men per team)  
2-Monitor Teams (2 men per team)

WEAPONS COMPANY

1-NBCD Officer  
1-NBCD NCO  
1-Decontamination Team (7 men)  
2-Survey Teams (2 men per team)  
2-Monitor Teams (2 men per team)



## APPENDIX K

## M17A1/A2 PREVENTIVE MAINTENANCE CHECKS AND SERVICES LIST

1. Purpose. The preventive maintenance and services provides the Marine with a list of procedures that is designed to maintain the M17A1 in serviceable condition. Use the list to make sure that all required maintenance is accomplished. If corrective action is not authorized at the operator level, survey the inoperative mask to Battalion Supply.

2. Checks and Service. The following list of maintenance checks will be accomplished every six months and after every training exercise. Under combat conditions, these checks will be performed weekly.

Facepiece

Examine the face blank for permanent set that may effect the fit of the mask. Permanent set is the resistance to opening, stiffness, holes, tears and splits. Check for damaged or missing flap buttons and temple pins. A white waxlike substance on the rubber is not a defect.

Nose Cup

Examine to see that its sides are buttoned properly. Ensure the chin portion lies over the chin stop. Check for torn button holes. See that the nose cup valve seats have not separated from the nose cup and the nose cup discs are not stuck to the valve seat.

Eyelens/  
Eyerings

Examine for cracks, scratches and chips that may affect vision, or airtight seal. Examine the metal eyerings for corrosion or damage.

Head Harness

Examine for superficial dirt and mildew. Check for worn, frayed or broken straps and missing cinch tips. Check the straps for loss of elasticity.

Voicemitter  
Outlet Valve  
Assembly/Cover

Remove the voicemitter-outlet valve cover and examine it for damage. Examine the voicemitter outlet valve disc and valve seat for dirt, clean with a lint free cloth. If dirt can't be reoved from the valve seat, replace the mask. Check the valve disc for seating, damage or distortion. Examine the diaphragm assembly, voicemitter outlet valve frame and crimping ring for damage or looseness. See that the voicemitter outlet valve cover is attached when it's replaced.

SOP FOR NBCD

Inlet Valve  
Caps

Check for proper functioning by clearing the mask. Inspect for dirt and other obstructions.

Filter  
Elements

Reverse the head harness over the front of the mask. Unbutton nose cup and pouch flaps. Expose top edge of each filter element, and read the lot number, check number against SB 3-30 to ensure serviceability. Make sure the filter elements are installed properly and are buttoned in the pouches. Marines should have M13A2 Combat Filters.

Eyelens  
Inserts

Inspect for cracks, scratches and holes. Replace as needed.

Carrier

Remove mask and contents, inspect for dirt and mildew, rips, torn straps and missing hardware.

Hood

Examine all seams for serviceability. Inspect for tears, rips and holes and survey as required. Ensure all ties and draw strings are working properly. Ensure velcro fasteners are clean and serviceable. The loop for draw string in rear should be cut off leaving 1/8 inch from hood.

Accessories

Inspect waterproof bag for serviceability. Marines should have two.

M1 Canteen Cap

Inspect serviceability of cap and cover. Check to see if it functions properly. Canteen cap will be dummy corded.

APPENDIX L

MONITOR/SURVEY TEAM DUTIES AND RESPONSIBILITIES

1. Responsibilities. Monitoring is included in the normal reconnaissance and intelligence activities of all units. NBC monitoring at all levels is a command responsibility and is initiated upon order of the unit commander or higher headquarters. Units that detect NBC activity in an area will report their findings to the Battalion S-3 and mark the area with the appropriate contamination markers.

2. Companies. Companies will maintain a minimum of two trained monitors for each unit dose-rate meter. Monitor techniques, correlation factor data, and recording techniques forms are described in FM 3-12. Monitoring may be periodic or continuous as described below:

a. Periodic monitoring is routinely conducted during Nuclear Warfare. All units routinely monitor a designated point in their respective areas at least once an hour. Units authorized several instruments need use only one for this purpose. The instruments should be alternated to conserve batteries.

b. Continuous monitoring is initiated by all units when a fall-out warning is received; when on an administrative/tactical move; when a nuclear burst is reported, seen or heard; when radiation above 1 RAD/HR is detected by periodic monitoring; and on order of the commander.

3. Radiological Survey. Radiological survey is the directed effort to determine the degree and extent of radiological contamination. Commanders at all echelons are responsible for training radiological survey personnel and performing surveys and resurveys when directed. STANAG 2112 prescribes the standard terms associated with radiological survey, the details required to be included in request for survey, and the essential information that should be obtained and recorded by the briefing and the report form for ground and air surveys. FM 3-12 provides detailed guidance for radiological survey.

4. Monitor and Survey Team Standards. Personnel trained in NBC monitoring and survey must be able to:

a. Recognize nuclear and chemical attacks and fully understand unit procedures for implementing warnings.

b. Detect chemical agents and radiological hazards.

c. Operate and maintain NBC defensive equipment that is applicable to this task.

SOP FOR NBCD

- d. Conduct chemical reconnaissance and radiological surveys.
  - e. Monitor personnel, food, drinking water and unit equipment for NBC contamination and determine the effectiveness of decontamination measures.
  - f. Collect samples of suspected contamination and forward as directed.
  - g. Mark NBC contaminated areas with standard marking signs.
  - h. Provide data for the completion of NBC reports.
5. Sample Monitor/Survey Team Briefing Order. Pages L-3 to L-9.

MONITOR/SURVEY ORDER

SAMPLE FORMAT

ORIENTATION. From vantage point/terrain model.

BREAK OUT MAP

THAT WAY IS NORTH

PRESENT LOCATION IS GRID COORDINATE \_\_\_\_\_.

(OBSERVE TERRAIN MODEL)

LIST: MAPS, CHARTS AND DOCUMENTS

KEY TERRAIN:

- 1. GRID \_\_\_\_\_
- 2. GRID \_\_\_\_\_
- 3. GRID \_\_\_\_\_
- 4. GRID \_\_\_\_\_

CONTROL MEASURES:

- 1. BOUNDARIES \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- 2. TRACE OF THE FEBA \_\_\_\_\_  
\_\_\_\_\_
- 3. POINT OF DEPARTURE FROM FRIENDLY AREA \_\_\_\_\_  
\_\_\_\_\_
- 4. POINT OF REENTRY INTO FRIENDLY AREA \_\_\_\_\_  
\_\_\_\_\_
- 5. ENEMY POSITION \_\_\_\_\_  
\_\_\_\_\_

CONTAMINATED AREA

TOA \_\_\_\_\_

AO/DGZ \_\_\_\_\_  
(surface, subsurface, air  
TYPE spray, bombs, arty)

YIELD/AGENT \_\_\_\_\_

SURVEYS \_\_\_\_\_

READINGS/SAMPLES \_\_\_\_\_

CONTOUR LINES

1000 cGyph \_\_\_\_\_

300 cGyph \_\_\_\_\_

100 cGyph \_\_\_\_\_

20 cGyph \_\_\_\_\_

WEATHER:

WIND DIR: \_\_\_\_\_

WIND SPEED \_\_\_\_\_

TEMPERATURE: \_\_\_\_\_

SUNSET \_\_\_\_\_

SUNRISE \_\_\_\_\_

SOP FOR NBCD

ATTACHMENTS:

1. UNITS ATTACHED: \_\_\_\_\_

2. EFFECTIVE ATTACHMENT TIMES: \_\_\_\_\_

OTHER PATROLS IN THE AREA:

1. UNIT: \_\_\_\_\_

2. MISSION: \_\_\_\_\_

3. ROUTES OF TRAVEL: \_\_\_\_\_

4. TYPE OF PATROL: \_\_\_\_\_

5. PLANNED ACTION: \_\_\_\_\_

CHECK POINTS:

SITUATION:

A. ENEMY: (CAPABILITIES)

- D-EFEND
- R-EINFORCE
- A-TTACK
- W-ITHDRAW
- D-ELAY

(INTEL REPORT)

- S-IZE
- A-CTIVITY
- L-OCATION
- U-NIT
- T-IME
- E-QUIPENT

(PROBABLE ENEMY MISSION)

B. FRIENDLY:

1. HIGHER: BATTALION

a. LOCATION: \_\_\_\_\_

SOP FOR NBCD

- b. MISSION: \_\_\_\_\_
- c. PLANNED ACTION: \_\_\_\_\_
- 2. ADJACENT:
  - a. UNITS: \_\_\_\_\_
  - b. LOCATIONS: \_\_\_\_\_
  - c. MISSIONS: \_\_\_\_\_
  - d. PLANNED ACTIONS: \_\_\_\_\_
- 3. SUPPORTING: (FIRE SUPPORT)
  - a. UNIT: \_\_\_\_\_
  - b. LOCATION: \_\_\_\_\_
  - c. TYPES OF SUPPORT: \_\_\_\_\_
  - d. ON CALL TARGETS: \_\_\_\_\_

MISSION:

W-HO  
W-HAT  
W-HEN  
W-HERE  
H-OW

EXECUTION:

A. CONCEPT OF OPERATIONS

- 1. INTENT
- 2. MAIN EFFORT

B. FIRE SUPPORT PLAN

- 1. 81MM MORTARS
- 2. ARTILLERY
- 3. AIR STRIKE
- 4. NAVAL GUNFIRE

C. TASK

- 1. SURVEY ELEMENT
- 2. SECURITY ELEMENT
- 3. SUPPORT ELEMENT

SOP FOR NBCD

COORDINATING INSTRUCTIONS

TIME OF DEPARTURE: \_\_\_\_\_

TIME OF RETURN: \_\_\_\_\_

ROUTE (primary/alternate): \_\_\_\_\_

ORDER OF MARCH: \_\_\_\_\_

ORGANIZATION FOR MOVEMENT: \_\_\_\_\_

NAVIGATION: \_\_\_\_\_

SECURITY: (during movement) \_\_\_\_\_

(during halts) \_\_\_\_\_

ACTIONS AT DANGER LINES: \_\_\_\_\_

DEPART FRIENDLY LINES: \_\_\_\_\_

RE-ENTRY FRIENDLY LINES: \_\_\_\_\_

TURN BACK DOSE RATE: \_\_\_\_\_

ACTIONS OF TURN BACK DOSE RATE: \_\_\_\_\_

MARKING CONTAMINATED AREAS: \_\_\_\_\_

DEBRIEFING: \_\_\_\_\_

REHEARSALS AT GS: \_\_\_\_\_ TIME: \_\_\_\_\_

INSPECTION AT GS: \_\_\_\_\_ TIME: \_\_\_\_\_

TEST FIRE WEAPONS: \_\_\_\_\_

REPORT ARRIVAL AT CHECK POINTS BY CODE WORDS: \_\_\_\_\_

CP #1 (GS) _____	(CODE) _____	CP #6 (GS) _____	(CODE) _____
CP #2 (GS) _____	(CODE) _____	CP #7 (GS) _____	(CODE) _____
CP #3 (GS) _____	(CODE) _____	CP #8 (GS) _____	(CODE) _____
CP #4 (GS) _____	(CODE) _____	CP #9 (GS) _____	(CODE) _____
CP #5 (GS) _____	(CODE) _____		

CHAIN OF COMMAND: \_\_\_\_\_

COORDINATING INSTRUCTIONS: (CONT)

A. CHEMICAL:

1. CHECKPOINTS FOR SURVEY: \_\_\_\_\_  
\_\_\_\_\_
2. ROUTES TO BE FOLLOWED: \_\_\_\_\_  
\_\_\_\_\_
3. DETECTION DEVICES USED: \_\_\_\_\_
4. FREQUENCY/INTERVAL/CHECKPOINTS FOR READINGS: \_\_\_\_\_  
\_\_\_\_\_
5. USE M8 PAPER FOR UNIDENTIFIED LIQUIDS: \_\_\_\_\_  
\_\_\_\_\_
6. USE M9 PAPER ON ARMS, LEGS, ETC. DURING SURVEY: \_\_\_\_\_
7. SEND NBC-4 REPORTS WITH EACH READING LINES H,Q,,AND S.

B. RADIOLOGICAL:

1. CHECKPOINTS FOR SURVEY: \_\_\_\_\_  
\_\_\_\_\_
2. ROUTES/COURSE LEGS TO BE FOLLOWED: \_\_\_\_\_  
\_\_\_\_\_
3. TAKE IM 174 READINGS AT DESIGNATED INTERVALS/CHECKPOINTS.
4. ALTITUDE TO BE USED (AIR ONLY) (SHOULD REMAIN CONSTANT).
5. SPEED OF TRAVEL/FLIGHT IS (AND SHOULD REMAIN CONSTANT).
6. OBTAIN INSIDE (AIR)/OUTSIDE (GROUND) READINGS AT GRIDS (SHOULD BE WITHIN 3 MINUTES OF EACH OTHER, RECORD IN "CORRELATION FACTOR COLUMN OF SHEET").
7. RECORD ALL DATA ON 1971-1-R FORMS (USE LEFT COLUMN FOR SAFETY)
8. TURN BACK DOSE AND DOSE RATE.
9. RECORD TIME OF START FOR EACH LEG/ROUTE.
10. MINIMUM DOSE RATE TO BE RECORDED.

SOP FOR NBCD

11. RECORDED RESULTS WILL BE FORWARDED.
12. TAKE READINGS AT POINTS OF OPERATIONAL INTEREST.
13. BRIEF PILOT ON THE FOLLOWING:
  - a. ALTITUDE CHANGE OF MORE THAN 15 METERS-GET NEW AGCF DATA
  - b. PILOT MUST INFORM TEAM WHEN HE REACHES STOP/START POINTS
  - c. ROUTES-FOLLOW TERRAIN FEATURES ROADS, RIVERS, ETC.  
COURSE-LEGS- STRAIGHT FLIGHT POINT TO POINT
14. MARK ALL GROUND READING WITH NATO MARKERS.

ADMINISTRATION AND LOGISTICS

BASIC LOAD:

RIFLEMAN	_____	ROUNDS PER MAN
AR MAN	_____	ROUNDS PER MAN
203'S	_____	ROUNDS PER MAN

SPECIAL ORDNANCE:

PYRO TECHNICS:	TYPE	_____	#	_____	COLOR	_____
		_____	#	_____	COLOR	_____
		_____	#	_____	COLOR	_____

GRENADERS: \_\_\_\_\_  
\_\_\_\_\_

EXPLOSIVES:	TYPE	_____	#	_____	COLOR	_____
		_____	#	_____	COLOR	_____
		_____	#	_____	COLOR	_____

RESUPPLY: WHAT \_\_\_\_\_ WHEN \_\_\_\_\_ HOW \_\_\_\_\_

CHOW \_\_\_\_\_

WATER \_\_\_\_\_

SLEEP \_\_\_\_\_

HANDLING KIA'S/WIA'S: \_\_\_\_\_

HANDLING POW'S: \_\_\_\_\_

SOP FOR NBCD

CORPSMAN LOCATED AT: \_\_\_\_\_

BAS LOCATED AT: \_\_\_\_\_

UNIFORM: \_\_\_\_\_ CAMOUFLAGE: \_\_\_\_\_

SPECIAL EQUIPMENT FOR INDIVIDUALS: \_\_\_\_\_

COMMAND AND SIGNAL

SIGNAL:

1. BREVITY CODE: \_\_\_\_\_
2. MAINTAIN RADIO SILENCE.
3. TIMES TO REPORT.
4. MONITOR CO. TAC FREQUENCY STARTING AT: \_\_\_\_\_
5. CALL SIGNS: \_\_\_\_\_
  - a. CEOI DAY.
  - b. CHANGE TIME.
  - c. FREQUENCIES; (BN TAC, CO TAC, COFF)  
PRIMARY            \_\_\_\_\_    \_\_\_\_\_    \_\_\_\_\_  
ALTERNATE        \_\_\_\_\_    \_\_\_\_\_    \_\_\_\_\_
6. CHALLENGE/PASSWORD (PRIMARY/ALTERNATE).
7. AUTHENTICATE.
8. ENCRYPT.
9. VISUAL SIGNALS.
10. SURVEY REPORTING PROCEDURES.
11. SIGNAL OPERATIONS INSTRUCTIONS.

COMMAND

CHAIN OF COMMAND: \_\_\_\_\_

LOCATION OF SURVEY LEADERS:

1. DURING MOVEMENT
2. AT DANGER AREAS



SOP FOR NBCD

APPENDIX M

DECONTAMINATION TEAM DUTIES AND RESPONSIBILITIES

1. Unit Decontamination. Unit decontamination is an effort performed by personnel of the unit, with equipment available to the unit, when directed by the commander and under the supervision of trained individuals.

2. Decontamination Team Standards. Personnel trained in decontamination must be able to:

a. Perform necessary decontamination of supplies, equipment and areas which they are responsible in the performance of their duties.

b. Operate and maintain assigned decontamination equipment.

c. Establish and operate a personnel decontamination station.

d. Establish and operate an equipment decontamination station.

e. Take action to avoid the spread of contamination.

f. Be familiar with techniques for decontamination of areas.

g. Be familiar with chemical detector kits.

h. Be familiar with standard decontaminants.

i. Be able to operate the ABC M-11 with DS-2.

j. Be familiar with the SMDA M12A1 or M17 Sanator.

k. Be familiar with marking of contaminated sites.

l. Be familiar with clearing of decon sites.



SOP FOR NBCD

APPENDIX N

OPERATION ORDER EXAMPLE

Copy no \_\_\_\_ of \_\_\_\_ copies  
UNIT  
LOCATION  
DATE/TIME GROUP

APPENDIX 2 (NBC Defense) to ANNEX C (Operations) to Operation Plan

Ref: (a) FMFM 11-1  
(b) FM 21-40  
(c) RegtO 3400.1J (NBC SOP)

Time Zone: TBA

1. SITUATION

a. Enemy Forces. Annex B (Intelligence) basic operation.

b. Friendly Forces. Companies will maintain the capability to decontaminate both personnel and equipment, and conduct both monitor and survey operations.

c. Assumptions. Enemy forces have the capability of delivering nuclear, biological and chemical munitions.

2. MISSION. Commanders will take all possible active and passive defense measures to detect and protect against nuclear, biological and chemical weapons or agents in accordance with instructions contained in references (a), (b) and (c).

3. EXECUTION

a. Tasks

(1) S-1

(a) Coordinate with the S-3 and Regimental surgeon in planning and supervising emergency personnel replacement action which may be required by excessive nuclear or chemical contamination.

(b) Coordinate with the S-4 in preparing plans for personnel collection and straggler point operations.

(2) S-2

(a) Maintain current estimates of the enemy NBC offensive/defensive capabilities and ensure timely dissemination of this information to all subordinate units and adjacent staff sections.

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(b) Assist the NBC Defensive Officer in preparing continuous NBC vulnerability estimates based on current meteorological and topographical data.

(c) When directed, obtained, and publish meteorological daily and short range weather predictions.

(3) S-3

(a) Recommend operations plans/orders in consideration of enemy NBC capabilities.

(b) Prepare contingency plans for missions in the event of mass evacuation of subordinate unit or units.

(c) Establish decontamination priorities of essential facilities from an operation viewpoint.

(d) Supervise the activities of the NBCD Officer.

(4) S-4

(a) Prepare plans for, and supervise, area damage control and mass casualty evacuation.

(b) Coordinate with the NBC Defense Officer in preparing plans for decontamination and operations generated by NBC attack.

(c) Assist the NBC Defense Officer in assessment of area damage, and prepare plans for removal/disposal of contaminated equipment.

(d) In conjunction with the NBC Defense Officer, make estimates and recommendations for procurement and distribution of essential NBC supplies and equipment.

(5) Regimental Surgeon

(a) When required coordinate with the S-4 and the NBC Defense Officer to plan for and organize both primary and alternate aid stations for triage treatment, and decontamination of food.

(b) Inspect food and water supplies for edibility and potability following NBC attack. Assist in prevention of contamination of food and water and take measures to decontaminate should contamination occur.

(c) Assist the NBC defense officer in maintaining radiation dosage records for all personnel, and when appropriate, recommend safe levels of radiation dosage accumulation time frames.

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(6) Regimental Communications Officer

- (a) Provide communications equipment to monitor survey teams dispatched on reconnaissance missions.
- (b) Prepare special communications plans in the event mass casualty evacuation becomes necessary.
- (c) Appoint one decon specialist who will supervise and assist in the decontamination of radio equipment, to include first echelon maintenance.
- (d) Utilize normal communications facilities until the Battalion Commander orders activation of disaster and mass evacuation nets.
- (e) Be prepared to conduct passive measures to protect equipment from electromagnetic pulse (EMP).

(7) Regimental Motor Transport Officer

- (a) Provide vehicles required to assist monitor/survey teams.
- (b) Provide vehicles for casualty evacuation in the event of NBC attack.
- (c) Appoint one vehicle decon specialist to will supervise and assist in the decontamination of motor transport equipment.
- (d) Coordinate traffic to ensure minimum exposure of convoys to nuclear/chemical infested areas.

(8) Regimental Air Officer

- (a) Request helicopters for monitoring, surveying and reconnaissance, as required by the NBCD Officer.
- (b) Request helicopters for medical evacuation.

(9) Regimental NBC Defense Officer

- (a) Advise the Regimental Commander of NBC Defense matters to include enemy NBC organizations, weapons, equipment and techniques indicative of preparation for NBC attack.
- (b) Coordinate with the S-1 to formulate personnel estimates based on total NBC exposure experienced by subordinate units.
- (c) Coordinate with the S-4 for estimated need for and distribution of NBC Defense supplies.

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(d) Plan for and oversee the establishment of monitor/survey and decontamination teams.

(e) Coordinate with the S-2 and the Weapon Employment Officer in maintaining current NBC situation maps.

(f) Establish liaison with adjacent units and maintain current radiological survey data reports from subordinate units.

(g) Supervise the operation of the control center team.

(10) Regimental Headquarters Commandant

(a) Maintain accurate records on radiation exposure status of H&S Company. Report to S-3 every 8 hours on the Company's level of radiation exposure.

(b) Establish collective protective shelter, if needed.

(c) Maintain, and on order, be prepared to activate the following:

1 Company Monitor/Survey Teams.

2 Company decontamination operations.

(d) Designate where the NBC defense teams will muster and the equipment that each team will have in their possession once an NBC alarm is sounded.

(e) When the situation dictates, maintain accurate records on radiation status of all platoon size units in the command. Compile radiological survey data from subordinate units and report to S-3 every 8 hours concerning the company levels of radiation exposure.

(f) Plan and request aerial survey from HHQ, as needed.

(g) When the situation dictates, submit NBC reports to higher headquarters.

b. Coordinating Instructions

(1) NBC Conditions.

(a) Condition White-NBC attack improbable.

(b) Condition Yellow-NBC attack probable.

(c) Condition Red-NBC attack imminent.

## SOP FOR NBCD

(2) Upon attainment of Condition Yellow all units will:

(a) Effect maximum practical dispersion of material.

(b) Ensure all individual protective equipment is issued to include installation of M13A2 combat filters in the M17A1/A2 series mask.

(c) Ensure sufficient amounts of consumable material is on hand to support defense equipment.

(d) Alert decontamination and monitor/survey teams.

(e) Prepare contingency decontamination sites.

(3) Upon attainment of Condition Red all units will:

(a) Prior to an Attack

1 Ensure all personnel make final operational check of individual defense equipment.

2 Ensure automatic masking procedures are disseminated.

(b) Attack in Progress

1 Advise higher and adjacent commands of attack.

2 Take necessary protective measures and continue with assigned mission.

(c) Attack Concluded

1 Perform any necessary decontamination.

2 Continue with assigned mission.

#### 4. ADMINISTRATION AND LOGISTICS

a. Supply. Supplies and equipment contaminated by NBC weapons will be suspended from use until decontamination is completed or dispositions made.

b. Evacuation

(1) Personnel

(a) All NBC casualties will be evacuated separately from non-contaminated casualties.

(b) Non-contaminated casualties will be evacuated by normal means to the nearest aid station.

SOP FOR NBCD

(2) Material. Normally, contaminated equipment will be kept separated from non-contaminated material and will not be moved until decontamination is completed or disposition is determined.

c. Reports. All reports will be in accordance with reference (b) and Annex Y (Reports) to this OPLAN.

5. COMMAND AND SIGNAL

a. Command. In accordance with specific operation orders.

b. Signal. In accordance with Annex K (Communications-Electronics) and reference (c).

ACKNOWLEDGE RECEIPT

B. A. MARINE  
Rank, U.S. Marine Corps  
Commanding

OFFICIAL:

I.M. MARINE  
Rank, USMC  
NBCD Officer

TABS:

A - NBC ATTACK CHECKLIST

SOP FOR NBCD

TAB A (NBC Attack Checklist) to APPENDIX 2 (NBC Defense) to ANNEX C (Operations) to Operation Plan

Ref: (a) RegtO 3400.1J

Time Zone: TBA

1. Actions prior to Attack

- a. Activate control center, monitor/survey teams, and place decon team on standby.
- b. Acknowledge receipt of warning.
- c. Effect all practical dispersion of material.
- d. Ensure that all available protective equipment is issued.
- e. Have monitor teams commence radiac detection and chemical detection operations at 30 minute intervals.
- f. If chemical alarms are available, position upwind, activate and monitor continuously.
- g. Submit NBC 1 if contact is made with 2 RADS per hour, chemical agents detected or biological attack suspected.
- h. Consistent with the tactical situation, disperse personnel.
- i. Take maximum advantage of shelter.
- j. Improve personnel fortifications to include overhead cover.
- k. Ensure all antidotes are distributed.
- l. S-4 make preparations to issue and resupply consumables to forces as required.
- m. Ensure ABC M-11's are mounted on vehicles.
- n. Ensure appropriate MOPP level and that the alarm is sounded under any of the following conditions:
  - (1) Incoming artillery, mortars or rocket fire.
  - (2) Enemy aircraft bombing.
  - (3) Enemy spray attack.
  - (4) Unexplainable dead animals.
  - (5) Unexplainable large quantities of insects.

## SOP FOR NBCD

(6) Enemy smoke screens approaching.

(7) Chemical agent symptoms appear.

o. Activate NUDET teams.

p. Determination of evacuation of non-essentials is considered.

q. Defend COMM/ELEC assets as determined by communication officer against electromagnetic pulse (EMP).

r. Alert medical Officer to prepare for mass casualties.

### 2. Actions During an NBC Attack

a. Sound the alarm, submit NBC 1 Report.

b. All personnel take best possible cover.

c. Restrict movement.

d. After a nuclear attack and after both shock waves or 90 seconds, effect masking/MOPP levels.

e. Continuously monitor and submit reports every 45 minutes.

f. Perform emergency decon/first-aid as required.

g. Be alert for ground/airborne attack.

h. Continue mission as practical.

### 3. Actions After an NBC Attack

a. Maintain appropriate MOPP as required.

b. Establish decon stations as practical.

c. Disseminate coordinates of decon sites.

d. Activate casualty decon/evacuation.

e. Submit damage assessment reports.

f. Consider tactical courses of action available.

g. Sound the "All Clear" signal, notify higher headquarters of situation.

SOP FOR NBCD

APPENDIX O

SAMPLE FORMATS

1. The formats listed in this Appendix are designed to assist the Company NBCD Officer and NBCD NCO's in their respective jobs.

- a. NBC Defense Officer; Appointment of
- b. NBC Defense NCO; Appointment of
- c. NBC Quarterly Report: Format
- d. NBC Defense; Request for Equipment
- e. Training Evaluation: Format
- f. Attendance Roster
- g. Radiation Dose Status Chart

SOP FOR NBCD

SAMPLE FORMAT FOR APPOINTMENT OF NBCD OFFICER

UNIT HEADING

From: Commanding Officer  
To: RANK, SNM, SSN/MOS

Subj: \_\_\_ COMPANY NBC DEFENSE OFFICER; APPOINTMENT OF

Ref: (a) DivO P3400.3  
(b) RegtO P3400.1J  
(c) BnO P3400.2

1. In accordance with the references, you are hereby appointed as the \_\_\_\_\_ Company NBCD Officer.
2. You will be guided in the performance of your duties by the contents of references (a) through (c).

COMMANDING OFFICER

SOP FOR NBCD

SAMPLE FORMAT FOR APPOINTMENT OF NBCD NCO

UNIT HEADING

From: Commanding Officer  
To: RANK, SNM, SSN/MOS

Subj: \_\_\_\_\_ COMPANY NBC DEFENSE NCO; APPOINTMENT OF

Ref: (a) DivO P3400.3  
(b) RegtO P3400.1J  
(c) BnO P3400.2

1. In accordance with the references, you are hereby appointed as the \_\_\_\_\_ Company NBCD NCO.
2. You will be guided in the performance of your duties by the contents of references (a) through (c).

COMMANDING OFFICER

SOP FOR NBCD

UNITED STATES MARINE CORPS  
UNIT HEADING

3400  
BAW/rab  
DATE

From: Commanding Officer  
To: Commanding Officer, 6th Marine Regiment, 2d Marine Division,  
FMF

Subj: QUARTERLY NBC REPORT FOR           (PERIOD)          

Ref: (a) DivO P3400.3G  
(b) RegtO 3400.1J

1. In accordance with references (a) and (b), the following report is submitted.

2. NBC Defense Personnel

a. Control Center

(1) NBC Defense Officer:

Rank, Name, SSN, MOS  
Additional Duties  
Schools Attended (NBCD)

(2) NBC Defense NCO:

Rank, Name, SNN, MOS  
Additional Duties  
School Attended (NBCD)

<u>Duties</u>	<u>Name</u>	<u>Rank</u>	<u>NBC Schools Attended</u>
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Recorder/Messenger  
Computer  
Plotter

b. Monitor/Survey Teams: (List all teams)

Monitor team:

<u>Duties</u>	<u>NAME</u>	<u>RANK</u>	<u>NBC Schools Attended</u>
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NCOIC  
Assistant

SOP FOR NBCD

DECON TEAM:

<u>Duties</u>	<u>NAME</u>	<u>RANK</u>	<u>NBC Schools Attended</u>
NCOIC			
ASSISTANT			

\* Denotes School Trained Personnel

3. Summary of organization/unit NBCD Training during the reporting period.

<u>Description</u>	<u>Off/SNCO/Enl</u>	<u>Instructor</u>	<u>Length</u>
Control Center	(No. Personnel)		
Decontamination Team			
Monitor/Survey Team			

Individual Protection Measures

4. Number of School Trained Personnel in Unit:

	<u>Projected Loss</u> (90 days)	<u>Projected Gain</u> (90 days)
Officers	_____	_____
SNCO's	_____	_____
Enlisted	_____	_____
<u>Total</u>	_____	_____

SOP FOR NBCD

FIELD/CLASS TRAINING EVALUATION

Unit: \_\_\_\_\_ Subject: \_\_\_\_\_

Date of Eval: \_\_\_\_\_ Location: \_\_\_\_\_

Type of Trng: \_\_\_\_\_ Lecture \_\_\_\_\_ Field Trng Exercise  
\_\_\_\_\_ Demo \_\_\_\_\_ Live Fire Exercise  
\_\_\_\_\_ Application \_\_\_\_\_ Other (OJT/EST)

Did classroom facilities adequately support scheduled training?  
\_\_\_\_\_ YES \_\_\_\_\_ NO (Explain if necessary)

Impact of instruction atmosphere (lighting, ventilation, classroom capacity) on trng was: \_\_\_\_\_ Positive \_\_\_\_\_ Negative  
(Expand eval in remarks section)

List of Primary Trng Objectives:

- 1. \_\_\_\_\_
- 2. \_\_\_\_\_
- 3. \_\_\_\_\_

Attainment of training objectives was:  
\_\_\_\_\_ Effective \_\_\_\_\_ Adequate \_\_\_\_\_ Marginal \_\_\_\_\_ Not Attained  
Was instructor qualified and prepared to present instruction?  
\_\_\_\_\_ YES \_\_\_\_\_ NO Identify Instructor: \_\_\_\_\_

Instructor's Unit: \_\_\_\_\_  
Was instructional method appropriate for subject being taught?  
\_\_\_\_\_ YES \_\_\_\_\_ NO (Expand in remarks)

Methods used by instructor to measure attainment of trng objs.  
1. \_\_\_\_\_  
2. \_\_\_\_\_

Were good training aids used in the lecture?  
\_\_\_\_\_ YES \_\_\_\_\_ NO (Explain if necessary)

Overall Effectiveness of trng:  
\_\_\_\_\_ Effective \_\_\_\_\_ Adequate \_\_\_\_\_ Marginal \_\_\_\_\_ Unsat  
(Remarks mandatory)

Primary strength of instruction was: \_\_\_\_\_

Primary weakness of instruction was: \_\_\_\_\_

Evaluator's recommendation(s) to improve training:  
1. \_\_\_\_\_  
2. \_\_\_\_\_

Remarks: (All "Unsat" evaluations must be explained. Write on back or attach additional sheets if necessary.)

SOP FOR NBCD

TRAINING ATTENDANCE ROSTER

Subject: \_\_\_\_\_ Instructor: \_\_\_\_\_

Date: \_\_\_\_\_ Time: \_\_\_\_\_ Type Training (Circle) L D A X C FEX FFEF

Unit: \_\_\_\_\_ Primary Reference: \_\_\_\_\_

1	46	91
2	47	92
3	48	93
4	49	94
5	50	95
6	51	96
7	52	97
8	53	98
9	54	99
10	55	100
11	56	101
12	57	102
13	58	103
14	59	104
15	60	105
16	61	106
17	62	107
18	63	108
19	64	109
20	65	110
21	66	111
22	67	112
23	68	113
24	69	114
25	70	115
26	71	116
27	72	117
28	73	118
29	74	119
30	75	120
31	76	121
32	77	122
33	78	123
34	79	124
35	80	125
36	81	126
37	82	127
38	83	128
39	84	129
40	85	130
41	86	131
42	87	132
43	88	133
44	89	134
45	90	135



## SOP FOR NBCD

### APPENDIX P

#### COMMUNICATIONS

GENERAL. NBC Defense warning and reporting procedures and requirements, although extensive, do not require the establishment of a special, dedicated communications system. The existing Battalion/BLT system provides the requisite circuit and facilities for normal operation. When required the Division Damage Control Net (HF) will be activated to provide the direct link necessary between the NUDET teams and the BLT/Battalion Control Center. ALL NBC-1 Reports will be directed through these circuits.

#### TACTICAL COMMAND/CONTROL COMMUNICATION CHANNELS

1. The radio net available for normal Tactical Command/Control Communication Channels will provide adequate reporting facilities for all other NBC Reporting.
2. Since the BLT/battalion's COC/FSCC will monitor a requisite NBC channel, it will be the most immediate means of alerting all units of a NBC attack within the BLT/battalion area of responsibility. The Bn NBC Control Center will redirect reports of attack through the Arty Bn FDC via the Arty COF or Arty FD nets.
  - a. Tac 1. This is a two way secure radio net to all companies and attachments and will be utilized by subordinate units to transmit NBC Defense data of a priority or higher precedence to the BLT/Battalion Control Center. Examples of such use would include: a report of a NBC attack; the finding of contamination; and information on Chemical/Biological downwind prediction.
  - b. Admin/Log Net (VHF Secure). This net is a two way secure circuit to each company and attachment. It will be used to transmit NBC Defense data of routine nature, such as effective downwind messages, Chemical Downwind Message (CMD), or monitor/survey interpretations that are considered not critical.
  - c. Recon (VHF Secure). Provides a means of rapid collection and dissemination of intelligence information to/from infantry and artillery units and reconnaissance units.
  - d. Telephone System. In the defense, wire system provides communications down to the Company/Attachment level and should be considered an initial means of transmitting unclassified NBC Defense whenever possible. Such time consuming reports (for transmission purposes) as the NBC 4, 5 and 6 Reports, and any unclassified damage assessment efforts will be limited to this system whenever possible.

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e. Guard Mail/Courier System. This method of forwarding (unclassified) detailed data will be used for those reports of routine nature that are too lengthy to pass by other means.

f. Facsimile Transceivers. The Facsimile Transceiver is new in the system, but allows the transmission of overlays and lengthy reports via covered or uncovered circuits.

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APPENDIX Q

INDICATIONS OF ENEMY NBC ACTIVITY AND CAPABILITIES

1. What items of chemical protective equipment have been issued to enemy troops? Is there any difference in issue of items for particular areas? If so, what items for what areas?
2. Are there any new or recent immunizations indicated by prisoners during interrogations?
3. What immunizations have enemy troops received?
4. Are enemy troops equipped with protective masks? Is the individual required to carry the mask on his person? Are there any sectors where the mask is not required. What accessory equipment is issued with the mask?
5. Is protective clothing issued to enemy troops? If so, what type of clothing or articles? If special clothing is issued, is it for any particular area?
6. Have enemy units constructed chemical protective shelters? If so, what type?
7. Are enemy fortifications, individual and collective, provided with overhead cover?
8. Are enemy troops issued any protective footwear or other means to provide protection against liquid chemical agents?
9. Are enemy tanks or armored vehicles provided with protective equipment against chemical attack?
10. Are enemy troops issued chemical protective items, such as atropine or other antidotes for self aid?
11. Are there any areas for which additional or unusual NBC safety precautions have been established?
12. What is the size and composition of NBC specialist troop units? What is their disposition?
13. Have enemy troops been issued any special instructions relative to consumption of food and water or handling of livestock in areas that may be overrun by enemy forces.
14. What training, if any have enemy troops received in the use of incapacitating agents?

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15. What items of chemical detection equipment have been issued to enemy troops? Are the items operated constantly, irregularly, or not at all? Is any difference made in their use in certain areas?
16. What types of radiac instruments are issued to enemy units? What is their range of limit? How are they distributed?
17. How many hours of training with radiac instruments have enemy monitoring and survey personnel received?
18. How many hours of NBC defense training have enemy troops received? How many hours of training are devoted individually to chemical, biological, and radiological operations? Have enemy troops received any special or accelerated training as opposed to what is considered routine?
19. Do enemy units have chemical decontamination materials on hand? If so, what type and in what quantity.
20. Have prisoners observed decontamination stations or installations in enemy area? If so, what is their location/composition?
21. Are enemy troop units issued biological detection and identification devices or sampling kits? If so, what is their type and/or composition?
22. Have prisoners observed any cylinders or containers that might contain bulk chemical agents?
23. Have prisoners observed any aircraft equipped with tanks which might indicate a chemical or biological spray capability?
24. Are prisoners aware of dumps of chemical-filled ammunition, bombs, cluster or bulk chemical agents?
25. Do enemy artillery, mortar or rocket units have chemical ammunition on hand?
26. Are prisoners aware of chemical mines being used in mine-fields?